ANNUAL REPORT 2003

AREVA

Annual report 2003

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DES MARCHÉS FINANCIERS
AMF

Pursuant to regulation No. 98-01, the Financial Market Authority (AMF) has registered this annual report under reference No. R04-68. This document may not be used to support a financial transaction unless it is accompanied by a transaction note approved by the Financial Market Authority. This annual report was prepared by the issuer; the signatories thereof assume all responsibility for its content. This registration was made after reviewing the information provided on the company' financial position for relevance and consistency; it does not imply that the accounting and financial data contained herein are true.

The Financial Market Authority calls the public's attention to two observations made by the company's statutory auditors in their report on the consolidated financial statements as at December 31, 2003. These observations are presented in notes 1.1 and 22 of the Notes to the Financial Statements and concern:

- the changes in presentation of the provisions for expenses to be incurred, the financial assets earmarked for facility decommissioning and the interest-bearing advances from customer; and
- the uncertainties over decommissioning and dismantling cost estimates including costs borne by certain customers, in particular EDF.

General contents

Detailed contents

Chapter 4

Chapter 6

Chapter 7

Chapter 1

Persons responsible for the annual report and for auditing the financial statements

≫ 1.1. Person responsible for the annual report

Mrs Anne Lauvergeon
Chairman of the Executive Board

≫ 1.2. Certification by the person responsible for the annual report

To the best of my knowledge, the information contained in this prospectus is consistent with the facts; contains all of the information investors need to assess the assets, operations, financial position, financial performance and prospects of AREVA; and nothing has been omitted that would affect its meaning.

Signed at Paris, April 29, 2003

Anne Lauvergeon

≫ 1.3. Persons responsible for auditing the financial statements

The persons responsible for auditing the financial statements have a term of office of six fiscal years.

1.3.1. Audit authority for the 2001 financial statements

1.3.1.1. Registered auditors

Barbier Frinault & autres
41, rue Ybry - 92576 Neuilly-sur-Seine Cedex - France
- Term began: Term granted by the Annual General Meeting of Shareholders convened for 2001.
- Term ends: Annual General Meeting of Shareholders convened to approve the financial statements for 2006.

Mazars & Guérard
Le Vinci - 4, allée de l'Arche - 92075 La Défense Cedex - France
- Term began: Term granted by the Annual General Meeting of Shareholders convened for 2001.
- Term ends: Annual General Meeting of Shareholders convened to approve the financial statements for 2006.

1.3.1.2. Alternate auditors

Alain Gouverneyre
41, rue Ybry - 92576 Neuilly-sur-Seine Cedex - France
- Term began: Term granted by the Annual General Meeting of Shareholders convened for 2001.
- Term ends: Annual General Meeting of Shareholders convened to approve the financial statements for 2006.

Max Dusart
Le Vinci - 4, allée de l'Arche - 92075 La Défense Cedex - France
- Term began: Term granted by the Annual General Meeting of Shareholders convened for 2001.
- Term ends: Annual General Meeting of Shareholders convened to approve the financial statements for 2006.

1.3.2. Audit authority for the 2002 and 2003 financial statements

1.3.2.1. Registered auditors

Mazars & Guérard
Le Vinci - 4, allée de l'Arche - 92075 La Défense Cedex - France
- Term began: Term granted by the Annual General Meeting of Shareholders convened for 2001.
- Term ends: Annual General Meeting of Shareholders convened to approve the financial statements for 2006.

Deloitte Touche Tohmatsu
185, avenue Charles-de-Gaulle - 92 524 Neuilly-sur-Seine Cedex - France
- Term began: Term granted by the Annual General Meeting of Shareholders convened for 2002.
- Term ends: Annual General Meeting of Shareholders convened to approve the financial statements for 2006 (1).

(1) Deloitte Touche Tohmatsu replaced Barbier Frinault & Autres in 2002 for a term of office expiring in 2006.

RSM Salustro Reydel
8, avenue Delcassé - 75378 Paris Cedex 08 - France
- Term began: Term granted by the Annual General Meeting of Shareholders convened for 2002.
- Term ends: Annual General Meeting of Shareholders convened to approve the financial statements for 2007.

1.3.2.2. Alternate auditors

Max Dusart
Espace Nation, 125, rue de Montreuil - 75011 Paris - France
- Term began: Term granted by the Annual General Meeting of Shareholders convened for 2001.
- Term ends: Annual General Meeting of Shareholders convened to approve the financial statements for 2006.

BEAS
7-9, villa Houssaye - 92524 Neuilly-sur-Seine Cedex - France
- Term began: Term granted by the Annual General Meeting of Shareholders convened for 2002.
- Term ends: Annual General Meeting of Shareholders convened to approve the financial statements for 2006.

Jean-Claude Reydel
8, avenue Delcassé - 75378 Paris Cedex 08 - France
- Term began: Term granted by the Annual General Meeting of Shareholders convened for 2002.
- Term ends: Annual General Meeting of Shareholders convened to approve the financial statements for 2007.

≫ 1.4. Certification by the auditors responsible for the consolidated and corporate financial statements

The following is a free translation of a French language original for convenience purposes only. Accounting principles and auditing standards and their application in practice vary among nations. The accompanying financial statements are not intended to present the financial position, results of operations and cash flows in accordance with accounting principles and practices generally accepted in countries other than France. In addition, the procedures and practices utilized by the statutory auditors in France with respect to such financial statements included in a prospectus may differ from those generally accepted and applied by auditors in other countries. Accordingly, the French financial statements and the auditors' report of which a translation for convenience purposes only is presented in this document are for use by those knowledgeable about French accounting procedures, auditing standards and their application in practice.

As Statutory Auditors of AREVA and in accordance with COB Regulation n° 98-01, we have performed certain procedures, in accordance with French professional standards, on the information in respect of the financial situation and historical financial statements included in the present Reference Document.

The Company's Chairman of the Executive Board is responsible for the preparation of the "Reference Document". Our responsibility is to issue an opinion on the fairness of the information contained therein with respect to the financial situation and financial statements.

We conducted our review in accordance with French professional standards. This review consisted in assessing the fairness of the information presented on the financial situation and financial statements and to verify their consistency with the audited financial statements. We also read the other financial information contained in the Reference Document in order to identify any significant inconsistency with information in respect of the financial situation and financial statements and to bring to your attention any manifestly misstatements we noted based on our general understanding of the company gained through our audit.

The prospective information contained in this document reflects management objectives, and not properly prepared projections on individual components.

The annual financial statements and the consolidated financial statements for the fiscal year ending December 31, 2001 drawn up by the AREVA Executive Board were audited by the accounting firms Barbier Frinault & Autres and Mazars & Guérard in accordance with French professional standards. An unqualified opinion on the annual and consolidated financial statements for the fiscal year ending December 31, 2001 was issued.

We have audited the annual financial statements and the consolidated financial statements for fiscal years ending December 31, 2002 and December 31, 2003 drawn up by the AREVA Executive Board in accordance with French professional standards.

We issued an unqualified opinion on the annual and consolidated financial statements for the fiscal year ending December 31, 2002 drawn up by the AREVA Executive Board, in accordance with French professional standards, with an emphasis of matter paragraph, drawing attention to the matters discussed in the notes 1.1 and 21 respectively of the consolidated financial statements. These relate to:

- The effect of the change in accounting method arising from the first-time application of CRC regulation n°2000-06 with respect to liabilities, and
- The uncertainties inherent in evaluating costs for the back-end of the cycle, due to ongoing revisions to certain decommissioning estimates and the share of them to be borne by customers, particularly EDF.

We issued an unqualified opinion on the annual and consolidated financial statements for the fiscal year ending December 31, 2003 drawn up by the AREVA Executive Board, in accordance with French professional standards, with an emphasis of matter paragraph, drawing attention to the matters discussed in the notes 1.1 and 22 respectively of the consolidated financial statements. These relate to:

- The changes in presentation of the provisions for expenses to be incurred, the financial assets earmarked for facility decommissioning and the interest-bearing advances from customer, and
- The uncertainties over decommissioning and dismantling cost estimates including costs borne by certain customers, in particular EDF.

Pursuant to the provisions of Article L.225-235 of the French Commercial Code (Code de Commerce) governing the justification of our assessments, as introduced by the French Financial Security Act (Loi sur la Sécurité Financière) of 1 August 2003, which apply for the first time this year, we reported on the justification of our assessments in our report on the annual accounts:

- Participating interests were measured in accordance with the accounting methods described in the note entitled "Accounting

principles, rules and methods – Long-term notes and investments" in the notes to the financial statements. As part of our procedures, we reviewed the appropriateness of these accounting methods and the assumptions adopted, as well as the resulting valuations.

Pursuant to the provisions of Article L.225-235 of the French Commercial Code (Code de Commerce) governing the justification of our assessments, as introduced by the French Financial Security Act (Loi sur la Sécurité Financière) of 1 August 2003, which apply for the first time this year, we reported on the justification of our assessments in our report on the annual consolidated accounts:

- Provisions for the decommissioning of nuclear facilities and waste retrieval, recorded on the balance sheet in the amount of EUR 12,316 million, were measured in accordance with the accounting policies and valuation conditions described in Notes 1.16 and 22 of the notes to the financial statements. As the balancing entry to these provisions, the Group recognised a decommissioning asset in the amount of EUR 9,109 million. As indicated in Note 1.5 in the notes to the financial statements, this asset corresponds to the portion to be partly financed by third parties and partly by the Group, which is amortized over the useful life of the relevant installations.
As part of our procedures, we reviewed the estimates of the decommissioning liabilities and the portion to be financed by third parties by assessing the appropriateness of the assumptions adopted by particularly taking into account changes in the quotes and the negotiations with EDF and CEA, still ongoing as at 31 December 2003, to determine their portion of the end-of-cycle costs and the economic conditions of the future waste fuel treatment contract conditions. This uncertainty is subject to an observation in this report.
With respect to the accounting principles, the provisions for decommissioning, for which payments occur in the long-term, and the portion to be financed by third parties are not discounted as authorised under French GAAP.

- Your company recognises income on long-term contracts in accordance with the policies and conditions described in Note 1.17 of the notes to the financial statements. In accordance with the professional standard applicable to accounting estimates, and based on the accounting information available, our procedures consisted in assessing the data and assumptions made by management, particularly, the level of risk arising from these contracts, used as a basis to estimate the profits or losses on contract completion and their changes, reviewing the calculations performed and comparing the accounting estimates in prior periods with actual corresponding figures. We assessed the appropriateness of these estimates.

- The heading "Other long-term notes and investments" comprises the financial assets earmarked for facility decommissioning for an amount of EUR 2,234 million, for which the management objectives are given in Note 13 of the notes to the financial statements. These financial assets, which are mainly comprised of directly held securities and shares in mutual investment funds, are subject to regular valuation, for which the principles are described in Note 1.7 of the notes to the financial statements according to their classification. As part of our procedures, we assessed the correct and constant application of the valuation methods and their appropriateness in the specific context of this long-term portfolio.

The assessments were made in the context of our audit of the financial statements, taken as a whole, and therefore contributed to the formation of the unqualified opinion expressed in our reports on annual and consolidated financial statements.

We have nothing to report with respect to the fairness of the information on the financial position and financial statements contained in the Reference Document.

Done at Paris and Paris-La Défense, April 29, 2004

The auditors

Deloitte Touche Tohmatsu		**Mazars & Guerard**		**RSM Salustro Reydel**	
Pascal Colin	Jean-Paul Picard	Thierry Blanchetier	Michel Rosse	Denis Marangé	Hubert Luneau

≫ 1.5. Persons responsible for financial information

The persons responsible for financial information are:

- Gérald Arbola, Chief Financial Officer and member of the Executive Board
  Address: 27-29, rue Le Peletier, 75009 Paris - France
  e-mail: gerald.arbola@areva.com
- Vincent Benoit, Investor Relations Officer
  Address: 27-29, rue Le Peletier, 75009 Paris - France
  e-mail: vincent.benoit@areva.com

≫ 1.6. Scheduled announcements and communications policy

The Executive Board has a twofold objective: to provide information on operations to investment certificate holders and to prepare the group, as requested by its shareholder, for a possible increase in the number of outstanding shares. Accordingly, AREVA has had a financial communications program in place since it was formed. The goals of this program are to build strong relations with our shareholders and to develop a presence in the financial markets by providing more information on our operations.

1.6.1. Information programs

Information of a financial, commercial, organizational or strategic nature that may be of interest to the financial community is provided to the national and international media and to press agencies via press releases. All information provided to the financial markets (press releases, audio and video presentations of a financial or strategic nature) is available at www.areva.com in the "Finance" section. Individuals wishing to receive press releases by e-mail may register on the group's site, which also features a schedule of upcoming events and announcements.

AREVA publishes half-year and annual results and makes quarterly sales announcements. It should be noted that sales figures may vary widely throughout the year. Year-on-year and quarter-on-quarter comparisons may yield very different results from annual comparisons.

1.6.2. Calendar of events

The schedule of upcoming events and announcements is provided below. It is regularly updated on the AREVA website.

Announcement date	Event
May 4, 2004	Combined Annual Meeting of the Shareholders
May 6, 2004	First quarter 2004 sales figures
June 30, 2004	Dividend payment for fiscal year 2003
August 5, 2004*	First half 2004 sales figures
September 28, 2004*	First half 2004 financial results
September 29, 2004**	Information meeting on first half 2004 financial results (media, analysts, investors)
November 4, 2004*	Third quarter 2004 sales figures
February 7, 2005	2004 sales
Early March 2005	2004 financial results

* *Press release published on that day after 5:30 p.m. (Paris time).*
** *Time not established.*

1.6.3. Technical information on the group's businesses

In connection with a possible increase in publicly traded shares, the AREVA group organized a series of presentations and site tours to enhance the financial community's understanding of the group's operations from a technical point of view as well as its understanding of the economic challenges we face.

The "AREVA Technical Days" (ATD) program was designed for this purpose. Four sessions were held in 2002 and 2003 to present our businesses: a general overview in Paris, overview of the Back End division at COGEMA-La Hague, overview of the Reactors and Services division in Chalon-sur-Saône, and overview of the Front End division in Avignon. A hundred participants attended each session:

- ATD 1: global energy challenges and overview of the AREVA group's four divisions. This session was held in Paris on June 27 and 28, 2002.
- ATD 2: operations of the Back End division. This session, accompanied by facility tours, was held at the COGEMA-La Hague plant on December 4 and 5, 2002.
- ATD 3: operations of the Reactors and Services division. This session, accompanied by facility tours, was held in Chalon-sur-Saône on July 2 and 3, 2003.
- ATD 4: operations of the Front End division. This session, accompanied by facility tours, was held in Avignon on December 15 and 16, 2003.

Additional sessions are planned.

To ensure that those not attending receive the same information as those attending the sessions, delayed broadcasts of the meetings and related question-and-answer sessions may be seen in the ATD program section of the group's website.

1.6.4. Contact persons

The Director of Financial Communications (see §1.5 above) is supported in this mission by:

- Frédéric Potelle, Manager of Investor Relations
  Address: 27-29, rue Le Peletier, 75009 Paris - France
  e-Mail: frederic.potelle@areva.com
- Stéphane Laval, Manager of Financial Information and Relations with Individual Shareholders
  Address: 27-29, rue Le Peletier, 75009 Paris - France
  e-Mail: stephane.laval@areva.com
- Pauline Briand, Program Manager
  Address: 27-29, rue Le Peletier, 75009 Paris- France
  e-mail: pauline.briand@areva.com

In 2004, the group also set up an individual shareholders relations desk that can be reached at a toll-free number (calls in France only): 0810 699 756.

Chapter 2

Information pertaining to the transaction

Not applicable

Chapter 3

General information on the company and share capital

≫ 3.1. Statutory information

3.1.1. Legal name (article 2 of the bylaws)

The company's legal name is *Société des Participations du Commissariat à l'Énergie Atomique*. The company's trade name is AREVA.

In this document, the company is referred to as "AREVA". "Group" refers to AREVA and its subsidiaries.

3.1.2. Relations with the French State

3.1.2.1. Establishing orders

The establishing order for *Société des Participations du Commissariat à l'Energie Atomique* (CEA) is decree no. 83-1116 of December 21, 1983. This decree was amended, mainly by decree no. 2001-342 of April 19, 2001, followed by decree no. 2003-94 of February 4, 2003, which provides for the following:

- changes to company bylaws are approved by decree; however, capital increases are subject to joint approval by the Minister of Industry and the Minister of the Economy (article 2, paragraphs 2 and 3);
- CEA shall retain the majority of the company's capital (article 2, paragraph 1);
- the sale or exchange of any AREVA shares held by the Commissariat à l'Energie Atomique (CEA) is subject to the same conditions as for a capital increase (article 2, paragraph 2);
- a government controller is designated by the French State and the company is subject to the provisions of decree no. 53-707 dated August 9, 1953, excluding article 2 (this decree governs, among other matters, compensation of executives of government-owned companies);
- decisions of the Supervisory Board become effective only after a ten-day waiting period, during which time the government comptroller may reject them (article 5);
- sales of AREVA shares are subject to approval by AREVA's Supervisory Board, except for shares traded on a regulated stock market (article 6).

The Extraordinary General Meeting of Shareholders amended the company's bylaws on November 29, 2002. The amended bylaws were then approved by decree no. 2003-94 of February 4, 2003. The amendments modified the powers and responsibilities of the Supervisory Board.

3.1.2.2. Designation of government representatives

The French government designated four members to serve on the Supervisory Board as representatives of the French State.

3.1.2.3. Company representatives elected by company personnel

Company personnel elect three members of the Supervisory Board.

3.1.2.4. Legal form of the company (article 1 of the bylaws)

AREVA is a *Société anonyme à Directoire et Conseil de Surveillance* (business corporation with an Executive Board and a Supervisory Board) governed by the French Commercial Code and by the decree dated March 23, 1967.

3.1.3. Purpose of the company (article 3 of the bylaws)

The purpose of the company, in France and abroad, is to acquire participating and equity interests, directly or indirectly, in whatever form, in any French or foreign company or enterprise involved in financial, commercial, industrial, real estate or securities operations, in the purchase, sale, exchange, subscription or management of securities or participating or equity interests, in providing services, particularly services supporting group operations, and in managing business and commercial operations, especially in the nuclear, information technology, electronics and connectors sectors. To achieve these goals, the company may:

- examine projects concerning the creation, development or reorganization of any industrial enterprise;
- implement any such project or contribute to its implementation by all appropriate means, particularly by acquiring participating or equity interests in any existing or proposed business venture;
- provide financial resources to industrial enterprises, especially by acquiring participating interests and through loan subscriptions.

More generally, the company's objective is to undertake any industrial, commercial, financial, real estate or securities operation, in France or abroad, that is directly or indirectly related to the above in furtherance of its purpose or supporting that purpose's achievement and development.

3.1.4. Corporate office (article 4 of the bylaws)

The company's corporate office is located at 27-29, rue Le Peletier, 75009 Paris, France.

3.1.5. Statutory term (article 5 of the bylaws)

The company was registered to do business in France on November 12, 1971. Its business registration expires on

November 12, 2070, unless this term is extended or the company is dissolved beforehand.

The statutory term of the company is ninety-nine years from its date of registration, unless earlier extended or the company is dissolved beforehand.

3.1.6. Business registry, business code, registration number

Commercial and companies registry (RCS): Paris 712 054 923
Business code (APE): 741J (Company management)
Business registration number (Siret): 712 054 923 00032

3.1.7. Availability of incorporating documents

The incorporating documents may be reviewed at the company's corporate office at 27-29, rue Le Peletier, 75009 Paris, France.

3.1.8. Annual financial statements

3.1.8.1. Accounting year (article 43 of the bylaws)

The accounting year is the 12-month period beginning January 1 and ending December 31 of each year.

3.1.8.2. Corporate financial statements (article 44 of the bylaws)

After year-end closing, the company's Executive Board presents a balance sheet, an income statement with notes and a management report. The Supervisory Board submits its remarks on the Executive Board's report and on the financial statements to the Annual General Meeting of Shareholders.

Any shareholder, investment certificate holder or voting-right certificate holder has the right to review these documents, as well as any other document that must be provided by law, subject to the conditions stipulated in current regulations. He or she may also request that these documents be provided to him or her by the company as provided by the regulations.

3.1.8.3. Information on subsidiaries and participating interests (article 45 of the bylaws)

Information on subsidiaries and equity interests required by law is included in the report presented to the Annual General Meeting of Shareholders by the Executive Board and, as applicable, by the registered auditors.

The Executive Board reports on the operations of all subsidiaries, defined as companies in which the group's participating interest is greater than 50% of capital. The report is segmented by business line and discloses actual financial performance.

The Executive Board attaches a table to the balance sheet presenting the position of said subsidiaries and participating interests in the format required by law.

3.1.8.4. Consolidated balance sheet and financial statements (article 46 of the bylaws)

The Executive Board prepares the consolidated balance sheet, income statement, notes to the financial statements and management report.
The method used to prepare the consolidated balance sheet and income statements must be disclosed in a note attached to those documents.

3.1.8.5. Appropriation and distribution of profits (article 48 of the bylaws)

1. The net profit or loss for the period consists of the difference between income and expenses, net of depreciation, depletion, amortization and provisions.
2. No less than 5% of the profits for the year, adjusted for any prior year losses, are allocated to a reserve fund called "legal reserve". This allocation is no longer required once the legal reserve reaches 10% of the company's capital stock.
3. The profit available for distribution is equal to the profit for the year less prior year losses, and less reserve allocations required by law and the company bylaws, plus retained earnings.
4. Except in cases of capital reduction, there shall be no profit distribution to the combined shareholders and equity investors if shareholders' equity is less than an amount equal to capital stock plus legal reserves, in accordance with the law and the company's bylaws, or if the distribution would cause it to fall below that amount.

3.1.9. Information on General Meetings of Shareholders and Voting-right Certificate Holders

3.1.9.1. Provisions common to all meetings

Forms and deadlines for Notices of Meeting (article 30 of the bylaws)

Meetings are convened as provided by law.

Admission to Meetings - Deposit of Securities (article 32 of the bylaws)

1. Any shareholder or holder of a voting-right certificate may participate in person or by proxy in General Meetings of Shareholders, as provided by law, by offering proof of his or her identity and of his or her ownership of the shares or voting-right certificates, either by registering the shares or certificates with the company at least three days before the General Meeting of Shareholders or, in the case of

bearer shares (when such shall exist), by providing a statement confirming the non-availability of the shares until the date of the Meeting.

2. In the event of the subdivision of share or certificate ownership, only the voting right holder may participate in or be represented at the General Meeting.
3. Joint owners of undivided shares and/or voting-right certificates are represented at the General Meeting by one of the joint owners or by a single proxy who shall be designated, in the event of disagreement, by order of the president of the commercial court in an urgent ruling at the request of any of the joint owners.
4. Any shareholder or voting-right certificate holder who owns securities of a given class may participate in any Special Meeting of the Shareholders for that particular class of securities, subject to the conditions outlined above.
5. The company works council shall designate two of its members to attend General Meetings of Shareholders, one from among the company's managers, technicians and supervisors, and the other from among its administrative/clerical personnel and craft/manual workers. Alternatively, the persons mentioned in article L. 432-6 of the French Labor Code may participate in the meetings.

Voting procedures (article 35 of the bylaws)

1. The voting rights attached to shares of capital stock or jouissance shares and to voting-right certificates are proportionate to the fraction of capital represented by such shares. Each full share shall be entitled to at least one vote.
2. The voting right attached to a share or a voting-right certificate belongs to the usufructuary in Annual General Meetings of the Shareholders and to the bare owner in Extraordinary General Meetings or meetings dealing with statutory matters.

Voting rights attached to shares given as collateral remain with the owner of the shares.

3.1.9.2. Rules governing Annual General Meetings of Shareholders

Quorum and majority (article 39 of the bylaws)

The Annual General Meeting of Shareholders may deliberate validly after the first notice of meeting only if the shareholders and/or voting-right certificate holders present in person, represented by proxy or voting by mail, or attending via videoconference or a telecommunications medium allowing them to be identified, possess at least 25% of the shares and certificates entitled to a vote. No quorum is required for a meeting held after a second notice of meeting has been given.

The Annual General Meeting of Shareholders adopts resolutions by a majority vote of the shareholders and/or voting-right certificate holders present in person, represented by proxy or voting by mail, or attending the Annual General Meeting via videoconference or a telecommunications medium allowing them to be identified.

3.1.9.3. Rules governing Extraordinary General Meetings of Shareholders

Purpose and conduct of Extraordinary General Meetings of Shareholders (article 40 of the bylaws)

1. The Extraordinary General Meeting of Shareholders has sole authority to amend any of the provisions of the company bylaws, or to increase or decrease the company's capital stock. However, the Extraordinary General Meeting of Shareholders may not increase the obligations of any shareholder or investment certificate holder, except in the case of share combinations that have been properly executed or in the case of fractional shares resulting from a capital increase or decrease.
2. As an exception to the exclusive jurisdiction of the Extraordinary General Meeting of Shareholders in matters of bylaws amendment, the Executive Board may modify bylaw provisions relating to the company's capital stock or the number of shares, investment certificates or voting-right certificates representing such capital, insofar as such changes automatically result from a duly authorized capital increase, decrease or amortization.

Quorum and majority (article 41 of the bylaws)

Unless otherwise provided by law, the Extraordinary General Meeting of Shareholders may deliberate validly after the first notice of meeting only if one third of the shareholders and voting-right certificate holders are present in person, represented by proxy or voting by mail, or attending the Meeting via videoconference or a telecommunications medium allowing them to be identified, in accordance with applicable laws and regulations. The quorum required after the second notice of meeting is 25% of all shares and voting-right certificates entitled to vote.

If no quorum has been reached for the second notice of meeting, the second Meeting may be postponed for two months after the date for which it had been called.

Unless otherwise provided by law, resolutions of the Extraordinary General Meeting are adopted by a two-thirds majority of the voting rights of the shareholders and/or voting-right certificate holders present in person, represented by proxy, voting by mail, or participating via videoconference or

a telecommunications medium allowing them to be identified, in accordance with applicable laws and regulations.

3.1.9.4. Rules governing Special Meetings of Investment Certificate Holders (article 42 of the bylaws)

All investment certificate holders may participate in the Special Meeting. The Special Meeting has the authority, in instances provided by law, to waive the preemptive subscription right held by investment certificate holders. The Special Meeting is called at the same time and in the same form as General Meetings of Shareholders called to decide on a proposed capital increase, convertible bond issue, or bond issue with stock purchase warrants.

Investment certificate holders are admitted to the meeting following the same procedures applicable to the shareholders, described in article 32 of the bylaws.

The Special Meeting of Investment Certificate Holders adopts resolutions according to the rules applicable to the Extraordinary General Meeting of Shareholders.

3.2. Information on company capital and voting rights

3.2.1. Capital stock (article 6 of the bylaws)

3.2.1.1. Capital stock issued

The company's capital stock is fully paid up and stands at one billion three hundred forty-six million eight hundred twenty-two thousand six hundred thirty-eight euros (€1,346,822,638), divided into thirty-four million thirteen thousand five hundred ninety-three shares (34,013,593) with a par value of thirty-eight euros (€38.00) per share, and one million four hundred twenty-nine thousand one hundred eight (1,429,108) investment certificates with a par value of thirty-eight euros (€38.00) per certificate, and one million four hundred twenty-nine thousand one hundred eight (1,429,108) voting-right certificates.

There is only one class of shares.

3.2.1.2. Authorized share capital

No distinction is made between authorized share capital and outstanding capital stock. There are no securities outstanding that could ultimately result in the creation of new shares. Accordingly, the concept of potential capital does not apply to the AREVA group.

The Annual General Meeting of Shareholders has not passed any resolution authorizing the issuance of securities giving access to share capital.

3.2.2. Changes in share capital since 1989 (article 7 of the bylaws)*

On May 29, 1989, the Extraordinary General Meeting of Shareholders	voted to increase the company's capital stock to 6,999,412,000 French francs by creating 12,448 preferred investment certificates with a par value of 250 French francs each, issued in exchange for 3,112 participating non-voting shares, and by creating 12,448 voting-right certificates for the *Commissariat à l'Energie Atomique*.
On May 31, 1990, the Extraordinary Meeting of Shareholders	voted to increase the company's capital stock to 7,016,500,000 French francs by creating 68,352 preferred investment certificates with a par value of 250 French francs each, issued in exchange for 17,088 participating non-voting shares, and by creating 68,352 voting-right certificates for the *Commissariat à l'Energie Atomique*.
On March 23, 1992, the Extraordinary General Meeting of Shareholders	voted to increase the company's capital stock to 7,353,577,000 French francs by creating 1,348,308 preferred investment certificates with a par value per certificate of 250 French francs, issued in exchange for 337,077 participating non-voting shares, and by creating 1,348,308 voting-right certificates for the *Commissariat à l'Energie Atomique*.
On June 23, 2000, the Combined Annual and Extraordinary Meeting of Shareholders	delegated complete authority to the Board of Directors to convert the capital stock into euros. On December 18, 2000, the Board of Directors, acting by delegation, decided to reduce the company's capital stock from 1,121,045,586.830 euros to 1,117,743,704 euros, effective January 1, 2001.
On September 3, 2001, the Extraordinary General Meeting of Shareholders	approved the takeover merger of Biorisys and Framatome SA and voted to increase the company's capital stock to 1,318,374,128 euros by creating 5,279,748 shares with a par value per share of 38 euros, which were issued to Biorisys and Framatome SA shareholders other than the company itself.
On September 3, 2001, the Extraordinary General Meeting of Shareholders	decided to raise share capital to 1,346,822,638 euros by issuing 748,645 shares with a par value per share of 38 euros in payment for contributions of COGEMA shares from Total Chimie, Total Nucléaire, Entreprise de Recherches et d'Activités Pétrolières (ERAP) and the Caisse des Dépôts et Consignations.

** The change in shareholder's equity is explained in paragraph 5.4.5. "Changes in consolidated shareholder's equity".*

3.2.3. Shareholders

The company's share capital as of March 31, 2004 is as follows:

- 34,013,593 shares,
- 1,429,108 investment certificates,
- 1,429,108 voting-right certificates.

In some cases, the rights attached to the shares were sub-divided into distinct investment certificates and voting-right certificates. An original share is reestablished with full rights and privileges when a voting right certificate and an investment certificate are reunited. The CEA owns all of the voting-right certificates. Investment certificates are owned by the public and traded on the Premier Marché at Euronext Paris.

With the exception of investment certificates, which by definition are devoid of voting rights, all AREVA securities carry a single voting right.

	12/31/1998		12/31/1999		12/31/2000		12/31/2001		12/31/2002		12/31/2003		03/31/2004	
	% capital	% voting rights	% capital	% voting rights	% capital	% voting rights	% capital	% voting rights	% capital	% voting rights	% capital	% voting rights	% capital	% voting rights
CEA	95.14	100.00	95.14	100.00	95.14	100.00	78.96	82.99	78.96	82.99	78.96	82.99	78.96	82.99
French State							5.19	5.19	5.19	5.19	5.19	5.19	5.19	5.19
Caisse des Dépôts et Consignations							3.59	3.59	3.59	3.59	3.59	3.59	3.59	3.59
Erap							3.21	3.21	3.21	3.21	3.21	3.21	3.21	3.21
EDF							2.42	2.42	2.42	2.42	2.42	2.42	2.42	2.42
Framépargne (employees)							1.58	1.58	1.18*	1.18*	1.06*	1.06*	1.06*	1.06*
Crédit Agricole Indosuez									0.40*	0.40*	0.52*	0.52*	0.52*	0.52*
Société Total							1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
IC holders	4.86		4.86		4.86		4.03		4.03		4.03		4.03	
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

** Crédit Agricole Indosuez entered into a liquidity guarantee with Framépargne under which it agreed to acquire, in the event of insufficient liquidity, AREVA shares held by Framépargne that the latter would have to sell to meet share repurchase requirements. Pursuant to this guarantee, Crédit Agricole purchased some AREVA shares beginning in July 2002.*

Each member of the AREVA Supervisory Board holds one share of stock, except for members representing the French State. Members of the Executive Board do not own stock in the company. Members representing the employees each own one share of stock.

3.2.4. Treasury stock

The company does not own any of its capital stock.

3.2.5. Form of shares, investment certificates and voting-right certificates (article 11 of the bylaws)

Subject to the condition precedent that the shares and/or investment certificates issued by the company are listed for trading on a regulated market, the holders may, at their discretion, record their ownership on the company's registers or hold their securities as bearer shares. All securities are registered in an account in accordance with applicable laws and regulations.

Provided that securities that confer an immediate or future right to vote in Meetings of Shareholders of the company are listed for trading on a regulated stock market, the company may request the name (or the legal name in the case of a legal entity), nationality, year of birth (or year of establishment in the case of a legal entity) and address of each holder of such securities from the clearing organization at any time for the purpose of identifying the holders of the securities as well as the number of securities held by each and any restrictions on same, in accordance with the law in these matters.

Ownership of voting-right certificates must always be recorded on the company's registers.

3.2.6. Transfer of shares, investment certificates and voting-right certificates (article 12 of the bylaws)

1. Shares and investment certificates are transferred from account to account upon sale. If the shares or investment certificates transferred are not fully paid up, the transferee must also sign the transfer order. Any transfer expenses are borne by the buyer.

2. The sale of company shares not listed for trading on a regulated market to a third party, for whatever reason, even when the sale is limited to bare ownership or usufruct of such shares, is subject to the prior approval of the Supervisory Board in the manner and under the conditions below.
   a) The request for approval of transfer shall be delivered to the company by registered mail with return receipt requested and shall include the last name, first name, middle name and address of the transferee, the number of shares to be transferred, and the price offered.
   b) If the sale is approved, the company shall notify the transferor by registered mail with return receipt requested. However, the request shall be deemed to have been granted if no answer is provided within three months of the date of the request.
   c) If the Supervisory Board rejects the transfer and the transferor maintains its intention to sell the shares, the company shall, within a legal time period, cause a third party to acquire the shares, or shall acquire the shares itself for the purpose of reducing the company's capital. The original transfer request shall be deemed approved if the company-sponsored acquisition has not been completed within the time frame mentioned above. However, the deadline may be extended by a court ruling at the company's request.
   d) In the absence of an agreement between the parties, and in all instances of acquisition under the provisions of the preceding paragraph, the share price shall be set by an appraiser as provided under Article 1843-4 of the French Civil Code.

3. Investment certificates may be sold freely. A voting-right certificate may be sold only in combination with an investment certificate unless the buyer already owns an investment certificate, in which case the transaction shall result in the permanent reconstitution of a share.

3.2.7. Rights and obligations attached to shares, investment certificates and voting-right certificates (article 14 of the bylaws)

Possession of a share, an investment certificate or a voting-right certificate automatically signifies acceptance of the company's bylaws and of the resolutions duly adopted in any General Meeting of Shareholders.

The rights and obligations attached to any share, investment certificate or voting-right certificate remain attached to the securities regardless of owner.

3.2.8. Liens

There are no liens on AREVA shares held by the principle shareholders identified in paragraph 3.2.3. Shares of group subsidiaries held by AREVA are similarly unencumbered.

All AREVA assets are free and clear of all liens.

3.2.9. Shareholders' agreement

To the company's knowledge, there are no agreements granting preferential selling terms for investment certificates and for at least 0.5% of the share capital or voting rights of the company.

3.2.9.1. Shareholders' agreement between the *Caisse des Dépôts et Consignations* (CDC) and the *Commissariat à l'Energie Atomique* (CEA)

The CDC and the CEA concluded an agreement in principle on December 28, 2001, under which the parties agreed in particular that, in the event that AREVA shares are admitted for public trading on a regulated market through the sale of AREVA shares owned by the CEA, CEA agrees that CDC may, if it chooses, sell as many shares in the public offering as those offered for sale by the CEA. The CEA further agreed to undertake its best efforts to allow CDC to sell its shares in the event that the latter wishes to relinquish all of its AREVA shares under certain specific circumstances, and particularly in the event that AREVA shares are not admitted for public trading by December 31, 2004.

3.2.9.2. Memorandums of understanding among *Total Chimie* and *Total Nucléaire*, AREVA and COGEMA

Under the terms of separate memorandums of understanding dated June 27, 2001, *Total Chimie* and *Total Nucléaire* agreed to sell five-sixths of their participating interest in COGEMA and to contribute the remaining shares to AREVA (formerly called CEA-Industrie) prior to the split-up and merger decided by the Combined Annual and Extraordinary Meeting of Shareholders, which was completed in September 2001.

This memorandum of understanding also provides that the contributors agree to retain their AREVA shares received in exchange for their contributions until such time as AREVA shares are publicly traded on a regulated market. If admission to a regulated market does not take place by September 30, 2004, at the latest, they shall have the option of terminating their shareholder status in AREVA's capital, and AREVA

together with the contributors shall make their best efforts to ensure that the sale of the contributors' participating interest is carried out promptly and under mutually acceptable terms and conditions for both parties.

Shareholders' agreements relating to companies in which the AREVA group holds participating interests of greater than 5% are described in paragraph "4.2.2.3 - Participating interests".

≫ 3.3. Share trading

3.3.1. Trading exchange

The AREVA investment certificate is traded on the Premier Marché of Euronext Paris under SICOVAM code no. 4524.

3.3.2. Custodian services

Custodian and transfer services are provided by:
Euro Emetteurs Finance
Service Financier Valeurs Françaises
48, boulevard des Batignolles
75850 Paris Cedex 17 - France
Fax: +33 (0)1 55 30 59 60

3.3.3. Historical data

Summary of investment certificate prices and trading volume over the past three years:

2001

(in euros)	High*	Low*	Volume traded	Value
January	203.90	174.80	93,556	18,296,363
February	214.00	189.70	87,112	17,613,657
March	196.90	168.90	1,555	284,221
April	217.90	172.20	72,861	14,616,814
May	243.80	214.00	90,851	21,021,725
June	237.80	199.90	81,387	17,750,701
July	228.00	166.00	66,445	13,348,650
August	189.00	147.20	40,549	6,995,959
September	159.00	120.80	119,993	17,214,343
October	141.00	129.50	41,448	5,631,125
November	155.00	137.50	88,447	12,891,793
December	166.80	141.70	131,938	20,610,035

2002

(in euros)	High*	Low*	Volume traded	Value
January	170.00	161.00	80,861	13,382,871
February	181.00	169.90	80,183	14,165,927
March	192.00	180.00	57,202	10,705,435
April	201.00	190.00	157,140	30,671,713
May	190.40	181.00	92,923	17,425,652
June	192.30	175.90	127,814	23,892,366
July	181.00	160.00	70,984	12,269,050
August	168.90	152.10	61,553	10,065,721
September	167.50	135.10	47,658	7,526,030
October	152.30	116.00	59,784	8,101,460
November	170.00	143.00	31,460	4,834,870
December	155.00	134.10	25,558	3,634,080

2003

(in euros)	High*	Low*	Volume traded	Value
January	150.00	134.20	96,171	14,030,000
February	137.60	126.00	59,654	7,874,000
March	149.50	126.00	40,132	5,386,000
April	168.50	137.30	53,489	7,895,000
May	188.00	158.00	61,966	10,673,000
June	183.90	167.30	61,216	11,017,000
July	177.70	165.00	39,301	6,785,000
August	185.10	171.60	38,115	6,932,000
September	193.90	180.10	93,271	17,432,000
October	195.80	184.50	42,713	8,204,000
November	194.40	187.60	37,075	7,127,000
December	208.30	190.10	55,545	10,958,000

2004

(in euros)	High*	Low*	Volume traded	Value
January	224.00	200.10	98,264	20,905,000
February	223.50	213.50	185,570	40,450,000
March	219.20	209.30	147,326	31,649,837

Source: Reuters.
** Daily closing prices.*

From AREVA's establishment on September 3, 2001 through the end of March 2004, the price of the investment certificate (IC) rose by 50%, despite the difficult market situation evidenced by the CAC 40 market index loss of 19% and the 23% drop in the STOXX 50 market index.

For 2003, the AREVA IC was up by 45%, some 25% more than the CAC 40 and 32% more than the European index, STOXX50. The liquidity of the IC is down slightly, with an average daily trading volume of 2,653 shares versus 3,439 in 2002.

In terms of value, average daily trading was €447,000, compared with €602,000 in 2002.

A shareholder investing on September 3, 2001, the date the group was formed, would have realized an annualized total shareholder return (TSR) of 22.9%, or as much as 26.8% if the tax credit was reinvested in AREVA IC, at end-March 2004.

In early 2004, the *Conseil Scientifique des Indices* added the AREVA CI to the SBF 120 index of Euronext Paris. The IC was previously pegged to the SBF 250 index.

≫ 3.4. Dividends

3.4.1. Dividend payment (article 49 of the bylaws)

Dividends are paid annually on the date and place set by the Annual General Meeting of Shareholders or, in the absence of such a decision, within nine months of the fiscal year-end on the date and place set by the Executive Board. Dividends properly received are not subject to recovery. Dividends that have not been collected within five years from the set date of distribution are forfeited to the French State.

3.4.2. Five-year dividend data

(in euros)	Dividend	Tax credit	Gross dividend
Fiscal year 1999	10.23	5.11	15.34
Fiscal year 2000	22.85	11.42	34.28
Fiscal year 2001	6.20	3.10	9.30
Fiscal year 2001 (extraordinary dividend)	12.28	6.14	18.48
Fiscal year 2002	6.20	3.10	9.30
Fiscal year 2003*	6.20	3.10	9.30

** Dividend proposed to the Combined Annual General Meeting of Shareholders of May 4, 2004.*

3.4.3. Dividend policy

Fiscal years 2003 and 2004 are transition years. In 2002, 92% of the group's consolidated net income had been distributed. The proposal made to the Annual General Meeting of Shareholders convened to approve the 2003 financial statements provides for a dividend of 6.2 euros per share or investment certificate, corresponding to a consolidated net income distribution rate of 57%.

A dividend distribution policy will be established in the future. The amount of dividends distributed will be a percentage of the group's net income and close to the distribution rates of other companies in the sector.

Chapter 4

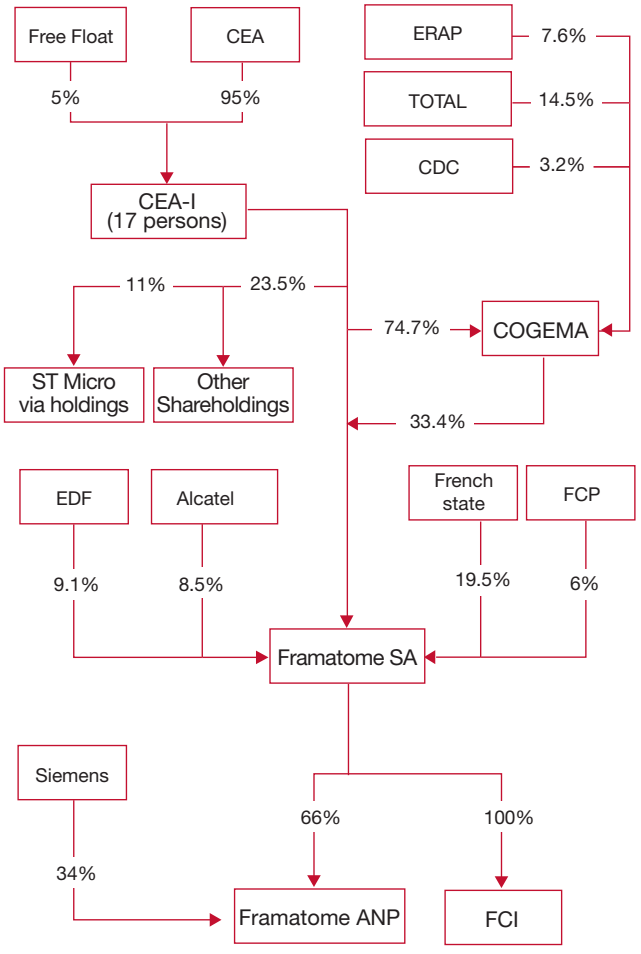
Information on company operations, changes and future prospects

≫ 4.1. Background and establishment of the AREVA Group

4.1.1. Establishment of the AREVA Group

The operations of CEA Industrie, COGEMA and Framatome were combined into a single entity under the code name Topco, as announced on November 30, 2000. This was a first step towards the establishment of AREVA on September 3, 2001. The combined resources of these three companies have created a major industrial group with considerable financial resources and greater operating coordination, one that is a leader in its business areas.

Initial structure of the CEA Industrie group in early 2001



This industrial complex was restructured in six stages:

1. COGEMA contributed equity interests unrelated to its commercial operations, i.e. its participating interests in Framatome, TotalFinaElf, Eramet and Cogerap, to Biorisys, a company created for that purpose whose share capital was held in its entirety by COGEMA.
2. CEA Industrie bought back 5/6th of TotalFinaElf's participating interest in COGEMA.
3. Biorisys shares issued in exchange for COGEMA's contribution were distributed among the latter's shareholders.
4. CEA Industrie took over Biorisys and Framatome SA.
5. COGEMA's minority shareholders contributed their COGEMA shares to CEA Industrie in exchange for CEA Industrie shares.
6. CEA Industrie changed its trade name to "AREVA".

A capital increase for CEA Industrie to the amount of €229 million, together with consolidation goodwill of €144 million and a merger bonus of €1,532 billion incorporating a merger dividend of €765 million, accompanied these contributions and takeovers.

AREVA was thus formed from the legal structure of CEA Industries and retains the Euronext Paris *(Premier Marché)* listing of a portion of the latter's share capital in the form of investment certificates.

The organization of the subsidiaries was simplified (see figure, paragraph 4.1.5) for greater operating efficiency, offering the following benefits:

- complete coverage of every aspect of the nuclear business and a unified strategy with respect to major customers;
- an expanded customer base for all of the group's nuclear products and services;
- better cost control by pooling the purchasing function and some overhead costs;
- optimized financial resource management.

4.1.2. COGEMA milestones

1976
- COGEMA is formed (*Compagnie Générale des Matières Nucléaires*) and acquires the majority of CEA's production department operations: uranium mining, uranium enrichment and used fuel reprocessing.
- Startup of the UP2-400 plant, a 400 metric ton (MT) per year used fuel reprocessing plant at La Hague.

1978
- The La Crouzille mining division produces the 10,000th MT of uranium ore from its deposit in the Limousin region in April 1978.

1979
- The Eurodif uranium enrichment plant at Pierrelatte enters service. Plant production capacity is quadrupled in two years to meet demand.

1980
- The Hérault mining division begins mining uranium. In addition to its uranium resources, fossils of plants and at least six species of vertebrates are discovered at the site and help reconstitute

a picture of the natural environment in the Lodève basin 250 million years ago.

- First year of production of the Cluff Lake uranium mine in Canada.
- French Prime Minister R. Barre signs a decree authorizing upgrades to the La Hague reprocessing plant at the conclusion of a public utility inquiry process.

1981
- Discovery of the Cigar Lake uranium deposit in Canada. Cigar Lake is the world's second largest high-grade ore deposit, with proven and probable reserves of 230 million pounds U_3O_8.

1989
- Startup of the 800 MT per year UP3 used fuel treatment plant at La Hague.

1990
- Construction of the Melox Mox fuel fabrication plant begins at the Marcoule site.

1992
- COGEMA takeover of Comurhex (uranium conversion plant), becoming the only company in the world active in every aspect of the nuclear fuel cycle: mining, chemistry, conversion, enrichment, fuel fabrication and used fuel treatment.

1994
- Startup of the UP2-800 plant, bringing the group's used fuel treatment capacity to 1,700 MT per year.

1995
- Commercial startup of Mox fuel fabrication (recycled plutonium fuel) for European utilities.

1999
- Decree authorizing capacity increase at the Melox plant and the start of the first Mox fuel fabrication for Japanese customers.
- In November, COGEMA becomes the largest commercial shareholder of Framatome, with a 34% participating interest. Nuclear fuel operations, excluding Mox fabrication, are transferred to Framatome.

2001
- Contract with Japanese consortium JNFL for startup support at the Rokkasho-Mura plant.
- Used fuel management agreement with EDF through 2007.

4.1.3. Framatome milestones

1958
- Framatome is formed.

1961-1967
- Construction of France's first reactor, Chooz A, a 300 MWe pressurized water reactor (PWR).

1970-1992
- Construction of 54 nuclear steam supply systems (NSSS) for the French nuclear power program's 900 MWe and 1,300 MWe PWRs.

1970-1994
- Construction of 9 NSSS for PWRs in Belgium, South Africa, South Korea and China.

1984-2000
- Construction of 4 NSSS for the N4 PWR in France.

1988-1993
- In July 1988, takeover of English firm Jupiter, the first acquisition in the connectors field. The purchase of U.S. firm Burndy and French firm Souriau in January 1989 lead to the establishment of the FCI group. The three acquisitions immediately place FCI among the world leaders in the connectors sector.
- FCI is formed:
  Jupiter (1988), Burndy (1989), Souriau (1989)
  Schmid (1991)
  Daut + Rietz (1992)
  Connectors Pontarlier (1993)
  O/E/N Connectors (1993).

1989
- Acquisition of Babcock & Wilcox's Nuclear Technologies division in the U.S.

1993-1994
- FCI expands:
  Harbor Electronics (1993)
  Socket Express (1994)
  MoldCon/Tri-Tech (1994)
  AT&T Connectors (1994)
  McKenzie Technologies (1994).

1995
- China places order for the two Ling Ao power station units.

1995-1998
- FCI strengthens its positions:
  Specialty Connectors (1995)
  Interlock (1996)
  Ericsson Connectors (1996)
  Canstar (1997)
  FCI Il Heung (1997)
  Malico Saae (1997)
  Nortel Connectors (1997)
  Berg Electronics (1998)
  Kinloch (1998).

2000
- Civaux 2, the last power plant to be built in France, comes on line.

February 2001
- Framatome and Siemens seal a July 2000 agreement to merge their nuclear operations into Framatome ANP. Siemens transfers its operations to Framatome ANP in two stages: German operations are transferred on January 31, 2001, and U.S. operations are transferred on March 19, 2001. This equity contribution is supplemented with a cash contribution by Siemens AG to Framatome ANP, giving Siemens AG 34% of the share capital of Framatome ANP. Siemens' nuclear operations are divided equally between AREVA's Front End and Reactors and Services divisions in 2001.

This contribution positions AREVA:
- as the sole supplier of next-generation EPR reactors;
- as number one worldwide for fuel supply.
- as an even stronger presence in Europe and the United States.

Framatome ANP SAS is managed by a President appointed by a six-member Board of Directors serving five-year terms of office. In principle, decisions are made by a simple majority, except for those involving revisions to the bylaws, which are made by a two-thirds majority. A "put and call" clause in the shareholders' agreement offers a solution in the event of deadlock.

4.1.4. AREVA milestones since 2001

2002
- Acquisition of Duke Engineering & Services, a nuclear engineering and services company.
- The U.S. government chooses AREVA's technology to eliminate surplus defense plutonium via Mox fuel.

2003
- AREVA signs an agreement with Urenco giving it access to the world's most efficient uranium enrichment technology: gaseous centrifuge.
- Finnish utility TVO chooses AREVA's EPR as its next reactor.

2004
- Acquisition of the Transmission and Distribution division.

On January 9, 2004, the AREVA group seals an agreement with the Alstom group for acquisition of the latter's Transmission and Distribution operations (T&D). The European Commission and other relevant antitrust organizations approve the transaction. The purchase is financed entirely with the group's own funds.

With the T&D acquisition, AREVA strengthens its strategic position in the energy field and expands its commercial platform. The T&D division provides equipment, systems and services to the medium and high voltage energy markets, which use them for the transmission and distribution of electricity from the power plant to the end-user. These products also ensure distribution reliability, quality, and safety, and efficient network operations through information management.

Financial data from this business was not included in AREVA's 2003 financial statements.

The Transmission and Distribution operations acquired from Alstom, the industrial legacy of the Alsthom company established in 1928, are the culmination of a series of acquisitions and mergers:

- 1928 : Thomson-Houston and *Société Alsacienne de Constructions Mécaniques* (SACM) form Alsthom SA.
- 1965 : Three divisions are created: Alsthom-Savoisienne (Transformers), Delle-Alsthom (Equipment) and Unelec.
- 1986 : Acquisition of the medium and high voltage operations of Sprecher and Schuh.
- 1988 : Acquisition of the Relays and Transformers operations of Schlumberger Industries (Enertec).
- 1988 : Merger with GEC UK and subsequent establishment of GEC-Alsthom.
- 1992 : Creation of the Suzhou joint venture in China.
- 1996 : GEC-Alsthom acquires AEG T&D.
- 1998 : Acquisition of Cegelec - T&D in France.
- 2001 : Acquisition of Power Transformer Company in Brazil.
- 2001 : Creation of four joint ventures in China.
- 2003 : Alstom announces its intention of selling its Transmission and Distribution division (T&D).

4.1.5. AREVA today

The AREVA Group has two core businesses: Energy and Connectors.

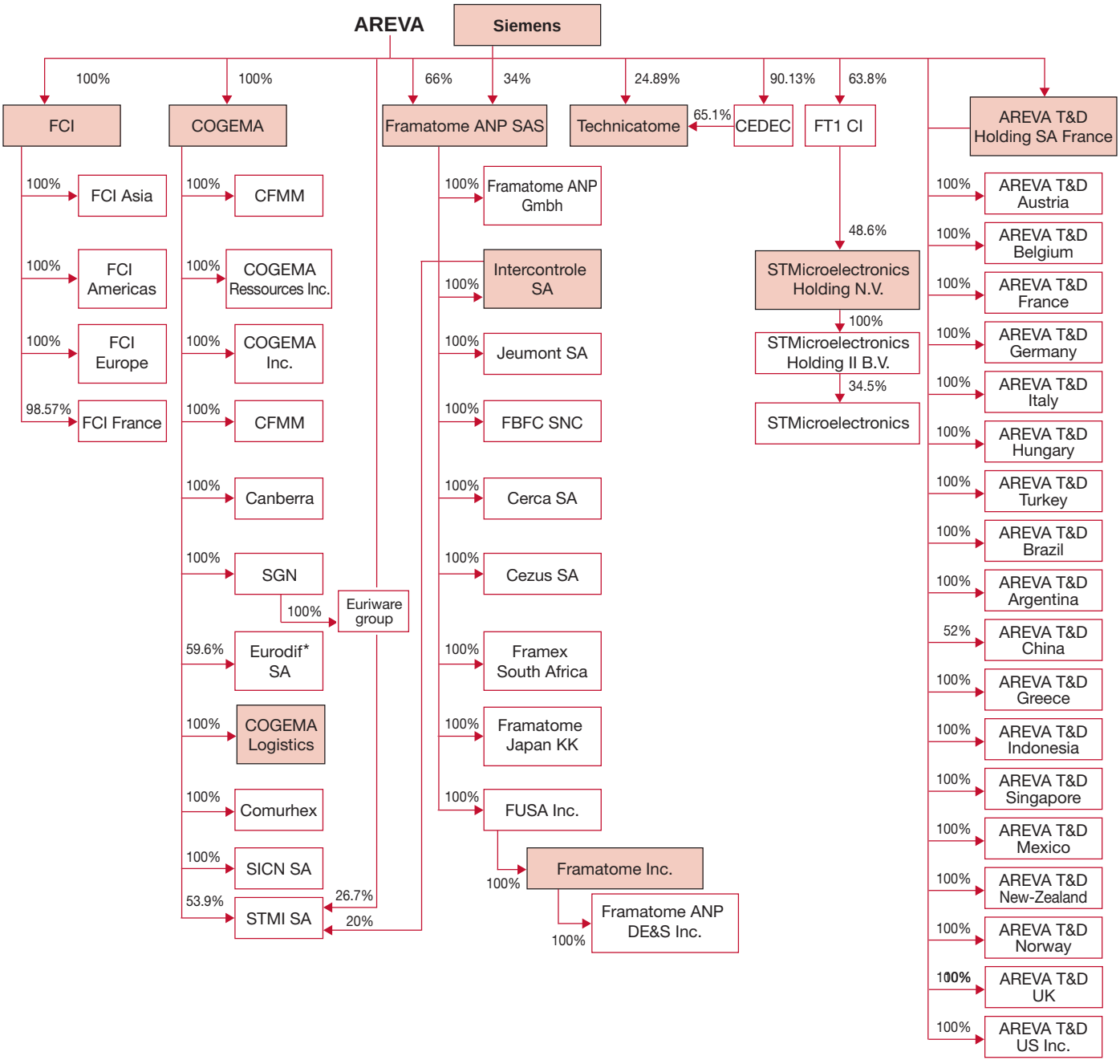
Energy: The group provides technological solutions for nuclear power generation and electricity transmission and distribution.

- The group is the world leader in nuclear power and is active in every segment, from uranium ore mining to fuel fabrication, from reactor construction to used fuel treatment, including related nuclear services.
- In the field of electricity transmission and distribution, the group is in the top three worldwide in medium and high voltage equipment and in systems for electricity network management and optimization.

Connectors: This business includes the development and manufacturing of interconnect systems, primarily for the telecommunications, information technology and automotive sectors.

A simplified chart of the group's corporate structure is provided below:

Simplified chart of AREVA's corporate structure following acquisition of the Transmission & Distribution division on January 9, 2004



** Eurodif SA: the other shareholders are Belgian company Synatom, Italian company Enea, Spanish company Enusa and Sofidif, a company held by French and Iranian interests. COGEMA's 60% interest in Sofidif is included in the 59.6% mentioned above.*

≫ 4.2. Overview of the group

4.2.1. Key data*

(in millions of euros)	1998	1999	2000	2001	2002	2003
Sales	7,845	9,517	9,041	8,902	8,265	8,255
- Nuclear Power	**6,441**	**7,375**	**6,213**	**6,826**	**6,576**	**6,830**
- Connectors	**1,201**	**1,951**	**2,645**	**1,966**	**1,560**	**1,338**
- Other	203	191	183	111	129	87
% of sales outside France	47.2	47.6	56.2	52.9	60.8	63.3
Operating income	391	502	605	122	180	342
Consolidated net income	288	500	463	(587)	240	389
Consolidated shareholders' equity	3,270	3,914	4,170	4,187	4,020	4,113
Earnings per share	9.79	16.98	15.73	(18.65)	6.77	10.97
Employees at year-end	50,481	53,694	51,811	49,860	50,147	48,011

** This data does not include the Transmission & Distribution business, which was acquired on January 9, 2004.*

4.2.2. The group's businesses

AREVA operates in two sectors:

- Energy, in the nuclear power generation and electricity transmission and distribution markets, and
- Connectors, primarily in the telecommunications, consumer electronics and automotive markets.

4.2.2.1. Energy business

The energy situation

Indicators [1]:

- worldwide electricity generation: 16,244 TWh;
- generation by source in 2003:
  - coal: 39%,
  - gas: 19%,
  - oil: 7%,
  - nuclear power: 16%,
  - hydropower: 17%,
  - other renewables: 2%;
- worldwide installed nuclear generating capacity: 382 GW electric (GWe) - 444 reactors;
- worldwide nuclear power generation: 2,628 TWh;
- average annual growth of nuclear power generation for the 1990-2003 period: +2.0%.

The International Energy Agency projects that electricity consumption will exceed 32,000 TWh by 2030.

EUROPE and CIS

Indicators:

- 208 nuclear reactors, for a capacity of 180 GWe,
- 1,256 TWh of nuclear power generated (+1.7% compared to 2002),
- percentage of electricity generated by nuclear power: France 78%, Belgium 56%, Germany 28%, Finland 30%, United Kingdom 23%, Russia 17%.

Regional issues :

- Energy mix deliberations in many countries. Recent moves confirm the long-term viability of nuclear power:
  - Finland is building a fifth reactor, the EPR;
  - the people of Switzerland confirmed the nuclear power option by rejecting two anti-nuclear initiatives in a referendum, and new nuclear legislation was adopted;
  - in France, draft energy legislation confirms nuclear power's role in the energy mix;
  - Italy has approved investment in nuclear generating plants outside Italy;
  - in Russia, the country's nuclear power generation is projected to double (+140 TWh) by 2020.
- Germany is phasing out nuclear power, with the last power plants scheduled to close in 2021.
- Belgium passed legislation to phase out nuclear power, but with a *force majeure* clause.
- The European Union recommends the construction of additional electric network interconnecting capacity between member nations.

North America

Indicators:

- 125 nuclear reactors, for a capacity of 120 GWe,
- 868 TWh of nuclear power generated (down 2.8% compared to 2002),

(1) Nucleonics Week, February 12, 2004, and International Atomic Energy Agency (IAEA).

- percentage of electricity generated by nuclear power: United States 20%, Canada 14%.

Regional issues:

- The United States wants to reduce its reliance on energy imports. Electricity network reliability problems require major investments.
- Draft legislation is being prepared that would support renewed power generation nationwide, particularly nuclear power, and would amend transmission network regulations.
- Utilities are extending power plant service life.
- The U.S. Department of Energy (DOE) is supporting preliminary designs for new reactors by three utilities.
- The Yucca Mountain site in Nevada was selected in 2002 for construction of a used fuel disposal facility and a license application should be made in 2004.
- The DOE is funding programs for nuclear site cleanup and dismantling and for nuclear weapons stockpile reductions under U.S.-Russian disarmament agreements.
- In Canada, the nuclear reactor upgrade program continues. Eight reactors are undergoing revamping and construction of two new reactors is planned.

Asia-Pacific

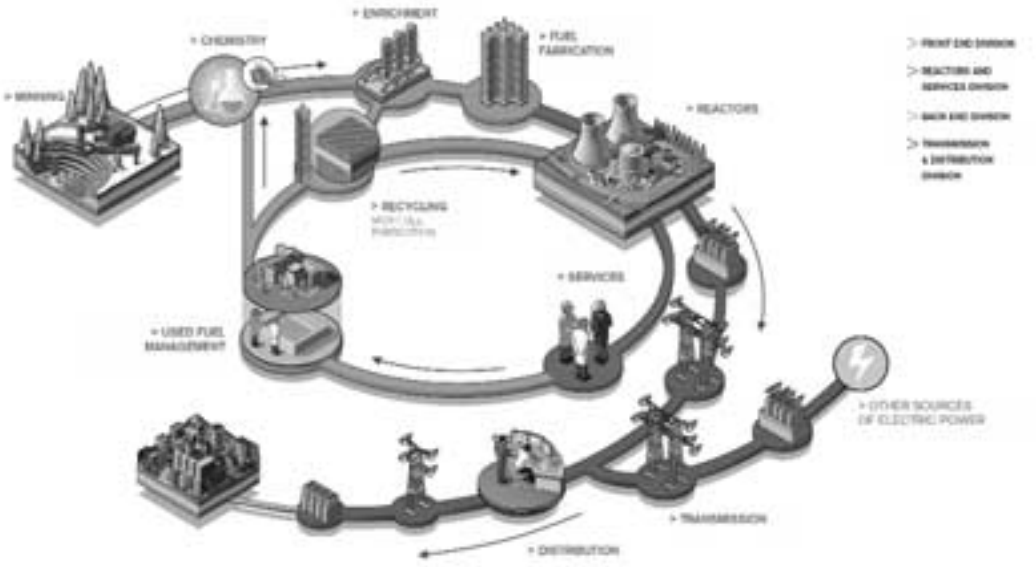
Indicators:

- 103 nuclear reactors, for a capacity of 77 GWe,
- 458 TWh of nuclear power generated (down 10 % compared to 2002 but up 21% excluding Japan),
- Percentage of electricity generated by nuclear power: South Korea 39%, Japan 23%.

Regional issues:

- Countries with nuclear power want to expand their programs. 18 nuclear reactors are under construction and 31 more are planned.
- China has an ambitious nuclear power program and is planning to launch a first invitation to tender in 2004 to build four new nuclear units.
- Japan's nuclear power plant construction program continues, with 3 reactors under construction and 14 on order.
- Japanese reactors were shut down in 2003 following unreported anomalies in plant auxiliaries, with the result that the country's power generation dropped 28%, or 88 TWh. The plants are gradually being brought back on line.
- The transmission and distribution market is booming, especially in China and India.

AREVA's Energy businesses



Nuclear Power operations

A few fundamental concepts for an understanding of the group's nuclear power operations

Nuclear fission and the chain reaction, the underlying mechanisms of nuclear power

Nuclear fission and the chain reaction are events that are triggered in the core of nuclear power plants, where they produce useful energy in the form of heat.

All matter is made of atoms. All atoms have the same structure: most of its weight is concentrated in the central nucleus of the atom consisting of protons and neutrons, while most of its volume is occupied by electrons that spin around the nucleus. Protons and electrons carry an electrical charge, with each proton carrying a positive charge, while each electron carries a negative charge. Neutrons do not carry an electrical charge. Each atom is electrically neutral in that there are an equal number of protons and electrons. For example, the oxygen atom consists of eight electrons that spin around a nucleus consisting of eight protons and eight neutrons. The uranium 238 atom consists of 92 electrons, 92 protons and 146 neutrons.

The nuclei of atoms that make up a chemical element may have differing numbers of neutrons. In that case, several isotopes of the element are said to exist. Uranium 238 and uranium 235 are the two most abundant isotopes of uranium. In the natural state, the proportion of uranium 238 to uranium 235 is invariably 0.7%. The nucleus of uranium 235 consists of 92 protons, but it has only 143 neutrons, unlike the 146 for uranium 238.

Uranium 235 is a natural element with unique properties. The uranium 235 atom is scarce in natural uranium (0.7%), but it is the only element to possess very high reactivity to slow-moving neutrons. When a neutron strikes the atom, it divides into two smaller atoms, expelling neutrons and releasing energy: this is the fission process.

The fission process is a reaction that produces a large amount of energy. Each of the neutrons expelled during fission of a uranium 235 atom can strike another atom, causing it to fission and to release more energy and expel more neutrons, which will in turn strike other atoms: this is the "chain reaction". Because of its reactivity to neutrons, uranium 235, even in small proportions, can sustain the chain reaction. The reaction propagates at very high speed from one atom to the next, considerably increasing the cumulative amount of energy: the fission reaction of one kilogram of uranium 235 can supply as much energy as is produced by burning 10 metric tons of oil

A nuclear power reactor takes advantage of both the nuclear fission process and the chain reaction. For use in a light water reactor, uranium is slightly enriched in uranium 235 (around 4%). The energy released by the fuel during the fission process is recovered in the form of heat and converted into electricity through a steam cycle.

Using fission energy in nuclear power plants

A nuclear power plant is an electric generating station with one or more reactors. Like all conventional thermal power plants, it consists of a steam supply system that converts water into steam. The steam drives a turbine, which in turn drives a generator, producing electricity. In nuclear power plants, the only area in which radioactivity is present is the steam supply system, called the "reactor". The reactor is enclosed in a reinforced containment building that meets stringent nuclear safety requirements. The three main components needed to sustain, control and cool the fission process in the reactor core are fuel, a moderator and a coolant. Reactor types are a function of the combination of these three components. Several combinations have been tested, but only a few of them have gone beyond the prototype stage to commercial operations.

A heat source and a cooling source

Like all other power plants, a nuclear power plant has a heat source (the nuclear steam supply system with its heat exchangers and steam generators) and a cooling source to remove the resulting heat. This is why power plants are usually built near the sea or a river – the water is used to cool the steam. Many power plants also have cooling towers, where the water is sprayed, evaporating as it falls and dissipating residual heat.

Moderator and coolant

During the fission process, neutrons are released at a very high speed. They slow down as they strike lighter atoms, making them react much more with uranium 235 atoms. Reactors called "thermal neutron" (slow) reactors take advantage of this property, which reduces the uranium 235 enrichment level required for the chain reaction. In light water reactors, water is the slowing medium (moderator) as well as the heat removal medium (coolant).

The world's most prevalent reactor: the pressurized water reactor

In pressurized water reactors (PWRs), the fuel is made of slightly enriched uranium and the moderator and coolant both consist of water.

The reactor core is flooded with pressurized water from the primary cooling system. The fission reaction heats the water. The heat is transferred via heat exchangers to water in a secondary cooling system, converting it to steam. The nuclear steam supply system consists of the reactor core and the steam generators. For safety reasons, the primary cooling system is separate from the secondary cooling system, whose steam drives the turbo-generator.

PWR reactors have a triple containment system to prevent the release of radioactive fission products. The primary barrier in this system is the metal cladding around the fuel. The secondary barrier consists of the separate primary and secondary cooling systems. The third barrier comprises the nuclear steam supply system enclosed in a concrete containment building designed to contain hazardous products in the event of a leak. The majority of the reactors in the French nuclear power program are PWRs, as is the case around the globe.

Other reactor types

Boiling water reactors (BWR) are generally comparable to pressurized water reactors, the main differences being that the water boils when it comes into contact with the fuel and that the primary and secondary cooling systems are not separate.

Heavy water reactors are prevalent in Canada, where the Candu reactor was developed. Heavy water is the moderator in this case. It can also be used as a coolant, since it has properties similar to those of light water.

Fast breeder reactors use plutonium fuel. The coolant is liquid sodium. These reactors can operate in two different modes: in breeder mode, in which they produce more fissile material than they consume, or in burner mode, in which they consume fissile materials (plutonium). Moreover, their characteristics make them especially suited to burning radioactive waste. Apart from its incineration potential, this reactor type could significantly boost recovery of the energy content of uranium resources.

AREVA businesses in the nuclear power sector

The AREVA Group operates in every area of the nuclear fuel cycle. In the Front End of the cycle, it supplies uranium ore, and converts and enriches the uranium in order to fabricate the fuel assemblies that go into the reactor core. In the Reactors and Services division, the group has expertise in all of the technologies needed for reactor design, construction, maintenance and continuous performance improvement. Pressurized water reactors (PWRs) and boiling water reactors (BWRs) are its primary markets. In the Back End of the cycle, AREVA is a specialist in used fuel treatment, recovering reusable materials in order to recycle them into Mox fuel.

It is important to note that:

- AREVA does not own the materials that it converts or processes in its plants and facilities, except for the uranium ore, which it mines and sells to electric utilities.
- AREVA does not own the final waste resulting from the treatment of its customers' used fuel.
- AREVA neither owns nor operates commercial nuclear power plants.
- AREVA is primarily a provider of services, processing, assembly, and engineering.

The "Front End" division is in charge of:

- uranium ore exploration, mining and treatment (concentration),
- uranium conversion into a chemical form suitable for enrichment,
- uranium 235 enrichment,
- fuel fabrication and assembly.

The "Reactors and Services" division is in charge of:

- nuclear power plant design and construction;
- equipment supply to nuclear power plants in connection with maintenance and re-engineering operations;
- services to reactors, particularly during scheduled outages.

The "Back End" division is in charge of:

- used fuel treatment,
- recycling of reusable materials,
- waste packaging and storage,
- transportation and logistics.

Due to the unique character of the processes involved, each stage in the nuclear fuel cycle constitutes an industry in its own right, with its own technologies and business models. The AREVA Group has built up know-how that places it in the lead worldwide and has adopted an industrial organization that is consistent with these different business sectors. AREVA is the world leader in civilian nuclear power, as illustrated below.

AREVA's competitive positions worldwide

		2003 Market	Cameco*	Urenco	Usec	AREVA	BNFL Westinghouse	Minatom Group	General Electric*	Other
FRONT END	Minning/Natural uranium	70,000 t	20%			20%		10%		50%
	Conversion/chemistry	55,000 t	20%			25%	5% *(shot down in 2006)*	20%		30%
	Enrichment	37.5 MUTS**		20%	30%***	25%	*BNFL shareholder of Urenco*	20%****		5%
	Natural Uranium fuel (UO2)	6,500 t				35%	25%	10%	15%	15%
	Reactors & Services	350 GWe				25%	15%	15%	10%	35%
BACK END	Reprocessing (t. processed)	1,500 t				75%	15%	10%		*JNFL in time*
	Recycling & MOX	150 t				90%	*BNFL/SMP a/c 2004*			*10% JNFL in time*

** Listed companies. ** Separative Work Units. *** Including half purchased from Minatom (HEU). **** Plus the 15% sold to USEC (HEU).*

Source: AREVA estimates.

Electricity Transmission & Distribution operations

The AREVA T&D division supplies products, systems and services for electricity transmission and distribution. They are used to regulate, switch, transform and dispatch electric current in electric power networks connecting the power plant to the final user. AREVA T&D products and solutions play an essential role in electricity network reliability, quality and safety.

The division's customers are electric utilities as well as the oil, mining and metals, wind energy, paper and glass, transportation, and power engineering industries.

Electricity is generated at relatively low voltages of 10,000 to 25,000 volts. Current voltage is increased before electricity is transmitted. Transmission over high voltage lines (230,000 to 765,000 volts) reduces power losses due to heating and enables electricity to be transported over long distances and at low cost.

The electricity network consists of the transmission lines and their connection to stations and substations. Electricity moves through the network according to the "path of least resistance" rule of physics, like water flowing through a canal system. Electricity enters a medium voltage distribution system via a sub-station. For use by the consumer, the voltage is reduced to 120 or 240 volts via a final sub-station.

AREVA T&D is active in every stage of electricity transmission and distribution and is ranked third in the sector worldwide.

4.2.2.2. Connectors business

The connectors business is defined as the combination of technologies and processes needed to design and manufacture passive components called "connectors" that are used to transmit electrical or optical signals from a cable to a piece of electrical or electronic equipment, or from one printed circuit board to another.

Fundamentally, a connector consists of metal contacts that transmit the signal. The contact may be connected to the end of an electrical wire, which is usually copper-clad, or to a card bearing electronic components. The contacts on any given connector are insulated from one another by the plastic insulation that holds them in place. The metal contacts thus assembled in their electrical insulator constitute the connector.

Through its subsidiary FCI, AREVA is the third-ranked designer and manufacturer of connectors, with applications for the information technology, telecommunications, consumer electronics, automotive, electrical and smart card industries.

FCI's 30 manufacturing sites are evenly distributed in regions where most of its customers are located: North and South America, Europe, and Asia-Pacific.

4.2.2.3. Participating interests

AREVA has a portfolio of participating interests in publicly traded as well as private companies. These participating interests are described in notes 12 and 13 of the notes to the consolidated financial statements in chapter 5.

Leading participating interests

The most significant participating interests are STMicroelectronics, Eramet and Sagem:

- ***STMicroelectronics:***
  - % held: 11%;
  - consolidation: equity method (the group uses the equity method to consolidate FT1CI's entire 17.3% holding and deducts France Telecom's 6.25% share in minority interests);
  - business: STMicroelectronics is one of the five largest semi-conductor companies in the world. It had 2003 sales of €7,238 million;
  - trading exchanges: Euronext Paris, New York Stock Exchange, and Milan;
  - market capitalization at 12/31/2003: €19,372 million.
- ***Eramet:***
  - % held: 26%;
  - consolidation: equity method;
  - business: Eramet is a mining and metallurgy group that produces nonferrous metals, high-performance specialty steels and alloys. Eramet had 2003 sales of €1,990 million;
  - trading exchange: Euronext Paris;
  - market capitalization at 12/31/2003: €985 million.
- ***Sagem:***
  - % held: 16.9%;
  - consolidation: this participating interest is not consolidated and is listed under long-term notes and investments at its original acquisition cost (see note 13 of the note to the consolidated financial statements);
  - business: Sagem is a high-tech group with two operating branches, telecommunications and defense. It is ranked second in France in telecommunications and third in Europe in defense and security electronics. Sagem had 2003 sales of €3,180 million;
  - trading exchange: Euronext Paris;
  - market capitalization at 12/31/2003: €3,092 million.

Shareholders agreements involving participating interests

- ***Eramet***

AREVA's participating interest in Eramet is governed by a shareholders' agreement between Sorame and Ceir, on the one hand, and AREVA on the other. The agreement was concluded on June 17, 1999 and will remain in effect through June 30, 2006. It will then renew automatically in consecutive one-year installments, unless previously terminated with one-year advance notice delivered by registered mail with return receipt requested.

On August 3, 1999, stock market authority CMF issued decision no. 199C1045 regarding this shareholders' agreement. That decision was supplemented by CMF decision no. 201C1140 of September 12, 2001.

The key provisions binding AREVA, Sorame and Ceir are as follows:

- the shareholders agreement allocates all fifteen seats of the Board of Directors. AREVA is allowed to appoint three persons to serve as directors, and to appoint two additional persons who are independent of AREVA and Eramet, based on their expertise;
- AREVA may not increase its participating interest in Eramet by more than 2% in any given fiscal year, either in terms of share capital or in terms of voting rights. AREVA's total equity interest in Eramet may not exceed 33.32% of the company's share capital at any time, unless AREVA exercises its right of first refusal or its share purchase option under the shareholders' agreement;
- each party grants to the other party a right of first refusal on any disposal of a minimum of 25,000 Eramet shares, or on any shares that one or the other party may decide to sell in one or more transactions over a 12-month period for a total price of €7.5 million.

- ***STMicroelectronics***

AREVA, France Telecom and Finmeccanica signed a shareholders agreement as indirect shareholders of STMicroelectronics via ST Holding II BV. The agreement, renewed on March 17, 2004,

establishes rules governing the parties' interests and is intended to improve the liquidity of their indirect holdings in the company and maintain a stable and balanced shareholding structure to support the company's growth and autonomy. The agreement provides for the preservation of equal Franco-Italian control, independent of economic interests in STMicroelectronics Holding NV resulting from sales of shares.

It also allows anti-takeover provisions to be preserved by issuing golden shares to STMicroelectronics.

The shareholders' agreement mainly provides for:

- continued Franco-Italian governance with equal representation of both parties on the Supervisory Board, subject to a minimum participating interest with voting rights in STM;
- simplifying the sale of indirect shareholdings in STM held by the parties;
- the possibility of acquiring additional STM shares in certain circumstances.

1. Current shareholding structure

As of March 31, 2004, AREVA, Finmeccanica and France Telecom held indirect interests in STM of 11%, 17.25% and 6.25% respectively through STMicroelectronics Holding N.V. ("STH") (1). The indirect shareholdings of AREVA and France Telecom are held through FT1CI. STH is held at parity by FT1CI and Finmeccanica.

Among these shareholdings:

- 20,000,000 of the STM shares indirectly held by Finmeccanica are underlying shares of exchangeable bonds that were issued by Finmeccanica;
- all of the STM shares indirectly held by France Telecom (i.e. 56,423,404 STM shares) were underlying shares of exchangeable bonds that were issued by France Telecom, out of which approximately 30,000,000 have been redeemed in cash and are no longer exchangeable.

2. Governance

The governance of STM will remain equally shared between FT1CI and Finmeccanica under the same terms and conditions as in the previous shareholders' agreement for a four-year period starting from the execution of the new shareholders' agreement, subject to each of these two parties indirectly holding at any time at least 9.5% (i.e. at least 19% for both parties) of the voting rights of STM (taking into account underlying shares of STM in exchangeable instruments issued by one of the parties, as long as the voting rights pertaining to such shares remain held by STH).

During such period, the two parties will have, as provided for in the previous shareholders' agreement, the same number of representatives at the Board of STM and any important decision concerning STM will require the unanimous approval of both parties.

In the event the shareholding of one party falls below the 9.5% threshold for STM voting rights due to a capital increase of STM or to an exchange of exchangeable instruments, such party will have the right to cause STH to purchase STM shares in order to increase its shareholding up to 9.5%.

If each of the parties has maintained its indirect shareholding above the 9.5% threshold for STM voting rights until the end of the four-year period, governance will remain equally shared, under the same terms and conditions, as from the end of this period, provided, however, that both parties' indirect shareholding in voting rights held by STH in STM remain within a range of 47.5% / 52.5%.

In the event that the shareholding of one of the parties is less than the 47.5% threshold prior to the expiration of this four-year period, such party will have the right to cause STH to purchase STM shares in order to rebalance the shareholdings of the parties.

In the case where the indirect shareholding of one of the parties falls below the 9.5% threshold (during the initial four-year period) or below the 47.5% threshold (as from the end of such four year period), governance will cease to be shared. However, the minority shareholder will have a veto right on certain decisions, subject to its indirect shareholding exceeding certain thresholds.

3. Cession of STM Shares

Each of the parties will have the right to cause STH to sell its indirect shareholding in STM shares, subject to a right of first refusal and a tag-along right of the other party. However, the right of first refusal will only apply (among other conditions) to transfers of shares that result in the selling party holding less than 7% of the share capital of STM.

Such disposals of STM shares can notably be implemented through the issuance by any party of financial instruments exchangeable into STM shares. In case of an issuance of exchangeable instruments, the tag-along right and, if applica-

(1) STMicroelectronics Holding N.V. holds all of the share capital of STMicroelectronics Holding II B.V., which holds the STMicroelectronics shares.

ble, the right of first refusal, will apply on the date of such issue. In the event that all or part of the financial instruments remain un-exchanged upon the date on which they are no longer exchangeable into STM shares, the relevant party is entitled to cause STH to proceed with disposals of those STM shares without application of the right of first refusal or of the tag-along right, as was already the case under the previous shareholders' agreement. Consequently, approximately 30,000,000 shares in the shareholding of France Telecom are not subject to such restrictions, nor are the underlying shares of other exchangeable bonds that were issued by Finmeccanica and France Telecom, in the case where they remain un-exchanged.

4. Acquisition of STM Shares

The parties will propose to amend, subject to applicable law, the existing option agreement in order to reduce from the current level of 30% down to 19% of the voting rights, the percentage of the share capital of STM that must be held by STH in order to obtain the right to activate such option agreement. Such activation allows STH, subject to the prior authorization of the Supervisory Board of STM, to acquire preferential shares of STM up to 50% plus one share of the voting rights of STM.

Provided that a third party holds, acting alone or in concert, a shareholding exceeding 2% of the share capital of STM or announces its intention to take control of STM, any party will have the right to increase its indirect shareholding in STM, through the acquisition of shares in STM by STH. Such acquisition will be submitted to the veto right of the other party, as long as governance of STM remains equally shared (and except for the case of a hostile take-over bid on STM). Nevertheless, in the case where such acquisition has been vetoed, both parties will have the right to acquire the same number of shares in STM directly.

In case such direct acquisition occurs, the relevant party undertakes to vote on such shares in accordance with the vote exercised by STH in STM.

• ***FT1CI***

FT1CI is a holding company held by France Telecom (36.2%) and AREVA (63.8%) that holds 50% of STMicroelectronics Holding N.V. (STH), with the remaining 50% held by Finmeccanica. STH holds 100% of STMicroelectronics Holding II B.V. (STH II), which holds 34.5% of STMicroelectronics.

On March 17, 2004, France Telecom and AREVA signed an agreement in principle to make any necessary changes to the FT1CI shareholders' agreement to take into account the new situation created by the signature of the new shareholders' agreement described above among Finmeccanica, France Telecom and AREVA pertaining to their shareholding in STMicroelectronics.

The FT1CI agreement in principle provides, in particular, for:

- a priority right to France Telecom until December 31, 2004 to cause the disposal of 30,000,000 underlying STM shares of convertible bonds that were issued by France Telecom in December 2001, which were redeemed in cash;
- continuation of the terms and conditions for France Telecom's representation on the board of directors of FT1CI, i.e. two of the five directors, as long as France Telecom holds at least 30% of FC1CI (and only one director if it holds less than 30%);
- continuation of the terms and conditions for representation of France Telecom on the supervisory boards of STM and STH, i.e. representation proportionate to the number of STM shares held indirectly by France Telecom in relation to the number of STM shares held indirectly by FT1CI;
- suspension of France Telecom's preemptive right on disposals of FT1CI shares by AREVA.

• ***Sagem***

On December 12, 2003, BNP Paribas, Club Sagem and COGEMA, a subsidiary of the AREVA group, signed a shareholders' agreement. The objective of the parties is to provide support to Sagem during the transition period following Sagem's takeover-merger of Coficem. Within this framework, the shareholders' agreement is intended, firstly, to restrict the free assignment of Sagem shares held by the signatories and, secondly, to establish a preemptive right for Club Sagem in the event of a disposal of shares by one or the other of the two other parties.

This shareholders' agreement provides, in particular, for:

- BNP Paribas and COGEMA shall not to assign [(1)] shares issued in exchange for their Coficem shares during the takeover-merger of Coficem by Sagem for a period of 20 months from the effective date of the shareholders' agreement;
- BNP Paribas and COGEMA may dispose of their shares after this period, subject to application of a preemptive right for Club Sagem; this provision applies for a period of five years from the Extraordinary General Meeting of Shareholders convened to approve the takeover of Coficem by Sagem.

The agreement was forwarded to the French financial market authority (AMF), which made it public.

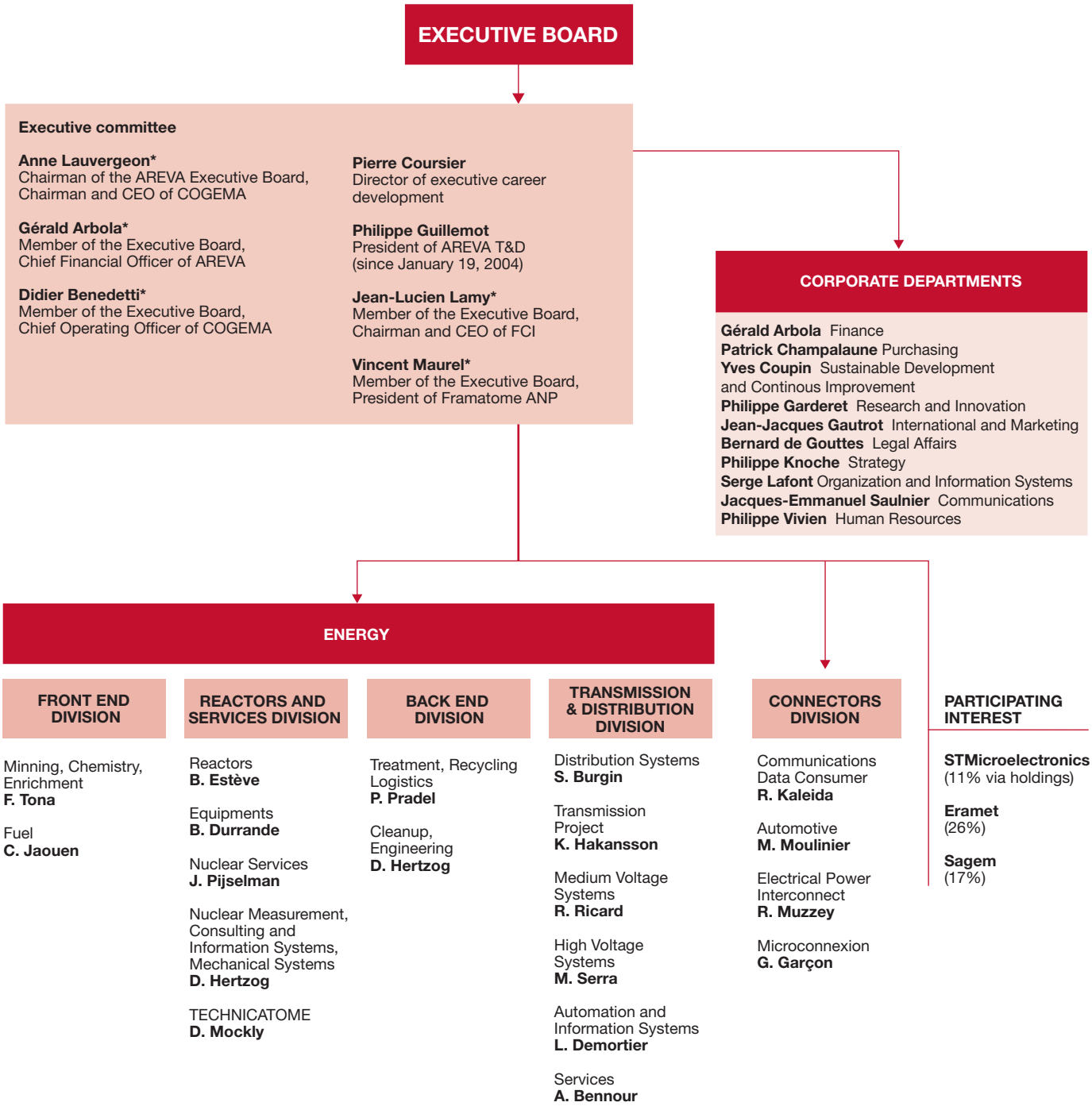
(1) i.e. via the disposal, contribution, exchange or assignment of those shares in whatever form.

4.2.3. Operational organization and business reporting

The consolidated AREVA group currently includes five major companies: COGEMA, Framatome ANP, Technicatome, AREVA T&D and FCI, in which the group holds 100%, 66%, 84%, 100% and 100% respectively.

These companies are organized into 26 business units. To provide greater visibility for the various businesses, consistent with a value chain analysis, the business units are organized into five divisions – Front End, Reactors and Services, Back End, T&D, and Connectors – which are themselves organized into the group's two core businesses: Energy and Connectors.

The group's organization is aligned with the markets to which the group provides products and services, as shown below:



* *Members of the Executive Board*

Business reporting

The group publishes financial data on it core businesses, divisions and business units. The leading financial aggregates are published at the divisional level (see 5.1.5). At the business unit level, only sales and employees are provided.

Consolidated data is not published by corporate entity.

≫ 4.3. Message from Anne Lauvergeon, Chairman of the Executive Board

What is your assessment now that AREVA has completed its second full year of operation?

The AREVA group is healthy. More than two years have passed since COGEMA, Framatome ANP and FCI joined forces, and in early 2004 we acquired the Transmission and Distribution business. Now we are forging ahead. We are focusing on satisfying our customers' needs while creating shareholder value, in our Energy business as well as in our Connectors business.
We have expanded our Energy solutions, traditionally focused on our customers' power generation operations, to address their transmission and distribution needs. Our customers consider both of these sectors to be their core businesses. This augurs very well for AREVA.
In Connectors, the stringent restructuring plan launched in late 2001 produced results even before our year-end 2003 deadline. We intend to confirm this performance in 2004 with positive operating income after restructuring costs.

Are you satisfied with the performance of your nuclear businesses? What are your objectives?

Our operating income from nuclear operations has increased considerably in the past three years, with 15% average annual growth since 2001, in line with our promise of double-digit growth for the period. Our operating margin rose from 4.8% in 2000 to 7.7% in 2003, and reached a high of 9.4% in 2002, an exceptional year. Our return on average capital employed (ROACE) is solid, at 10.4% in 2003 and 11.6% in 2002.

Despite pressures from our competitors, we hope to achieve relative stability in operating income from the nuclear business in 2004. We will continue to implement our cost reduction and productivity improvement programs. Several factors could favorably influence our profitability in the coming years. At the front end of the fuel cycle, natural uranium and uranium conversion prices are rising. We cannot take advantage of this recovery just yet, since our long-term contracts are based on prices below current spot indices, but we will benefit eventually. Other positive trends include the construction of new nuclear plants and the signature of new treatment and recycling contracts at the back end of the fuel cycle, where our technology is unsurpassed.

AREVA will invest over three billion euros to build a new uranium enrichment plant. What competitive advantages are you expecting from this move?

We are planning ahead for the obsolescence of the Georges Besse 1 plant, which uses gaseous diffusion technology. We concluded a strategic agreement with Urenco to acquire 50% of the Enrichment Technology Company. ETC is the current leader in centrifuge enrichment technology, which we have selected for our new enrichment plant. As soon as we have received the necessary governmental authorizations, construction will start on the Georges Besse II enrichment plant, and the old plant will be gradually replaced. This will provide AREVA with the most up-to-date plant and very competitive costs, while allowing us to reduce our electricity consumption.

Finland chose AREVA and Siemens to build its fifth nuclear reactor. Is this a one-time success or the beginning of a nuclear power renewal in Europe?

TVO, a privately-owned electricity company, made its decision in 2002 based on economic and environmental criteria. The decision was publicly debated and upheld through a completely democratic process at the local as well as national level. TVO then issued an international invitation to tender, and chose the EPR technology from a very competitive selection. The EPR is the most advanced reactor on the market today. It is the most powerful, the cheapest, produces more electricity with less fuel, and in the end generates less waste. Its safety is even further enhanced compared with reactors currently in operation.
Is this event a sign of a nuclear revival? What is clear today is that people throughout Europe are increasingly aware that nuclear power cannot be excluded from the energy mix. The formula is simple: generate more electricity at the lowest cost and with as few CO2 emissions as possible.

China and Japan are home to some of AREVA's preferred customers. Are you thinking of establishing an industrial base in China? What are you planning to contribute to the development of the Chinese nuclear program?

We are already established in China, where we delivered four nuclear reactors to Daya Bay and Ling Ao. Nuclear power is integral to the Chinese government's strategy for coping with the large increase in demand facing it. This year, China will issue an international invitation to tender for additional reactors, and we are preparing our response. We want to work with local companies and engineering firms in connection with this project to strengthen our position.
In Japan, our longstanding relations with the ten national electric power companies are excellent, individually and collectively. We attach the greatest importance to these partnerships. France and Japan have much in common and can only benefit from closer cooperation.

AREVA is also very active in North America. What are your ambitions in this region?

New investment in nuclear power is vigorous and sustainable in North America, particularly in the United States. U.S. utilities are renovating their reactors to extend plant service life from 40 to 60 years. We are delivering equipment and related services to this market in record turnaround times. We are also helping utilities increase their plant load factors, and we are working on long-term partnerships to supply fuel and reactor maintenance services. For the U.S. Department of Energy (DOE), we are developing used fuel management solutions. In fact, we won a first contract to provide unloading technologies to DOE's Yucca Mountain storage site in Nevada. In all, our North American sales increased by 33% from 2001 to 2003, reaching 1.8 billion euros in 2003. That translates into an average annual growth rate of 15%.

The public is still very concerned about nuclear waste management. Do you see a viable solution in this area?

This is indeed the public's single biggest question, especially in France. By beating around the bush or even avoiding the subject, an impression was created that there is no solution. This is false. If fact, there are several solutions, whether through treatment and recycling technologies or about final storage. In Finland, Sweden and the United States, for example, all of the information was laid on the table for open debate and decision-making. In this area as in others, only the greatest transparency can cool tempers and allow us to engage in rational debate.

Nuclear facility dismantling will call for huge investments down the road. Will you be able to finance them?

All of our end-of-life-cycle costs are covered by a provision. In 2003, we revised some of our estimates, particularly for the La Hague plant, which represents our largest commitment. There were no surprises. The revised cost is very close to the previous estimate. But we did not stop at recording provisions. We also built a portfolio of financial assets to fund these end-of-life-cycle expenses by 2040. The portfolio had a market value at year-end 2003 of 2.2 billion euros. We think the portfolio is sufficiently funded. This means that our cash and our future cash flow are free of commitments and should not be depleted by dismantling expenses.

The connectors division improved its financial performance significantly in 2003. Is this an indication of sustainable profitability?

Yes. Restructuring efforts carried out over the past two years had a clearly positive impact on profitability. In 2001, the Connectors division recorded a loss of 180 million euros before restructuring costs. In 2002, the loss had been trimmed to 137 million euros. In 2003, the division operated at break-even beginning in the second quarter, ahead of our December deadline. In fact, operating income before restructuring was positive for the year, at 21 million euros. Also on the plus side, the telecoms market appears to be recovering. This became apparent in the last quarter of 2003. In 2004, our sights are set on positive operating income after restructuring expenses.

What is the future of the Connectors division in the AREVA Group?

FCI is a member of the group and we view this business as a significant asset. FCI has been restructured and the market is ready to rebound, although it is still at the bottom of the cycle. It would be economical heresy to consider a sale at the present time.

Why did you acquire Alstom's Transmission & Distribution division? Was this decision driven by business considerations or were you pressured into doing it?

As early as 2001, we expressed an interest in expanding our operations. External growth opportunities in nuclear power are limited because the market is already highly concentrated. It was natural for us to follow a vertical integration approach and look at transmission and distribution, which is the next step after power generation. T&D meets our external growth criteria: leadership position, high technology content, profitability and no CO2-generating products.

How do you explain T&D's losses in 2003? Are you confident in the financial outlook for this business?

2003 was a tough year for T&D. A new management team was designated as soon as the acquisition closed at the beginning of 2004. We initiated a strategic review aimed at refocusing the business portfolio and restructuring manufacturing capabilities. We are now focusing on reducing costs and expanding synergies with the rest of the group. The T&D division's losses are limited and the division can finance its restructuring. The market is healthy: experts predict 4% annual growth for the years to come. Many factors support continuing investment, including the blackouts of last summer in the United States and Italy, deregulation of energy markets in most countries, and the need for network interconnections. Nonetheless, it will take several years to reach totally satisfactory profitability.

Like many other market players, AREVA is capitalizing on sustainable development. Is your approach different in any way?

We do not "capitalize" on sustainable development. We are integrating this concept completely into all of our operations, whether manufacturing, marketing, health and safety, or environmental protection. It was our choice to use sustainable development as a management tool and a performance indicator. It is embedded in our AREVA Way program in performance indicators that are gradually being extended to the entire the group.
AREVA's Executive Board is involved directly, and compliance with sustainable development criteria is included in the annual performance objectives set for our managers.

Is AREVA ready for a public stock offering?

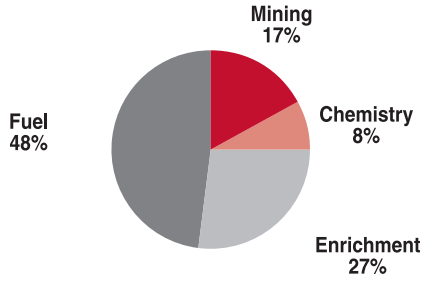
We prepared for this in 2003 by evaluating all of the major legal, financial and strategic issues. The conclusion is clear: there is no obstacle to a public stock offering. It is now up to our shareholder to decide when to launch such an operation.
We favor such a move, as it would give AREVA access to capital markets and provide financial resources for future growth. It would also facilitate our expansion in certain countries, such as the United States. Finally, it would allow AREVA to establish a worldwide employee shareholding plan, further empowering our employees by offering them the opportunity to partake in some of the value they help to create

≫ 4.4. Front End division

Key data

(in millions of euros)	2003	2002	2001
Sales	2,683	2,560 (1)	2,733
Operating income	316	333 (1)	362
Employees at year-end	9,719 people	9,536 people	9,245 people

2003 sales by business unit



Overview and objectives

The Front End division represents 24% of the AREVA Group's sales revenue (2). It combines all of the operations that occur before nuclear power is generated: uranium exploration and mining, concentration, conversion and enrichment services, and nuclear fuel design and fabrication. These operations require a high level of expertise to achieve the absolute quality demanded by electric utilities around the globe. Customers retain ownership of the materials used in these operations. They buy uranium concentrates from AREVA that then

(1) Published data. In applicable data comparable to 2003, sales revenue was €2.562 billion in 2003. In applicable data comparable to 2003, operating income was €319 million in 2002 (see paragraph 5.1.5).
(2) Un-audited pro forma 2003 figures after integration of the Transmission & Distribution business at the beginning of 2004.

undergo treatment in industrial facilities, up through production of the fuel assembly. AREVA is the only group in the world to operate in every area of the nuclear fuel cycle and is number one in the front end of the cycle.

The group has mines and manufacturing facilities in Europe, North America, Asia, Australia and Africa. Its customers are the main nuclear power plant operators (utilities), with whom contracts are generally signed for periods of several years for reasons of security of supply, and research laboratory operators.

In 2003, 16% of the world's electricity, or 2,628 TWh, was generated by nuclear power in around 444 reactors of all types. About 350 “light water” reactors generate close to 90% of all nuclear electricity. Light water reactors are by far the Front End division’s principal market. They use from 6,000 to 7,000 metric tons of enriched uranium each year for operations. To produce this enriched uranium, more than 70,000 metric tons of natural uranium and 35 to 40 million Separative Work Units (SWU) are needed.

To meet this demand, the Front End division's objectives and priorities are to renew and expand its portfolio of mineral resources under the best possible economic conditions, gradually deploy centrifuge enrichment technology, improve and rationalize its fuel offering and, more generally, optimize all of its means of production.

4.4.1. Mining business unit

4.4.1.1. Key data

(in millions of euros)	2003	2002	2001
Sales	443	536	489
Employees at year-end	1,545 people	1,565 people	1,509 people

4.4.1.2. Businesses

The Mining business unit has four main businesses in addition to its trading operations: exploration, which employs geologists and geophysicists; mining; ore milling and processing; and reclamation following mine closure. Most of its employees are located in Africa, North America and Europe. A team of geologists and mining personnel is also based in Australia, where the company conducts exploration and operates a gold mine, and in Kazakhstan, where it operates a pilot plant.

Most of the group’s mining operations involve uranium. A relatively abundant metal that is evenly distributed in the earth’s crust, uranium contains three main isotopes: non-fissile U238 (99% by weight), fissile U235 (0.7%) and U234 in very small proportions.

AREVA also produces gold. In the eighties, gold was a diversification opportunity when the uranium market weakened after large deposits were discovered. AREVA's teams of geologists focused on gold projects to maintain their expertise while taking advantage of gold's similarity to uranium in terms of site identification, mining and processing techniques. Gold is also very easy to sell on the spot market.

Mining operations are implemented over long cycles. Aerial geophysics – feasible for uranium due to the radiation emitted by the ore deposits – as well as geochemical and geological techniques are used for exploration, followed by detailed exploratory work on the ground to estimate deposit resources, primarily by test drilling. Once the attractiveness of the deposit has been confirmed, the drilling grid is tightened to calculate resources and confirm mining feasibility, both technically and economically (reserves). These operations, which generally require an exploration permit giving access to subsequent mining rights, take an average of 10 to 15 years at an average cost of €50 million per deposit over the entire period. AREVA’s uranium exploration budget is approximately €10 million per year.

After construction of the mill associated with the mine, if any, mining operations may last from an average of 10 to 50 years and are subject to specific tax and legal requirements. Uranium ore is mined in both underground and open pit mines. Once the ore has been mined, it is crushed and the uranium is removed by leaching with acid solutions. The resulting solution is precipitated to produce a dry uranium concentrate called “Yellow Cake”. This product is packaged and shipped to the conversion facility of the customer’s choice.

Mining reclamation is an important phase in the mining process. To date, the group has spent €400 million to dismantle mining facilities and reclaim 13 sites in Canada, France, Gabon and the United States. After a mine closes, mining lands are replanted and monitored for radiation for about 10 years.

4.4.1.3. Market, competition and position

The worldwide demand for uranium is around 70,000 metric tons per year and has grown slightly in the past five years, largely due to increased load factors, the connection of a few

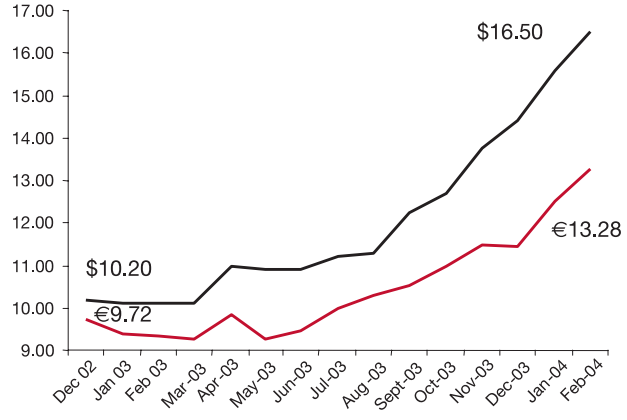
new reactors to the electric grid, and an increasing number of reactor upgrades. In the U.S. alone, capacity increases at existing reactors from 1990 to 2000 provided power equivalent to the construction of 26 new 1,000 MWe reactors.

Worldwide uranium production represents a little over half of world demand. There is, therefore, an imbalance between market demand and natural uranium production. Indeed, since the beginning of the nineties, over 40% of the demand has been satisfied with so-called “secondary” resources: excess inventories held by utilities and fuel cycle companies, material from surplus nuclear weapons, use of mixed uranium/plutonium oxide (Mox) fuel and fuel made with recycled uranium from used fuel treatment (ERU), re-enriched depleted uranium, and exports from Russia.

The depletion of these sources and recent, clear signs that Russian sources are drying up could upset the supply and demand balance in the coming years, thus accentuating the rising price trend reported in 2003.

In fact, uranium spot price indicators increased by more than 40% in 2003, from $10.10/lbU3O8 in January 2003 to $14.50/lbU3O8 at the end of December 2003 and $17.00/lbU3O8 at the end of March 2004.

U3O8 spot prices reported by Trade Tech - Monthly averages since December 2002



This increase in price has a limited impact on uranium mining companies such as AREVA, since uranium sales contracts cover medium to long-term periods. The full positive effect of the contracts logged in 2003, in terms of sales and operating income, will be felt only in 2005 / 2006 or even beyond.

By region, nearly half of the world's 35,000 metric tons of uranium produced annually come from Canada and Australia, followed by Central Asia (including Russia) and the African continent, as shown below.

Estimated worldwide uranium production by country in 2003 (35,300 T)

Top 10 uranium producing countries*
Uranium concentrate production in 2003

Rank	Country	2003	
1	Canada	10,460 t	29%
2	Australia	7,680 t	22%
3	Niger	3,143 t	9%
4	Russia	3,073 t	8%
5	Kazakhstan	2,650 t	7%
6	Namibia	2,037 t	6%
7	Uzbekistan	1,600 t	6%
8	Ukraine	900 t	3%
9	United States	800 t	2%
10	South Africa	760 t	2%
Total top 10 world population		**33,103 t**	**94%**
Other		2,197 t	6%
World population		**35,300 t**	**100%**

** Reported data as at April 6, 2004.*
Source: AREVA.

The production market has reorganized over the past few years, particularly in the United States, where many small producers with only a few hundred metric tons of annual production have disappeared. Today, four producers control more than 60% of worldwide production, including AREVA, which has around 16% of the total. Cameco, Rio Tinto and WMCR are the group’s three main competitors in this market segment.

Estimated worldwide uranium production by producer in 2003 (35,300 T)

Rank	Producer	2003	
1	Cameco (1)	7,127 t	20%
2	AREVA (2)	5,540 t	16%
3	ERA/ Rio Tinto	4,355 t	12%
4	TVEL Russia	3,073 t	9%
5	WMC/ODM	2,717 t	8%
6	Kazatomprom	2,615 t	7%
7	Rössing/Rio Tinto	2,040 t	6%
8	Navoï / Uzbekistan	1,600 t	5%
9	Vostgok / Ukraine	900 t	3%
10	Nufcor / South Africa	760 t	2%
Total top 10/world production		**30,727 t**	**87%**
Other		4,573 t	13%
World production		**35,300 t**	**100%**

(1) Including central Asia.
(2) Group share when operations are conducted jointly with another operator.
Source: AREVA.

In 2003, AREVA was the second largest uranium concentrate producer in the world. Cameco and ERA are its two main competitors. Each of these three companies produces between 10% and 20% of the world's natural uranium production. Together, they represent approximately 50% of world production. The next seven largest producers represent approximately 45% of world production.

AREVA's competitive strength relies on a well-organized and diversified mining portfolio covering three of the four main producing areas in the world. This situation gives its customers the benefit of security of supply under long-term contracts.

AREVA'S uranium ressources are also supplemented with purchases, particularly under so-called "HEU" agreements (reuse of uranium from dismantled Soviet weapons), for which AREVA is taking a share of more than 2,000 metric tons per year thourgh 2013.

New project development costs are a significant entry barrier that limits the risk of seeing new players penetrate the market. AREVA is thus one of only two groups in the world to be actively engaged in mining exploration and prospecting.

4.4.1.4. Operations and key events during the year

In 2003, the produced 5,540 metric tons of uranium, down about 25% from the 7,457 metric tons mined in 2002. This decrease is explained as follows:

- The McArthur mine in Canada was shut down for three months due to natural flooding, representing a production deficit of almost 400 metric tons.
- The Cluff Lake site in Canada reached the end of its operating life, as scheduled. It produced 30 metric tons of uranium in 2003, compared with more than 1,600 metric tons in 2002.

An extensive aerial geophysics campaign covering more than 8,000 square kilometers was launched in Niger in 2003, the group's most extensive in years. The campaign is part of AREVA's continuous initiative for new capacity identification.

Gold production was almost 4.3 metric tons, down 25% from 2002. This drop reflects the lack of production from the Ity mine, which was invaded by Ivoirian rebels at the end of 2002. Site access is once again possible and operations resumed in early 2004.

4.4.1.5. Resources and production sites

Definitions

- *"Reserves" are defined as the most accurately estimated portion of resources resulting from a feasibility or pre-feasibility study based on calculated or estimated costs. The project's economics are demonstrated by valuation calculations.*
- *"Complementary resources" correspond to resources ranging from well-known resources to resources known to a lesser extent. In any event, these resources are estimated based on drilling results but before a mining feasibility study. Mining is either planned or even just contemplated. Most of the time, complementary resources correspond to minerals located near mines in operations.*
- *"Reasonably assured resources" correspond to the sum of "reserves" and "complementary resources". They are thus available over the short or medium term. In the case of uranium, tonnage reported corresponds to the quantity of metal in the concentrates produced at the mill. In the case of gold, it corresponds to the quantity of metal available after refining.*
- *"Additional resources" correspond to resources that cannot be mined for administrative reasons or that cannot be mined profitably under current market conditions. Tonnage reported corresponds to the quantity of metal in the ore after mining. No mill recovery rate is applied to these additional resources. Additional development work or changes in mining criteria may result in the reclassification of these resources as "Reasonably assured resources".*
- *"Global resources" correspond to the sum of all categories of resources. They are a good long-term indicator for comparing producer portfolios.*
- *Resources "accessible" to the group are defined as those resources, regardless of category, that AREVA may remove.*

In uranium, AREVA operates mostly in Niger and in Canada.

The group's accessible resources and production in 2003 as compared to 2002 are summarized in the following table.

AREVA share in MT of uranium concentrates

	Reasonably assured resources				Production	
	2003		2002		2003	2002
Sites		Including resources		Including resources		
France						
SMJ	0	0	0	0	0	11
Lodève	0	0	0	0	9	7
Niger						
Arlit concession	19,980	0	0	0	0	0
Cominak	21,740	10,970	21,000	11,610	909	909
Somair	23,260	13,400	23,700	7,040	1,126	1,066
Canada						
Cluff Lake	0	0	0	0	31	1,621
McClean	6,780	6,780	7,150	2,470	1,623	1,641
McArthur (Key Lake)	62,830	50,160	65,800	52,500	1,760	2,158
Midwest	7,990	5 540	7,700	5,540	0	0
Cigar Lake	49,180	32,570	49,900	32,570	0	0
Kazakhstan						
Katco	43,700	30,820	17,600	14,780	82	44
Total	**235,460**	**150,240**	**192,850**	**126,510**	**5,540**	**7,457**

The group's reasonably assured resources at the end of 2003 represented more than 40 times the group's 2003 production and more than 30 times the group's 2002 production. The group's "complementary resources" represented close to another 250,000 metric tons. The group's global resources (reasonably assured resources plus complementary resources) thus represented more than 480,000 metric tons of uranium.

In addition to the resources indicated above, AREVA also has access to 23,000 MT of uranium corresponding to its share of highly enriched uranium (HEU) from dismantled nuclear weapons [1].

A comparison of gold resources and production for 2002 and 2003 follows:

AREVA share in kilograms of gold metal

	Reasonably assured resources				Production	
	2003		2002		2003	2002
Sites		Including resources		Including resources		
France						
SMB	0	0	0	0	0	47
Côte d'Ivoire						
CMA	0	0	1,330	1,330	1,160	1,520
Fetekro	6,020	0	6,020	0	0	0
SMI	16,800	16,800	16,720	16,720	0	1,530
Sudan						
AMC	10,010	7,670	11,380	10,240	2,043	2,106
Australia						
Frog's Leg	11,440	1,990	12,000	0	0	0
White Foil	2,040	2,040	3,440	3,440	1,073	652
Total	**46,310**	**28,500**	**50,890**	**31,730**	**4,276**	**5,855**

(1) Under the Start Agreements, the United States has agreed to market separative work units (SWU) contained in the HEU from dismantled weapons (see Enrichment business unit), while a team of which AREVA is a member will acquire the natural uranium component (UF6) of the HEU. This second commitment remains in effect until 2013. For the group, this resource is equivalent to a mine that produces 2,000 metric tons of uranium annually.

At the end of 2003, the groups “complementary gold resources” represented more than 11 metric tons.

AREVA’s pre-mining research and exploration activities focus preferentially on areas adjacent to its operating mines. Exploration programs are conducted over periods in excess of ten years.

4.4.1.6. Customer relations

Electric utilities worldwide are the end-users of the Mining business unit’s uranium, with EDF representing its single largest customer and Asian customers making up the second pillar.

4.4.1.7. Sustainable development and environmental protection

Environmental protection is an ongoing, priority objective for all of the business unit’s operations. Receptor environments — air, water, soil, sediments, bio-indicators and the food chain — are carefully monitored. Results of sampling and analysis attest to the business unit’s compliance with applicable regulations.

Over the past four years, the Mining business unit’s affiliates have been working to establish an Environmental Management System directed at continuous improvement of their control of environmental impacts. Five sites were certified under ISO 14001 in 2003.

In accordance with AREVA’s policy of identifying and sharing best practices throughout the group, a special effort was made in 2003 to improve performance in the area of releases and to minimize their impact on members of the public and on the environment.

4.4.1.8. Suppliers and raw materials consumption

The group’s mining operations are conducted in remote areas and thus require careful procurement planning.

Supplies mainly consist of chemical reagents and gasoline for mining equipment and vehicles.

In most instances, AREVA’s mines are operated in three shifts, 24 hours a day. All materials, equipment, utilities and services must be procured at the best available price, quality and delivery schedule. Drilling is usually subcontracted. Open pit mining and ore milling and processing may also be subcontracted, particularly in the case of gold operations.

4.4.1.9. Research and development

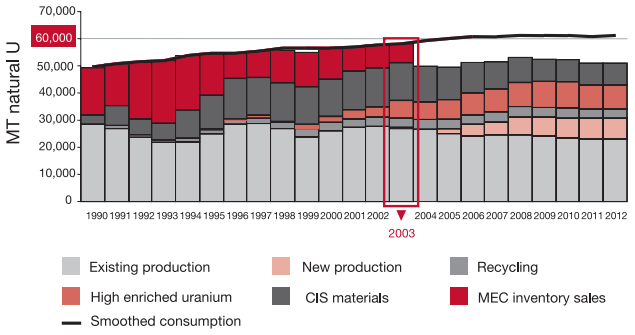
In the overall framework of AREVA’s R&D programs, presented in section 4.9, and given current market conditions, the Mining business unit’s R&D efforts in 2003 focused on exploration and on improving ore processing techniques and by-product utilization.

4.4.1.10. Outlook and development goals

The Mining business unit's backlog at year-end 2003 was approximately 48,000 metric tons of uranium (including around 10,000 metric tons added in 2003), to be delivered mostly under long-term contracts, thus ensuring good operational visibility for at least the next five years.

Market tightening, as, reflected in uranium price indicators should have a favorable impact beginning around 2005-2006. The group's market projections, in terms of resources and demand, are shown below.

Supply and demand in market economy countries



Source: AREVA.

AREVA expects to return to more normal production levels in 2004. Barring any unforeseen events, production at the McArthur uranium mine in Canada and the Ity gold mine in Côte d'Ivoire should achieve nominal capacity. Mining operations at a new gold site in Australia should begin during the year. Lastly, decisions are expected in 2004 regarding the launch of mining operations at the Katco project in Kazakhstan and the Cigar Lake project in Canada.

On the marketing front, the favorable price trend, should it continue, would allow the group to enter into long-term contracts under attractive terms this year again. Sales are denominated in U.S. dollars, however, and this currency's weakness vis-à-vis AREVA's production currencies (euro, Canadian dollar) is a handicap that could limit these opportunities.

4.4.2. Chemistry business unit

4.4.2.1. Key data

(in millions of euros)	2003	2002	2001
Sales	226	173	195
Employees at year-end	1,604 people	1,584 people	1,560 people

4.4.2.2. Businesses

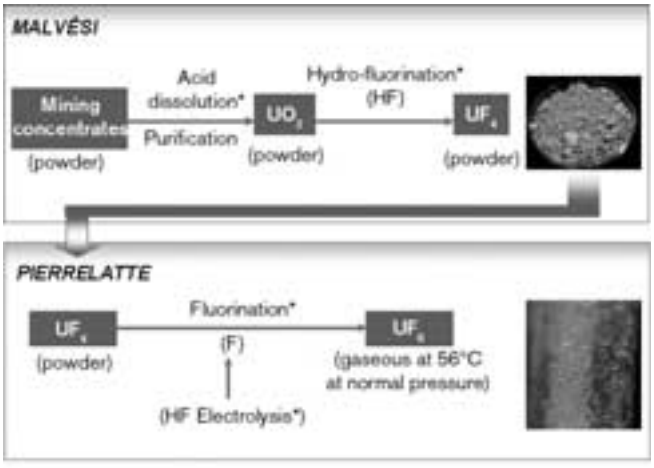
Natural uranium conversion

Conversion is the process by which uranium concentrates received from the mine are converted into uranium hexafluoride (UF6). Uranium enrichment, the necessary next step in nuclear fuel fabrication, requires uranium in the chemical form of UF6 as feed material for all types of enrichment technologies.

Uranium concentrates shipped from the mine for conversion are usually owned by an electric utility. Conversion is a two-stage process. In the first stage, the uranium is converted into uranium tetrafluoride (UF4). This involves dissolving the mine concentrates with acid, then purifying, precipitating and calcining them to produce UO3 powder. The powder is fluorinated with aqueous hydrofluoric acid (HF), which converts it into uranium tetrafluoride powder (UF4), a green granular solid. These operations are performed in the group's Comurhex-Malvési plant near Narbonne, France.

In the second stage, the UF4 is converted into uranium hexafluoride (UF6) through fluorination. UF6 has the advantage of becoming a gas when heated at a relatively low temperature. The fluorine used in this process is produced through electrolysis of hydrofluoric acid. These operations are performed in the group's Comurhex-Pierrelatte plant in France.

The diagram below summarizes the process.



** Purely "chemical" operations.*

The business unit's conversion know-how in the field of uranium fluorination has been used for non-nuclear applications as well. In fact, Comurhex has developed a whole range of fluorinated products. Tungsten hexafluoride is used in many of today's communication tools, from cell phones to smart cards to global positioning systems. Fluorine-nitrogen products are used in the automobile industry to treat plastic materials and seal gasoline tanks. Chlorine trifluoride is used in the microprocessor industry and to clean gaseous diffusion enrichment barriers. These operations have made the group the largest fluorine producer in Europe and the second largest in the world.

Uranium hexafluoride (UF6) stabilization through defluorination

The uranium enrichment process (see Enrichment business unit) generates depleted uranium hexafluoride that is converted into uranium oxide, a stable, non-soluble and non-corrosive form safe for storage pending reuse. The COGEMA-Pierrelatte defluorination plant is the only facility in the world that converts depleted UF6 into oxide on an industrial scale. During the conversion process, ultra-pure hydrofluoric acid (70%) is produced and is marketed to the chemical industry.

Recycling of treated uranium

Nuclear fuel is unloaded from the reactor after a residence time of three or four years still containing 96% uranium by weight. The uranium is recovered through treatment operations such as those performed at the COGEMA-La Hague plant (see Treatment business unit) and is transported in the form of uranyl nitrate to the Chemistry business unit's Pierrelatte site for conversion into oxide or reconversion into uranium hexafluoride. Some European reactors are loaded with fuel made of recycled uranium from used fuel treatment (Cruas nuclear plant, France).

4.4.2.3. Manufacturing capabilities

The chemistry business unit operates five production units at four sites.

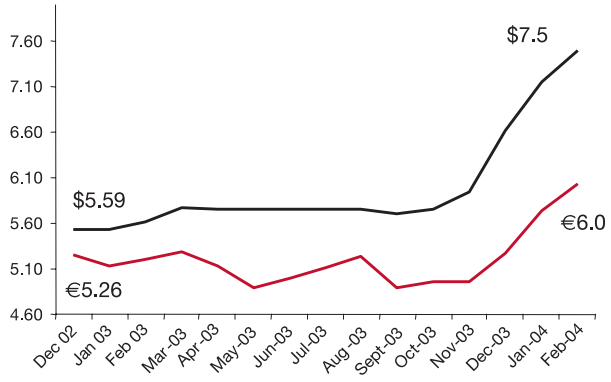
- UF4 is produced at the Comurhex-Malvési plant, which employs 260 people. The plant's five furnaces operate concurrently.
- UF6 is produced by Comurhex-Pierrelatte, which employs 345 people. Three flame reactors are used for production.
- COGEMA-Pierrelatte, which employs 900 people, defluorinates depleted uranium. The plant has four production lines.
- Uranyl nitrate is converted in three plants at the Pierrelatte site, two belonging to COGEMA and one to Comurhex.
- The COGEMA-Miramas plant, which employs 50 people, recycles lithium at its Miramas plant.

The business unit's annual production capacities include 13,000 MT of UF6 conversion, 13,000 MT of defluorination, 2,800 MT of denitration and 80 MT of fluorinated products for industry.

4.4.2.4. Market, competition and position

The annual demand for conversion services in market economy countries was around 52,000 MT in 2003, including 18,000 MT in Europe, 20,000 MT in North America and 14,000 MT in Asia.

World spot prices for uranium conversion into UF6 per TradeTech - Monthly averages since December 2002



Over the past 10 years, conversion prices followed a pattern similar to that of natural uranium. The price reported at year-end 2000 and 2001 was approximately $2.50/kg of uranium in UF6, reflecting the influx into the market of some 20,000 MT in UF6 inventories held by USEC, one of the world's largest enrichment companies, when it was privatized and the availability of highly enriched uranium from dismantled weapons. No company is able to offer uranium conversion services at this abnormally low price for long. In 2002, the market returned to the price levels of the early 1990s, i.e. $5 to $6/kg of uranium in UF6. This price recovery trend was confirmed in 2003 ($7.50/kg of uranium at the beginning of 2004).

With almost 13,000 MT of UF6 converted in 2003, the AREVA group has become the world's largest provider of conversion services. Its main competitors, Cameco in Canada and ConverDyn in the United States, each have similar production capacities of 10,500 MT/yr and around 12,500 MT/yr respectively [1]. The latter experienced prolonged shutdowns in 2003 due to technical problems. AREVA's only European competitor is BNFL, a British company with approximately 6,000 MT of production capacity. BNFL has announced plans to withdraw from the market by 2006. Russia's Minatom has significant conversion capacities that are currently under-employed for technical and geographical reasons. These facilities are essentially dedicated to domestic Russian requirements, although a small portion of Minatom's production is exported. These factors should have an impact on the conversion market beginning in 2004-2005.

The group believes that high-quality fluorinated compounds currently produced by AREVA as an ancillary business represent promising diversification opportunities in sectors such as electronics and the automotive industry.

4.4.2.5. Operations and key events during the year

The Chemistry business unit has signed two natural uranium conversion contracts with EDF in France and Enusa in Spain for a total of around €240 million. The contract signed with EDF is for approximately €230 million. The contract with Enusa is for approximately €10 million for deliveries through 2008. Enusa is an organization created by the Spanish nuclear utilities for procurement, uranium management and nuclear fuel fabrication.

4.4.2.6. Customer relations

The Chemistry business unit has more than 30 customers for conversion around the globe comprising most of the world's major nuclear utilities, including EDF in France, with which an important contract was signed in April 2003.

Contracts are generally on a fixed price basis for periods of three to five years, but contract terms are increasing and may go beyond ten years. The favorable price trend should therefore have a positive impact in the medium-term.

In the fluorinated compounds sector, the two main customers are suppliers of utilities to manufacturing industries. Sales agreements cover a shorter period of time and deliveries are very sensitive to market fluctuations, especially in the electronics sector. Marketing plans are being carried out to diversify the customer base, particularly in Asia and Europe.

4.4.2.7. Sustainable development and environmental protection

All of the Chemistry business unit's sites are engaged in a multi-level sustainable development and continuous improvement initiative.

Environmentally, the business unit's objective is to reduce its environmental impacts. The majority of the sites have ISO 14001 certification or have embarked on that process.

(1) Source: Cameco.

4.4.2.8. Suppliers and raw materials consumption

Conversion is a service that involves converting raw materials, namely uranium concentrates, owned by electric utility customers. Operating supplies therefore represent only a small percentage of the conversion price. Chemicals, fluids and energy are the most significant supplies, representing around 20% of the cost of UF6. Of these, hydrofluoric acid accounts for 10% of the cost and is procured from different European producers that are the market leaders.

4.4.2.9. Research and development

In 2003, the Chemistry business unit focused its R&D efforts on improving its processes to increase production capacities in the most economical way possible.

4.4.2.10. Outlook and development goals

The Chemistry business unit's strategic objective is to strengthen its position on the uranium conversion market, particularly in Europe, where a competitor has announced a reduction in its production capacity. In parallel, the business unit will launch implementation of the sustainable development and continuous improvement initiative in 2004.

4.4.3. Enrichment business unit

4.4.3.1. Key data

(millions of euros)	2003	2002	2001
Sales	727	662	826*
Employees at year-end	1,471 people	1,516 people	1,581 people

(*) Sales reported for 2001 include €257 million corresponding to the cost of electricity procured from and charged back to the client. This practice was discontinued in 2002.

4.4.3.2. Businesses

The Enrichment business unit enriches natural uranium. The converter delivers natural UF6 to the enrichment facility. This is a chemical compound of uranium and fluorine that is gaseous at a temperature of 80°C and that contains the fissile isotope of uranium (U235) needed to make nuclear fuel for light water reactors. Enrichment is the process by which the 0.7% content of U235 in natural UF6 is raised to 3 to 5% to achieve a level of fuel reactivity suitable to reactor requirements.

Two enrichment processes are currently in use on an industrial scale: centrifuge and gaseous diffusion. The AREVA Group uses the second of these processes.

The gaseous diffusion process takes advantage of the difference between the atomic weights of U235F6 and U238F6 to separate these two isotopes. The molecules of gas are in perpetual motion, thus striking the walls of whatever encloses them. Since these molecules all have the same kinetic energy, lighter ones — those that carry the U235 isotope — are also the fastest, and thus will strike the wall of the enclosure more often statistically than the heavier molecules. If that wall is porous, the lighter molecule has a higher probability of crossing through this barrier than the heavier molecule.

The UF6 is converted into a gas that is enriched in a series of steps in a cascade of 1,400 diffusion barrier stages. The isotopic separation that results is measured in “separative work units” (SWU). This is what constitutes the enrichment service sold to electric utilities. The SWU is an international unit of measure for qualifying enrichment services and sales, and is independent of the separation technology used.

4.4.3.3. Manufacturing capabilities

The capital-intensive enrichment industry also has a strong political dimension. Historically, major nuclear nations have sought to maintain their own production capabilities to ensure energy self-reliance while limiting nuclear proliferation.

This dimension must be kept in mind to place decisions by the key market players in their proper context.

The Enrichment business unit’s production resources are concentrated in its subsidiary Eurodif, in which COGEMA owns 59.6%, directly and indirectly, with foreign partners holding 40.3%[1].

Eurodif’s Georges Besse plant consists of an enrichment cascade with 1,400 diffusion stages divided into 70 groups. The plant’s modular design, the possibility of isolating groups, and the ability to modify the profile of the cascade are such that a shut-down of groups for technical or commercial reasons does not affect plant capacity, which is set at a maximum of 10.7 million SWU per year. The modular concept also accommodates a wide range of enrichment assays and production quantities on short notice.

Gaseous diffusion enrichment uses a large amount of energy. To provide enrichment services to some 100 reactors operated by 30 electric utilities worldwide, the Enrichment business unit consumes as much electricity as the greater Paris area, or an average of 4 to 5% of France’s entire production of electricity. The Eurodif plant adjusts its electric power requirements to seasonal peak and off-peak demand to obtain the best available power rates.

(1) The other shareholders of Eurodif SA are Belgian company Synatom, Italian company Enea, Spanish company Enusa, and Sofidif, a company owned by French and Iranian interests. COGEMA’s 60% interest in Sofidif is included in the 59.6 % controlling interest mentioned above.

4.4.3.4. Market, competition and position

Worldwide enrichment capacity is approximately 32.5 million SWU, excluding 5.5 million SWU from Russia's defense HEU [1] program imported by U.S. enrichment company USEC [2] under an exclusive agreement. Theoretical installed capacities are shown below.

Operator	Available capacity	Technology
Minatom (Russia)	11 M SWU/yr	Centrifuge
AREVA/Eurodif (France)	10 M SWU/yr	Gaseous diffusion
USEC (United States)	5 M SWU/yr	Gaseous diffusion
Urenco (UK, Germany, Netherlands)	6 M SWU/yr	Centrifuge
JNFL (Japon)	< 1 M SWU/yr	Centrifuge
CNEIC (China)	< 1 M SWU/yr	Centrifuge
USEC as importer of HEU of Russian defense origin	5 M SWU/yr	Dilution
Total	**38 to 39 M SWU/yr**	

Source: AREVA.

The AREVA Group thus has approximately 26% of the world's total installed capacity. Demand is 38 million SWU per year, about equal to installed capacity, and is broken down as follows:

- 14 million SWU in Western Europe (36%),
- 11 million SWU in North and South America (29%),
- 7 million SWU in Asia (18%),
- 6 million SWU in Eastern Europe (17%).

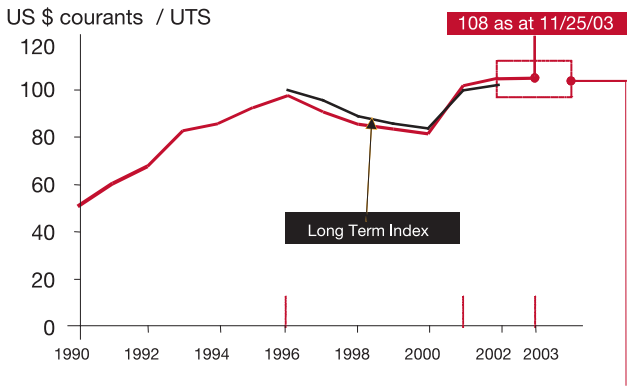
AREVA has the largest share of the Western European enrichment market, ahead of Urenco and Minatom.

In the United States, close to 50% of demand is met with enriched uranium diluted from HEU recovered from Russian weapons and imported by USEC under an exclusive agreement, supplemented with "fresh" production from USEC. Despite this disadvantage for non-U.S. operators, AREVA and Urenco are present in the U.S. market, though USEC has filed a dumping and illegal subsidies claim against them.

USEC is also the largest supplier to Asia, mostly for historical reasons, followed by AREVA.

Supply exceeded demand from 1995-2000, causing a drop in prices. This was compounded by USEC's marketing strategy in reaction to growing competition from other enrichment service providers. Since 2001 and USEC's lawsuit against European enrichers, spot prices have been rising, primarily in the U.S. market, going from $80 to close to $110 per SWU (see figure below).

1990-2003 SWU prices



Source: AREVA

The market for enrichment services is a medium to long term market with moderate growth of 0.5-1% annually, mostly in Asia, where nuclear power programs are growing faster than in any other region of the world.

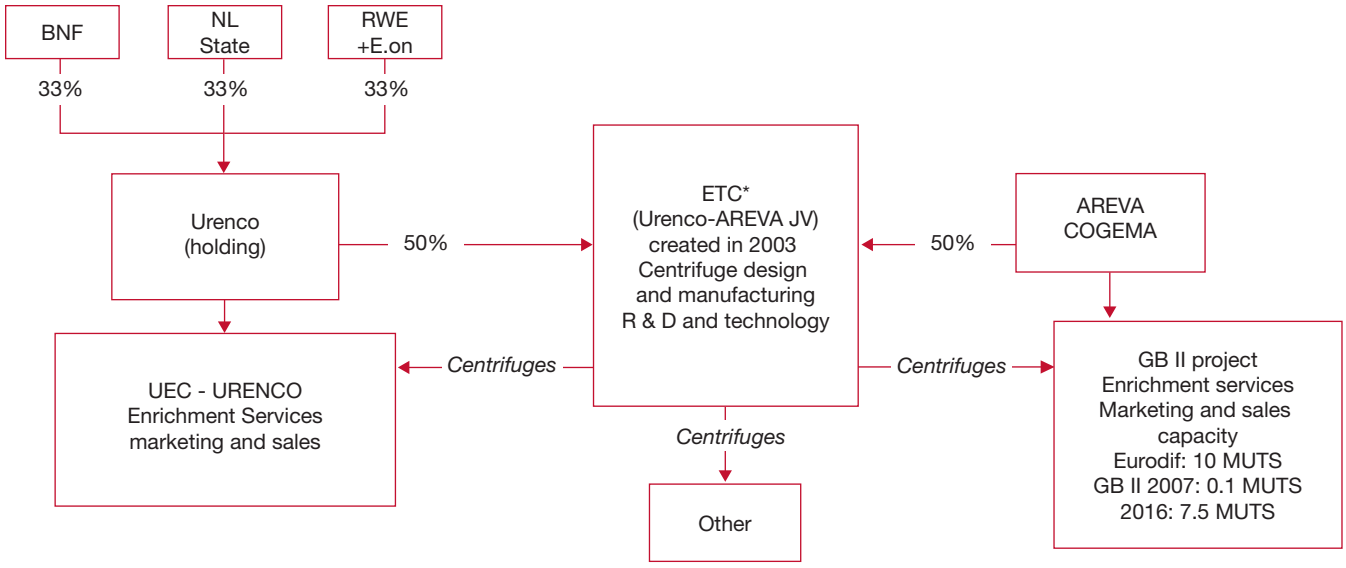
4.4.3.5. Operations and key events during the year

- Exceptional increase in enrichment services invoiced, representing over 10 million SWU (up 11% compared to 2002).
- Increase in backlog, which reached four years of sales as of year-end 2003.
- Lawsuit against Eurodif in the United States: Following a complaint filed by USEC against Urenco and Eurodif, the United States Department of Commerce ("DOC") imposed countervailing duties on U.S. imports due to dumping and unfair subsidies, effective mid-2001. These duties require a security deposit with the U.S. Customs Service [3]. Urenco and Eurodif have appealed the decision. To defend the case, Eurodif is implementing a two-pronged strategy: pursuit of an administrative appeal before the U.S. Department of Commerce (DOC) and judicial proceedings in the U.S. Court of International Trade (CIT). In February 2003, Eurodif asked the DOC to review the amount of the preliminary countervailing duties. This review lasted until November 2003 and the department's conclusions are expected in 2004. On the judicial front, the CIT ruled for Eurodif on the

(1) Highly enriched uranium.
(2) U.S. Enrichment Corporation.
(3) AREVA paid a deposit of $146 million to the U.S. Customs Service.

merits in March 2003 and then again in September 2003. The CIT rulings are currently being reviewed in various appeal proceedings.

- On November 24, 2003, AREVA signed an agreement with Urenco's shareholders allowing the group to acquire a 50% participating interest [1] in the Enrichment Technology Company (ETC). Acquisition of this equity interest will give AREVA access to the best available uranium centrifuge enrichment technology, allowing it to equip its future "Georges Besse II" enrichment plant with centrifuges. The legal structure is shown below.



** Enrichment Technology Company*
Source AREVA

4.4.3.6. Customer relations

Customer relations are largely based on long-term commitments supported by mostly firm price sales contracts with an average term of five years.

The Enrichment business unit's customers are electric utilities, EDF foremost among them.

4.4.3.7. Sustainable development and environmental protection

In 2002, the Enrichment business unit's AFAQ certifications under ISO 14001 and ISO 9001, which are now covered by a certified integrated management system (IMS).

In addition, the 2003 agreement with Urenco should give the group access to uranium enrichment capabilities that use substantially less energy per unit of service rendered.

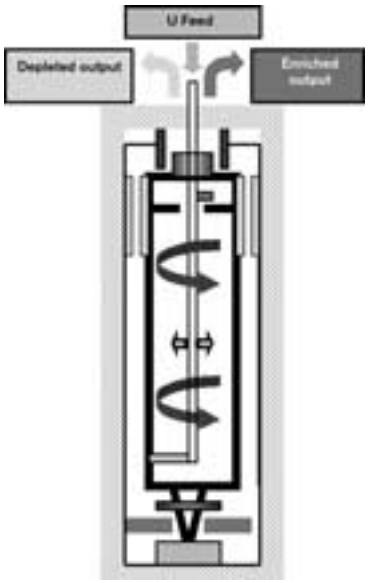
4.4.3.8. Research and development

In 2003, R&D efforts focused primarily on preparing agreements with Urenco for the future replacement of the group's current enrichment technology with centrifuge technology.

Like gaseous diffusion, centrifuge uses the difference in atomic weight between U235 and U238, but the approach is entirely different.

(1) After conditions precedent have been satisfied, i.e. signature of a quadripartite governmental agreement among France, Germany, the Netherlands and the United Kingdom, and approval from antitrust authorities

Centrifuge system



An elongated cylinder spins in a vacuum at very high speeds inside a sealed housing. Uranium in the form of gaseous hexafluoride (UF6) is introduced, as it is in the gaseous diffusion process. The centrifugal force of the machine throws the heaviest particles to the cylinder walls, effectively separating them from the lighter isotope. The gas enriched in the lighter isotope, located closer to the center of the bowl, flows towards the top of the machine, while the gas with the heavier isotope flows towards the bottom. The enriched and depleted products are recovered at either end of the machine.

4.4.3.9. Outlook and development goals

Over the medium term, the Enrichment business unit will benefit from a growing backlog that already reflects a more favorable pricing environment.

The business unit's next challenge is to acquire the centrifuge technology that will replace its gaseous diffusion facilities and to ensure a successful transition. The total investment required over the next ten years is approximately €3 billion.

Demand is assured for the next 20 years, based on current nuclear power programs and the known service life of reactors. Growth is slow but steady at approximately 0.5-1% per year. Growth in Asia should offset possible long-term declines in the European market relating to conservative scenarios on the future of nuclear power in that region.

4.4.4. Fuel business unit

4.4.4.1. Key data

(in millions of euros)	2003	2002	2001
Sales	1,284	1,189	1,223
Employees at year-end	5,099 people	4,871 people	4,595 people

4.4.4.2. Businesses

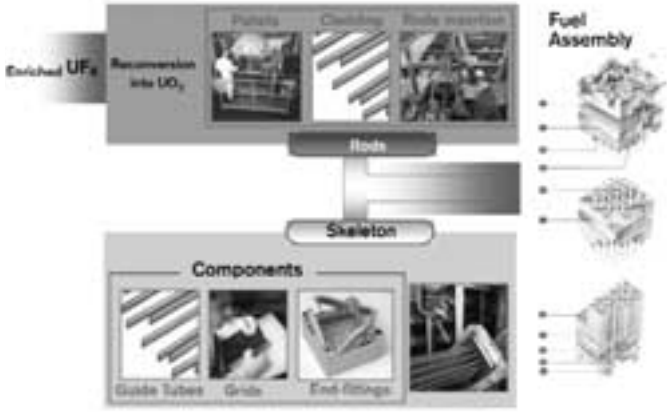
Nuclear fuel assembly design and fabrication

Fuel is a consumable product that must be replaced at regular intervals. Fuel assemblies form the reactor core, where energy-producing nuclear fission occurs. For example, a modern pressurized water reactor such as the EPR [1] contains close to 120 metric tons of fissile material divided among the 241 assemblies that form the reactor core, the only part of the reactor that is truly "nuclear".

Used fuel is replaced periodically (every 12 to 24 months) with partial core reloads representing between 20% and 50% of the total number of assemblies in the reactor, depending on core management techniques and fuel assembly performance. Assemblies replaced simultaneously constitute a reload.

A fuel assembly is made of fuels rods containing sintered uranium oxide pellets — the fissile material — and a metal frame, or "skeleton", usually made of zirconium alloy. An assembly can contain 200 to 500 kg of fissile material, depending on the type of assembly.

Main stages in the fabrication of a fuel assembly



Source: AREVA.

(1) EPR: European Pressurized water Reactor.

Reactor safety is a function of several requirements:
- containment of radioactive materials, as defined by nuclear safety standards, under both normal and off-normal operating situations;
- control of the chain reaction; and
- cooling of the reactor core.

Fuel assemblies participate in reactor safety by sealing fissile materials and radioactive fission products inside zirconium alloy cladding, which forms the primary containment barrier.

The fuel assembly is designed so that fissile material needed for the chain reaction is appropriately spaced. Fuel design also aims to minimize damage in the event of an accident, allowing control rods to be inserted and the reactor core to be cooled under all circumstances.

After it is unloaded from the reactor, the fuel assembly must continue to provide fissile material and fission product containment. Fuel design must also allow for handling and dissipation of residual heat.

Nuclear fuel must perform in an extremely demanding operating environment, and design quality is the key to fuel assembly performance. Nuclear fuel is not an ordinary product: fuel designs are adapted to the specific requirements of each customer. A large number of high-level scientific and technical skills are needed to achieve flawless design and fabrication quality, an absolute requirement.

The Fuel business unit has expertise in three key areas:
- Design: this includes neutronic, thermo-hydraulic and mechanical strength modeling and a database amassed from lessons learned from many years of reactor operating experience. Fuel designs are referenced in the reactor license application, making the fuel designer one of the utility's most important partners during discussions with local nuclear safety authorities.
- Zirconium and zirconium alloy production: This requires knowledge of chemical and metallurgical processes such as zirconium sponge fabrication, melting, extrusion, forging, rolling, thermal treatment and non-destructive examination.
- Fuel assembly fabrication: This requires knowledge of chemistry, powder metallurgy, various assembly techniques, including advanced welding, mechanical systems and machining, and numerous non-destructive examination methods and physical/chemical analyses.

The Fuel business unit has expertise in every aspect of the fuel design and fabrication process, including zirconium and zirconium alloy fabrication. The business unit designs, fabricates and sells nuclear fuel assemblies for commercial power reactors and research reactors. The customer generally retains ownership of the fissile materials. In addition to conventional enriched uranium oxide fuel, the business unit also makes Mox fuel (mixed plutonium/uranium oxide) and enriched reprocessed uranium (ERU) fuel using fissile materials recovered through used fuel recycling.

Supply of zirconium products

The business unit also fabricates and markets finished and semi-finished zirconium products.

AREVA is the only group to possess expertise in every aspect of nuclear fuel design and fabrication, particularly in the area of zirconium alloy fuel structures. As a result, some of the Fuel business unit's competitors are also its customers.

4.4.4.3. Manufacturing capabilities

The Fuel business unit is based in Paris and is organized into three business lines:
- Fuel design and marketing, with European offices in Erlangen, Germany and Lyon, France and U.S. offices in Richland, and Lynchburg, Virginia. This business line employs around 800 people.
- Zirconium, which employs 1,450 people at six plants in Rugles, Montreuil-Juigné, Paimboeuf, Ugine and Jarrie in France and in Duisburg, Germany. Each plant specializes in one aspect of zirconium metallurgy or forming.
- Fuel assembly fabrication, with seven production sites:
  - Richland and Lynchburg in the United States, serving U.S. and Asian markets;
  - Romans-sur-Isère and Pierrelatte in France and Dessel in Belgium, serving EDF in France and customers operating PWR reactors in other countries; and
  - Lingen and Karlstein in Germany, serving German utilities and customers operating boiling water reactors or pressurized water reactors elsewhere.

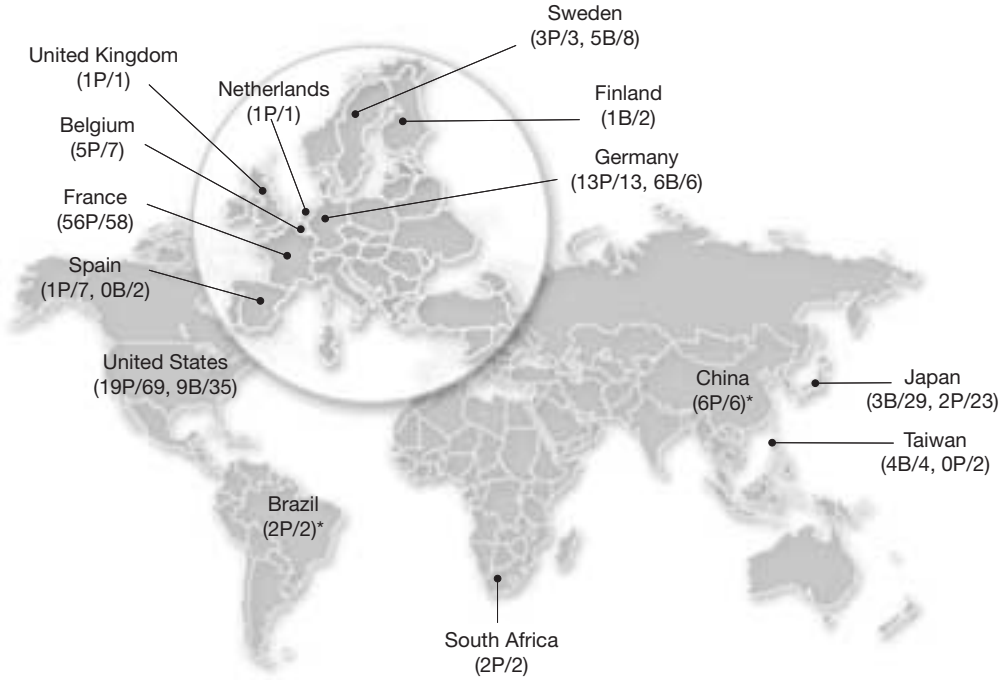
The nominal annual production capacity of the fuel fabrication business line, which employs 2,500 people, is 3,100 MT of uranium, including 2,000 MT in Europe and 1,100 MT in the United States. Total fuel fabrication capacity is thus one third of worldwide capacity for light water reactors (PWR and BWR) and is close to half of the annual fuel requirements of those reactors. The Fuel business unit includes two other entities:

- Cerca, with plants in Romans-sur-Isère and Pierrelatte, France, fabricates and markets fuel assemblies for research reactors. Cerca is the leading company in the world on this market. The company also makes radioactive sources for medical and laboratory applications.
- Federal Operations, located in Charlotte, North Carolina, United States, provides high value-added nuclear engineering services to the U.S. Department of Energy (DOE) and other U.S. federal government programs.

4.4.4.4. Market, competition and position

The Fuel business unit's target market is the fuel assembly market for pressurized water reactors (PWR) – excluding the Russian-designed VVER – and boiling water reactors (BWR), as well as for research reactors.

Reactors loaded with AREVA fuel



Legend: P "Pressurized Water Reactor, B "Boiling Water Reactor".
** Local fabricator using framatome ANP technology.*
Source: AREVA.

Out of the 143 reactors that procure fuel from AREVA, two thirds were designed by AREVA (representing 98% of the reactors built by AREVA). The remaining one third represents 25% of the reactors built by AREVA's competitors.

Complex product and supplier qualification procedures, necessarily supported by lessons learned, form a strong entry barrier to new competitors.

A key differenciation is each supplier's ability to develop a strong partnership with its customers based on:

The world market for PWR and BWR fuel is around 6,000 MT per year of heavy metal (uranium or plutonium) contained in the fuel assemblies. The United States accounts for 38% of worldwide demand, Europe 35% and Asia 25%.

The fuel industry has reorganized several times over the past few years, leaving three companies to satisfy 80% of global fuel demand: AREVA, Framatome ANP, Westinghouse-BNFL-ABB and GNF.

AREVA has supplied a total of close to 150,000 fuel assemblies, two-thirds of them PWR and one-third BWR. Today, 143 of the world's 303 operating PWRs and BWRs regularly use AREVA fuel, as shown in the figure below.

- technical support for reactor license applications; and
- continually reducing operating costs through enhanced fuel designs. The utility's operating costs depend on factors such as:
  - fuel reliability, a direct function of design and fabrication quality, with one lost day of reactor operation due to fuel failure costing five times the fabricator's added value in the fuel assembly; and
  - the amount of energy produced by the fuel before it is "spent", which is measured in terms of "burnup" expressed as "MWdays per metric ton of heavy metal".

Due to continuing fuel performance improvements, and in an essentially flat nuclear power generation market worldwide, fuel demand is declining slightly in Europe and the United States. This trend is only partially offset by demand from new reactors coming on line in Asia. However, the uprating of existing reactors and a steady increase in load factors should postpone production cutbacks caused by improved fuel performance.

There is also a glut of fuel fabrication capacity throughout the world, with demand absorbing only 65% of available capacity.

Over the past several years, nuclear fuel prices have steadily declined (by about 25-40% from 1995 to 2003), reflecting intense competition among suppliers, which has turned the market into a buyer's market, and electric power market deregulation, which has created competition among utilities and even among various means of production inside each utility company.

In addition to this price decrease in the nineties, price differentials among regions contracted and the price dispersion within each region was reduced (+/- around 25%).

In the more specific research reactor fuel segment, Cerca, a company of the Fuel business unit, is the number one supplier of research reactor fuel worldwide, with €30 million in 2003 sales representing a 40% share of the world market.

4.4.4.5. Operations and key events during the year

European production levels for fuel assemblies and zirconium products were high in 2003.

- From an organizational point of view, fuel operations were integrated in all three regions in 2003:
  - a cross-cutting organization by Design and Marketing, Zirconium and Fabrication business lines was set up in 2002;
  - a shared customer-oriented product strategy was defined that will also serve to streamline and harmonize the product portfolio contributed when operations were combined with those of Siemens by capitalizing on best products and technological advances (M5™ alloy, HMP™ grid assembly, ATRIUM™ 10, Alliance™ assembly, etc.); defining the products of the future to meet long-term requirements through the business unit's development GAIA program.
- From a technical point of view, we launched in 2003 the Zero Tolerance for Failure (ZTF) program for continuous improvement of fuel assembly reliability in increasingly demanding environments. The ZTF program focuses on pooling activities that contribute to improvement of product and service quality. Almost 80 activities have been identified in the business unit's various operations (design, manufacturing, monitoring, management, training, human factors, communications, etc.).
- From a production point of view, we continued our cross-qualification program between the Romans and Lingen plants in order to be able to manufacture products based on French and/or German technology in either one. A license application was submitted to increase capacity at the Romans plant in 2002 to that end. These capacity increases are necessary to maximize flexibility and optimize production resources.

  Work continued on production streamlining, cost reductions and use of best practices from the various affiliates resulting from the merger of Framatome and Siemens KWU. Cost reductions were especially significant in the United States, where programs to restore profitability and reorganize manufacturing launched in late 2001 are in progress.
- Sales and marketing: Major contracts were recorded, several as the result of synergies with AREVA's other business units:
  - a contract was signed with South African electric utility Eskom to supply six reloads for each of the Koeberg plant's two reactors. This commitment will last until 2015, considering intervals between reload campaigns at Koeberg (18 months);
  - a contract was signed with E.ON in Germany for a global offer to treat 750 metric tons of used fuel (Back End division) and supply Mox (mixed oxide) and ERU (recycled uranium) fuel to KKG, KKI2, KKU and KBR. This global fuel services contract is representative of the alternatives available to AREVA customers;
  - a contract was signed with E.ON to supply 24 precursor assemblies for the KKI-1 nuclear plant, followed by 480 assemblies over the 2006-2011 period.
  - Contracts were signed to supply reloads to the following reactors:
    - Borssele (8 reloads),
    - Beznau 1&2 (ERU fuel reloads),
    - Biblis A&B and Gundremingen B&C (U fuel).
    - Grand Gulf and River Bend (BWR uranium).

4.4.4.6. Customer relations

Most contracts are multi-year (65% of the business unit's forecast sales for the 2004-2007 period were already in backlog at the end of 2003) and may cover one or more of a utility's reactors.

These contracts usually include services such as transportation and handling, technical support for fuel loading and

unloading, fuel inspection during scheduled outages, or even underwater repair of damaged fuel rods or assemblies at the reactor site.

Given their importance for customer operations, the contracts generally include penalty clauses capped at the amount of the fuel supplier's services. Guarantees are provided for:

- fuel integrity under normal operating conditions and up to the contractual burnup;
- satisfactory reactor performance at nominal power;
- compatibility with fuel assemblies already in the reactor, recognizing that the reactor core is refueled in fractions;
- transportation and the capacity for safe storage after irradiation fuel.

4.4.4.7. Sustainable development and environmental protection

Environmental programs and objectives specific to each of the business unit's companies and sites are defined for each type of business. Environmental procedures are part and parcel of standard operating procedures. Employees receive environmental protection training as part of their job training.

Seeking ISO 14001 certification was a normal part of business for the business unit's sites. From the Erlangen site in 1996 to the Ugine site in April 2002, all of the Fuel business unit's European sites now have certified environmental management systems.

In the United States, environmental projects include removal of liquid effluent storage ponds that were part of the wet process used in the past to convert UF6 into UO2. This process was replaced by the dry process, which does not generate such effluent. Reducing solid low-level waste inventories is another major environmental objective.

In addition, the Dessel site in Belgium was certified under OHSAS 18001 in December 2001 and the Jarrie site in France has had such certification since May 2003.

4.4.4.8. Suppliers and raw materials consumption

Given the strongly competitive nature of the business, the business unit assessed procurement cost reduction opportunities, including pooling orders with other AREVA companies. This is now a widely implemented practice.

Raw materials used in the zirconium business

Raw materials, excluding semi-finished products, represent 20% of the total cost of the business unit's purchases and have remained essentially constant over the years.

Most outside procurements are for materials needed to produce zirconium alloy ingots.

- **Zircon flour**: A sharp increase in demand fueled by strong growth in the Asian region has created an imbalanced market and price pressures. In this unfavorable environment, the Fuel business unit was able to limit the impact on its procurement costs by diversifying its sources of supply to include Australia and South Africa.
- **Magnesium**: Market deregulation continues. Chinese producers are ramping up, while western producers are in a major down cycle. In this unstable environment, magnesium requirements were satisfied under medium-term contracts and a first Chinese supplier was qualified.

  This volatile market is being watched very closely.
- **Carbon black**: Carbon black prices are closely related to oil prices. European production units are being relocated to Asia. A new medium-term contract was concluded with the Fuel business unit's traditional suppliers, at a limited negative price impact.
- **Niobium**: Niobium is used in M5TM alloy manufacturing. Niobium's technical specification was finalized with a resulting decrease in procurement cost of close to 50%.

In addition, to strengthen production reliability in connection with often unique upstream components, back-up contracts were concluded for recyclable, nuclear quality zirconium scrap as well as nuclear quality zircaloy sponge and drawn bars. These multi-year contracts ensure continuity of supply to the Fuel business unit should a technical incident impact one of its facilities. They also provide added flexibility for procurement.

Suppliers and/or raw materials used for fuel fabrication

Fuel fabrication is an operation that entails chemical and physical conditioning of enriched uranium, followed by its "encapsulation" in a metal structure.

The business unit's electric utility customers provide the enriched UF6 required for fuel fabrication as it exists the Eurodif or Urenco enrichment plants. The enrichment companies that deliver this material are not suppliers in the strict sense of the word, insofar as the material usually belongs to the customers. Nonetheless, framework agreements have been concluded to optimize uranium deliveries to comply while complying with all of our obligations to our customers.

Zirconium alloys, primarily in the form of tubes, but also in flat form (plates or bars), are the second most common category of raw materials used in fuel fabrication. The Fuel business

unit's zirconium business line supplies these materials and thus shares its objectives and priorities.

Other materials used, although in much lower proportions, are:
- inconel alloys (special alloys made of nickel and chromium) used to make fuel assembly springs are supplied by major steelmakers specializing in special alloys;
- stainless steels used for fuel nozzles (end-fittings of fuel assemblies), for which abundant sources of supply exist.

Subcontracted fabrication services primarily relate to spacer grid stamping, a key structural component of the fuel assembly, with the leading supplier being Métalis.

Highlights for 2003 include:
- a high level of quality and punctuality in procurement,
- gradual integration of purchasing personnel in the Fuel business unit's three regions (France, Germany and United States) directed at pooling resources.

4.4.4.9. Research and development

The Fuel Fabrication business unit invests, on average, from 4 to 5% of its sales revenue in research and development under multi-year programs [1] on a broad range of goals and issues:
- continuous improvement of fuel reliability and cost-competitiveness;
- flexibility to meet ever-increasing reactor performance requirements;
- fuel safety during operations and storage;
- developing special equipment for at-reactor services; and
- developing the technologies of the future and ensuring AREVA's technology leadership.

Fuel is central to reactor operations and therefore a critical procurement for the customer. The business unit's main R&D mission is to meet and anticipate its customers' current and long-term needs and to offer reliable, high-performance fuel.

To fulfill this mission, three development programs were set up for products, modeling tools and materials, all of which are determining factors in fuel assembly performance.

- Products:
  - over the short- to mid-term, ensure cross-fertilization of PWR technologies giving AREVA technological leadership acquired through the Framatome/Siemens merger, and standardize fuel assembly components;
  - simultaneously, continue qualification of the new Alliance™ fuel for PWRs;
  - pursue fuel design enhancements for BWRs over the short- to mid-term;
  - stimulate long-term innovation and development to meet future PWR and BWR requirements by optimizing resources and maximizing synergies among the French, German and American teams under the GAIA project.
- Modeling tools: Continue developing modeling codes and methods to establish fuel assembly behavior under the very demanding operating conditions imposed by the search for increasingly efficient fuel performance.
- Materials: The main development target for zirconium alloys is to draw on lessons learned from reactor operating experience with the M5TM alloy at high burnup rates (70 GWd/MT, consistent with a 5% maximum enrichment level) and under the most severe operating conditions in terms of temperature, linear heat generation rate, void coefficient and primary coolant chemistry. The culmination of 15 years of R&D, this material used in fuel cladding and structural components is gradually replacing materials currently in use.

R&D is performed by the business unit's design teams in Lyon, France, Erlangen, Germany and Lynchburg, Virginia, and Richland, Washington in the U.S. Materials research is conducted by the research center in Ugine, France. For testing, the Fuel business unit has its own capabilities as well as access to AREVA resources such as the Framatome ANP Technical Centers in Creusot and Chalon Saint-Marcel in France and Erlangen in Germany. It can also drawn on the expertise, knowledge and testing resources of external research organizations such as French nuclear R&D agency CEA (research reactor and irradiated materials examination), Studsvick, ITU Karlsruhe and the Paul Scherrer Institute.

4.4.4.10. Outlook and development goals

With respect to production organization, the anticipated additional licensed capacity at the Romans fuel fabrication plant in France, new capacity at the Lingen plant in Germany, and ongoing cross-qualification between the plants to ensure mirror capability are efforts contributing to optimization of the European facilities.

Production reorganization between the two U.S. production sites is under way, with full implementation planned for mid-2005.

In marketing and sales, the Fuel business unit will have opportunities to validate its product-oriented strategy as it responds to several upcoming invitations to tender, particularly in China in early 2004.
These activities contribute towards meeting the ongoing objec-

(1) It takes 5 to 10 years to develop a new product and 10 to 15 years to develop a new alloy.

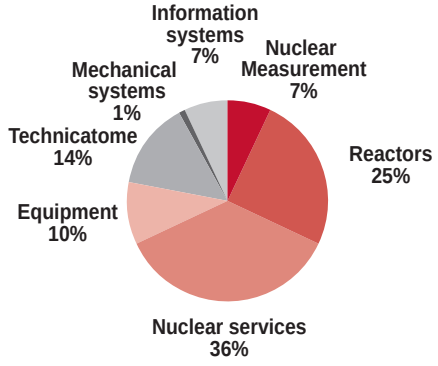
tive of reducing electric power generating costs. Longer-term obligations include preserving employee expertise and stimulating innovation so as to meet future market demands.

≫ 4.5. Reactors and Services division

Key data

(in millions of euros)	2003	2002	2001
Sales	2,124	1,932	1,879
Operating income	52	64	45
Employees at year-end	13,251 people	13,549 people	12,420 people

2003 sales by business unit

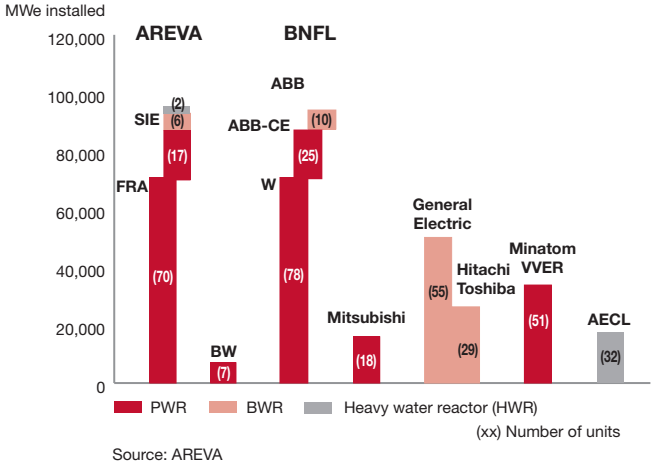


Overview and objectives

The Reactors and Services division contributed 19% to AREVA Group sales[1]. The division designs and builds pressurized water reactors (PWR), boiling water reactors (BWR) and research reactors. It also offers products and services for the servicing and day-to-day operations of all types of nuclear power plants, for nuclear propulsion and for nuclear measurements.

There are currently 450 nuclear power stations in operation around the globe, 303 of which are either PWRs or BWRs. The other power plants use “heavy water” as a coolant, particularly in Canada. The group built 95 of the 303 boiling water and pressurized water reactors in service around the globe as of the end of 2003, for some 31% of worldwide capacity. This compares with 113 for the BNFL group and 55 for General Electric. In terms of installed power, the AREVA Group is the world leader with close to 100,000 MWe, ahead of BNFL (which encompasses ABB/Combustion Engineering and Westinghouse) and General Electric.

Worldwide capacity



Source: AREVA

These PWR and BWR power plants are clustered in three regions: the United States, Europe and Asia, especially Japan.

The average service life of a nuclear power plant is 40 years, but this may be extended to 60 years in many cases. The world’s first power reactors were build in the United States and are often 10 to 15 years older than their European counterparts. The need to modernize aging plants thus emerged in the U.S. market first.

U.S. nuclear power plant performance has improved considerably over the past ten years as a result of upgrades, with the gross capacity factor, Kp (similar to a utilization rate), going from 70% to 90%. That is the equivalent of almost 30 new reactors. The same reactors are thus producing one third more power than in the early 1990s. This translates into lower kWh prices for nuclear-generated power, and thus better economic performance for the utility.

U.S. electric utilities long focused on reducing their operating and maintenance expenses. Today, the trend is towards increasing capital spending, not for new reactors, but for existing ones. Replacing heavy equipment lowers electric generating costs. The steam generator (SG) replacement, for example, is a large market. AREVA supplies 50% of the U.S. and European markets for SG replacement, which amounts to an average of two SGs per year. Reactor vessel heads are also essential components. In France, they were replaced in the 1990s because of premature wear and tear from corrosion. Today, AREVA has 80% of the reactor vessel head replacement

(1) Unaudited pro forma 2003 figures after integration of the Transmission & Distribution business at the beginning of 2004.

market — which is very strong in the United States — and is operating at full production capacity.

The United States is also the source of a growing number of applications to extend power plant service life to about 60 years, an increase of 20 years. For utilities, the considerable capital expenditure this requires is justified by amortization of their investment over a longer period of time.

It is currently estimated that U.S. nuclear operators will spend from $12 to 15 billion over the 2003-2008 period; about 40% of this is in the AREVA Group's area of capability. This is a global trend that will continue over the coming decades.

AREVA is experiencing strong growth in the United States, which has the world's largest number of operating reactors, mainly due to the integration of Siemens' nuclear operations in 2001 (and its large U.S. branch), and after the buyout of Duke Engineering & Services in 2002 in the last three years. AREVA has conquered considerable market share for heavy equipment replacement, control system modernization and service life extension, because it has all of the required engineering skills. Consequently, the share of engineering business, excluding initial construction, is well over 50%.

In Eastern Europe, countries with Russian-designed plants (40 outside Russia) offer a market for upgrades. Russian reactor technology is very similar to Western PWR technology, enabling AREVA to offer services to upgrade safety and performance levels. The market is limited, however, due to financial considerations.

AREVA brings skills and experience to the market deriving from a strong background in nuclear power plant design and construction. Today, that market primarily calls for servicing, maintenance, performance improvement, and reactor life extension and capacity upgrades.

The Reactors and Services division's main sites are located in or near its largest markets: France, Germany and the United States.

The division's challenges and objectives are:

- to promote the group's new PWR and BWR reactors in France and on emerging markets (in particular China and Brazil),
- to develop its partnering strategy with customers ("Alliancing" contracts),
- to adjust its production resources to meet changing demand,
- to differentiate its products and services in order to meet electric utilities' growing outsourcing needs,
- to develop next generation high-temperature gas reactors.

4.5.1. Reactors business unit

4.5.1.1. Key data

(in millions of euros)	2003	2002	2001
Sales	539	483	464
Employees at year-end	2,539 people	3,378 people	2,327 people

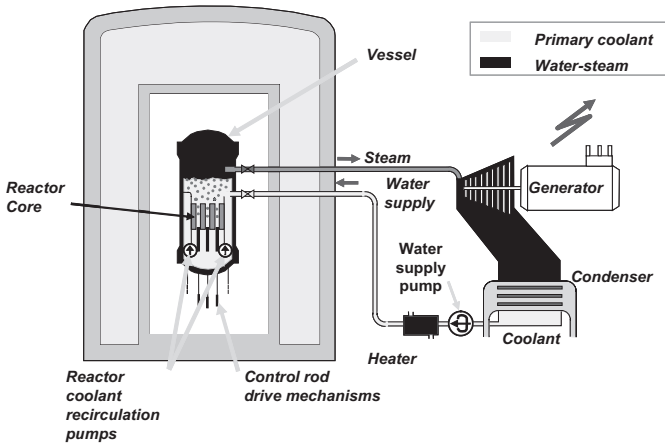
4.5.1.2. Introduction and definitions

A "nuclear power station" is defined as an industrial facility that generates electrical or thermal energy from one or more nuclear reactors. A "nuclear reactor" is a machine that produces an unlimited self-perpetuating chain fission reaction on demand and regulates the reaction's intensity. A "nuclear steam supply system" is a steam supply system in which the heat source is a nuclear reactor. A "nuclear island" is the entire system, encompassing the nuclear steam supply system and the fuel-related facilities, as well as the equipment required for the system's operation and safety. A "conventional island" consists of the alternating current turbogenerator coupled to the nuclear island along with the equipment required for its operation. A nuclear power station consists of a nuclear island and a conventional island.

In nuclear power stations, the turbogenerator is driven by the steam produced by fission energy from the material in the reactor core.

There are two major types of "light" water reactors: boiling water reactors (BWRs) and pressurized water reactors (PWRs). In BWRs (see figure below), liquid water flows through the core, which consists of fuel assemblies. The heat generated by the fission process heats the water, which vaporizes at the top of the vessel. This steam drives the turbine then cools and returns to the condenser in liquid form before being injected back into the reactor vessel. Thus, in a BWR, the water is in a closed cycle, in which the steam expands directly into the turbine.

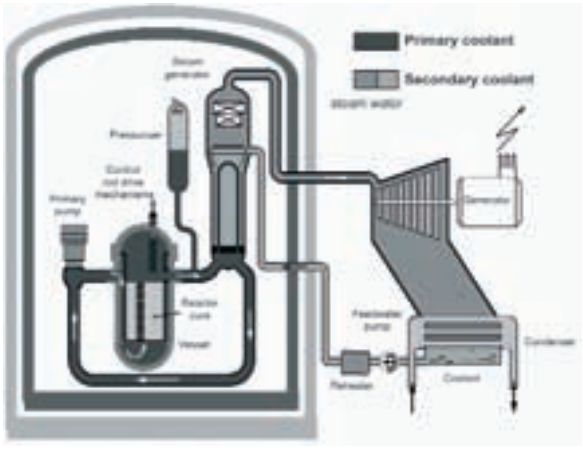
Boiling Water Reactor (BWR) operating concept



Source: AREVA.

In a PWR (see figure below), an intermediate coolant system is placed between the water in the vessel and the turbine. The water in the vessel still flows through the fuel assemblies, where it is heated by the fission process, but this water then heats the water in the so-called secondary coolant system, producing steam that drives the turbine. The "energy generation" function is thus separate from the "steam generation" function. This functional separation prevents the secondary coolant from coming into contact with the water that contacted the fuel, facilitating major maintenance operations, among other things.

Pressurized Water Reactor (PWR) operating concept



Source: AREVA.

The Reactors business unit is involved in every aspect of reactor construction, from design through the commissioning of steam supply systems and nuclear islands supplied by the AREVA Group, which may be either PWR or BWR. AREVA does not operate nuclear power generating stations.

4.5.1.3. Businesses

The business unit is active in:

- design, construction and commissioning of nuclear islands and various nuclear facilities;
- retrofits on every scale and engineering services for every reactor type in the world;
- design and fabrication of electrical systems and advanced control systems for new reactors;
- upgrades and retrofits to control systems for existing nuclear power stations;
- services for liquid metal fast breeder reactors, including reactor dismantling;
- a variety of services for research reactors; and
- detailed safety analyses and license applications for large component replacements and reactor restarts, as well as engineering studies of unit operations, including license renewals, service life extensions, increasing availability and performance, shortening outage times and exposures, and more.

4.5.1.4. Manufacturing capabilities

The Reactors business unit's primary capabilities are human resources in:

- France,
- Germany,
- the United States,
- personnel on temporary assignment with clients worldwide.

4.5.1.5. Market, competition and position

The uncommitted market on which the division may compete represents approximately €1,500 million per year (excluding new nuclear plant construction). The Reactors business unit is the market leader for operations related to the design of nuclear steam supply systems (NSSS), where it is the Original Equipment Manufacturer (OEM). The control systems and electrical systems market segments are growing. The division faces more competition in engineering services and balance-of-plant activities.

4.5.1.6. Operations and key events during the year

- The main event of the year was the signature of the Finland 5 contract. Electric utility Teollisuuden Voima Oy (TVO) decided to order a nuclear power plant for economic as well as environmental reasons. This choice was validated at the political level through a democratic process. The Framatome ANP - Siemens consortium, selected as "preferred bidder",

was then asked to negotiate a sales contract based on the EPR product. The final agreement was executed on December 18, 2003.

AREVA had proposed two different products: a BWR (the SWR 1000) and a PWR: the EPR. A partnership with turbine manufacturer Siemens was formed to offer a complete, turnkey plant. The EPR's high power rating (approximately 1,600 MWe) proved to be a significant economic advantage in the customer's final decision to select the EPR as the best solution for the Olkiluoto site. Two contracts were signed on December 18, 2003: one for the plant itself and another for the supply of the first reactor core. The project is now referred to as Olkiluoto 3.

This decision, made by a customer who was not involved in the EPR design project, was made in the context of fierce international competition. It validates AREVA's choices and options for the development of this product.

- In China, the second reactor built by AREVA at the Ling Ao site was connected to the grid at the beginning of 2003, 66 days ahead of the scheduled date, confirming the firm control of the project, which had already been demonstrated during construction of the Ling Ao 1 reactor.

  Both reactors performed extremely well during their first operating cycles: 329 days without an unscheduled outage at Ling Ao 1 and smooth operations on schedule at the second reactor.

- In Tianwan, China, AREVA delivered control systems and some NSSS components for the two Russian-built VVER 1000 generating units on schedule, to the customer's entire satisfaction.

  AREVA met its Chinese customers' expectations throughout the process and was asked to participate, in partnership with Beijing nuclear technology institute Bine, in the preparation of a site layout document for a five-unit EPR reactor site in Yangjiang.

- In Brazil, discussions concerning the Angra 3 reactor continued. The objective is to define terms under which this reactor could be completed, considering that many components were already delivered some 20 years ago. The power company and the ministry of Mines and Energy have approved completion of the Angra 3 project, but financing remains an issue on the Brazilian side. Approval by the Brazilian government is also required.

  Recurring business for plants already connected to the grid remained strong in all regions of the world.

- France:
  - Contract with EDF to install hydrogen recombiners on all thirty four 900 MWe reactors, to limit the consequences of a serious accident should one occur. This contract, based on technology developed by Siemens, is a good example of the synergies deriving from the Framatome / Siemens KWU merger in 2001.
  - Installation and startup of a prototype (US3D) to monitor core reactor margins at the Cattenom 1 reactor. The US3D system was designed to improve reactor operating performance. The system was fully operational when Cattenom 1 started its 13th operating cycle (October 29, 2003). Initial results are encouraging and testing of prototype performance will continue throughout the cycle. Experimental validation of the product is a pre-requisite to industrial scale deployment.
  - Deconstruction of the Creys-Malville reactor continued, as per a three-year technical support contract with EDF. In particular, the spectacular piercing of three stainless steel plates under 12 meters of sodium was carried out with success. These openings will be used during future emptying operations when the sodium remaining in the primary circuit is removed.
- Germany:
  - AREVA continued to supply services to the 19 reactors in operation: safety analysis, repair of the sumps at the Biblis reactors, renovation of control systems for several reactors.
  - All administrative authorizations were received to proceed with operational testing of the FRM II research reactor at Munich University. Delivery to the customer is scheduled for the first half of 2004.
- United States:
  - The Reactors business unit expanded its service offering to nuclear plant operators. A first license renewal contract was received for a BWR reactor at the Susquehanna site.
  - DE&S engineering activities were fully integrated in the business unit during the year.
- Other markets:
  - South Africa: signature of a design contract for a first batch of modifications at the Koeberg nuclear plant as part of the “CPY alignment project” to bring Koeberg's two reactors into alignment with the latest reactors delivered to EDF.
  - Sweden: the contract to supply vessel internals for the Ringhals 1 BWR was completed on schedule. Performance tests were completed to the customer's satisfaction.

- Slovakia: a contract was signed to revamp control systems for the two Bohunice V2 reactors. The renovation project will apply digital technology developed by the AREVA group.
- Bulgaria: the contract to upgrade units 5 and 6 at the Kozloduy nuclear plant is proceeding according to plan. In particular, all required safety upgrades were successfully installed in unit 5 during its scheduled outage at the end of 2003.

4.5.1.7. Sustainable development and environmental protection

All of the business unit's German units are ISO 14001 certified. The long-term goal is to certify all European operations. A work plan will be developed to that end in 2004.

4.5.1.8. Human resources

The EPR contract in Finland (Olkiluoto 3) and positive perspectives for an EPR demonstration project in France reversed the declining workloads that followed completion of all major new reactor programs.

This reversal has resulted in an abrupt increase in workload, prompting the Reactors business unit to implement a human resources plan calling for new talent, hiring within the AREVA Group and subcontracting. This trend will accelerate already existing exchanges of personnel between the three regions, with a view to further knowledge and experience sharing.

4.5.1.9. Suppliers

Strategic equipment to be delivered to customers vessels, steam generators, primary pumps and pressurizers is generally supplied under contracts between the customer and the Equipment business unit. The Reactors business unit thus provides services to the Equipment business unit to assess and demonstrate the safety of these components.

Auxiliary equipment (piping, fittings, tanks and heat exchangers) is purchased from traditional suppliers that the group has certified for quality assurance.

4.5.1.10. Research and development

In the overall framework of the group's R&D programs (see paragraph 4.9), the Reactors business unit dedicated almost 4% of its sales to research and development. This work, done by the engineering units as well as through partnerships with research organizations, covers all of the key technologies in pressurized and boiling water reactors, development and validation of process design and nuclear safety modeling tools and related methods, control of hydraulic and thermo-mechanical events, materials performance and quantification of damage modes.

With these technological developments, operators now have the means to enhance reactor performance (fuel management, availability) and to manage and demonstrate their service life to their regulatory authorities. They have culminated in the design and qualification of new technical solutions for fluid systems, mechanical components, instrumentation and control systems for new reactor models (EPR and SWR 1000), and retrofits to currently operating plants.

4.5.1.11. Outlook and development goals

For the recurring engineering and control system business, which amounted to more than 85% of sales over the past two years, the outlook is still good due to the utilities' desire to optimize reactor reliability and availability, extend service life, and enhance performance. The outlook is especially good in the United States, where operators are applying for license renewals.

The situation regarding new mid-term plant construction, the outlook has altered markedly during the year. The Olkiluoto 3 EPR program in Finland is now a showcase for this first of the third generation reactors. A decision is expected in France concerning the launch of a first EPR reactor, with a view to replacing a certain number of existing reactors going forward.

In China, the decision-making process is moving forward steadily and an invitation for tender has been announced for 2004. It concerns four new reactors with a rated capacity of 1,000 to 1,500 MWe, consistent with AREVA's product offering.

4.5.2. Equipment business unit

4.5.2.1. Key data

(in millions of euros)	2003	2002	2001
Sales	217	224	212
Employees at year-end	1,583 people	1,565 people	1,588 people

4.5.2.2. Businesses

The Equipment business unit has always focused on construction of the nuclear island. The business unit is active in:

- The design and manufacture, based on engineering data, of the nuclear island's heavy components, including reactor vessels, steam generators, pressurizers and related components such as accumulators, auxiliary heat exchangers and support structures.
- The design and manufacture of primary reactor coolant pump sets and control rod drive mechanisms (systems that control the nuclear reaction inside the reactor core), as well as services and maintenance associated with these components. The business unit has worked with French utility EDF

to optimize these mechanisms for many years, thereby acquiring unique expertise and a competitive advantage in this area.

- The design, manufacture, servicing and maintenance of electromechanical equipment for non-nuclear energy applications, primarily motors and alternators for wind turbines.

4.5.2.3. Manufacturing capabilities

- The Chalon Saint-Marcel plant, with around 550 employees, works exclusively with nuclear equipment and is the hub for nuclear steam supply unit production. Since opening in 1975, the Chalon plant has produced all of the heavy components for the 900 MWe to 1,450 MWe units in the French nuclear program. The plant has also delivered over 500 heavy components to customers around the world – reactor vessels, closure heads, steam generators and pressurizers – ranking it number one worldwide in production.
- The Jeumont plant, with 870 employees, manufactures nuclear and non-nuclear equipment. In nuclear equipment, Jeumont specializes in the manufacture of components and replacement parts for critical equipment such as primary reactor coolant pumps and control rod drive mechanisms, as well as related services. In its non-nuclear work, the Jeumont plant manufactures and sells electrical generators and motors for industry and the Navy. In addition to its new equipment manufacturing, the plant does a substantial business in services to the electromechanical industry. Jeumont has also developed an innovative concept for direct-thrust variable-speed wind turbines drawing on its skills in variable-speed magnetic machinery.
- Somanu, a subsidiary in Maubeuge, France, with around 50 employees, has a “hot” workshop for work in contaminated environments.
- Sarelem, a subsidiary near Nantes, France, with around 120 employees, maintains and repairs low-capacity motors and generators for non-nuclear applications.

4.5.2.4. Market, competition and position

Heavy nuclear equipment

The heavy nuclear equipment market served by the Saint-Marcel plant is a global market in which supply outstrips demand. There are five competitors: two in Asia (Doosan and MHI), two in Europe (Ensa and Camozzi, formerly Ansaldo) and one in North America (Babcock & Wilcox).

With no new plants under construction, heavy component replacement has become the principal market. The traditional domestic market with EDF and the Western European market are in decline. Access to the Eastern European and Asian markets is difficult. Moreover, other than a few opportunities in Brazil and South Africa, the replacement market for heavy components today is mainly the United States, which has the world’s largest and oldest nuclear power stations. The United States is gradually moving towards extending the service life of currently operating reactors.

This market differs from the European market in the diversity of U.S. utility demand, requiring targeted responses that are not limited to supplying heavy components for widely divergent models (Westinghouse, Babcock & Wilcox, Combustion Engineering, etc.), but also include the integration and installation of these components in existing plants, sometimes accompanied by capacity upgrades.

In this context, the synergies between the services of the Chalon Saint-Marcel plant and those of Framatome ANP Inc. (U.S.-based services and engineering) are a key discriminator in terms of the competition and essential to bringing the global response expected by the utilities.

The Saint-Marcel plant became the leader in the U.S. market in 2002 and even more so in 2003, with 50% of all steam generator replacement contracts and 60% of all reactor vessel head replacements.

Other nuclear equipment

The Jeumont plant’s market share for primary reactor coolant pump sets and control rod drive mechanisms is 80% to 100% in France. Westinghouse controls 50% of the world market outside France and very recently began to conduct operations in France.

At the end of 2003, the Jeumont plant received its first order for a reactor coolant pump set for a U.S. plant, giving AREVA access to this important hydraulic systems market.

Within the areas of competence of the Jeumont plant, the market is also oriented towards the supply of replacement parts and equipment maintenance services. The Jeumont plant’s main competitor in this market is BNFL/Westinghouse, especially in the United States, while Japanese company MHI is a powerful challenger.

Non-nuclear equipment

The electromechanical business is still highly competitive. Jeumont has 5 to 10% of the market for medium-capacity generators (10 to 60 MW), depending on the year, with powerful competitors such as GE (also a customer), FKI (UK), ABB and Alstom mostly offering a complete generator turbine platform.

In the maintenance market, Jeumont Sarelem controls around 25% of the French market. With a 50% market share, Alstom is the main competitor for services for EDF's large turbine generators.

In submarine propulsion, Jeumont has approximately one third of the world market, with shipyards such as DCN (France), Izar (Spain) and Kockums (Sweden). The main competitor in this area is Siemens.

Wind turbines

The global market for wind turbines is expanding despite a marked slowdown in 2003. Today, six manufacturers control 85% of the market; they are mainly from Denmark and Germany, and include Vestas, Neg Micon and Enercon. Jeumont is in the startup phase in this market, with the goal of winning a significant share of the French market by capitalizing on its position as the sole local manufacturer.

4.5.2.5. Operations and key events during the year

Heavy nuclear equipment

Significant orders were won in the U.S. market, including two replacement steam generators for Florida Power & Light (Sainte-Lucie site) and seven replacement reactor vessel heads.

In terms of sales, the Saint-Marcel plant continued its growth in exports, with 65% of the plant's sales revenue recorded outside France. Also in 2003, the first two reactor vessel heads manufactured in accordance with ASME [(1)] standards were delivered to the Three Mile Island and Crystal River sites in the United States in record time.

Regarding sales to EDF (France), the plant received an order for the last four vessel heads under the vessel head replacement program agreement. The Saint-Marcel plant is currently manufacturing components ordered previously, including ten steam generators and five vessel heads. Lastly, Saint-Marcel delivered three steam generators for the Saint-Laurent-des-Eaux nuclear plant.

Other nuclear equipment

Similarly, the Jeumont plant strengthened its positions in the U.S. market. In 2003, it won two major orders to manufacture control rod drive mechanisms for the Turkey Point and Salem nuclear plants and a first order on the hydraulic systems market for a reactor coolant pump set for Dominion.

Development of export activities included the delivery of the first mechanical systems for the Ginna nuclear plant. In the United States again, Jeumont carried out a series of mechanical system replacements, in particular for Dominion (North Anna and Surry nuclear plants), as well as engine overhaul services for reactor coolant pump sets.

Though the United States has become an essential market for Jeumont's nuclear operations, representing almost 50% of the plant's total sales, operations for the French market remain strong, including ongoing manufacturing of replacement mechanical systems for EDF's 1,300 MW nuclear plants. The plant has a leadership position in France for on-site maintenance of reactor coolant pump sets, despite some initial inroads by Westinghouse (Penly and Gravelines sites)

Finally, a fairly strong level of business was recorded in Asia, both on the mechanical systems replacement market (China) and on the replacement parts market (Korea).

Non-nuclear equipment

Jeumont's most significant electro-mechanical business was an order for two propulsion systems for the Malaysian Navy, via the IZAR / DCN (French naval shipyards) team. This follows on the heels of the Scorpène submarine success in 2002. Orders for new alternators returned to a normal, recurring level of approximately 20 systems per year, now that an important multi-year contract has been completed for General Electric in the United States. Finally, services were strong in the growing nuclear electro-mechanical systems market, where the plant was qualified by EDF for rewinding operations on 1,300 MW alternators, and in the thermal plant market, with an order for replacement of a 450 MW rotor for EON in Germany.

Wind turbines

In 2003, the sales forecast for the model developed by the group slipped. The market requires higher-capacity equipment and the group's model does not yet meet noise standards.

4.5.2.6. Customer relations

In addition to EDF, a key customer for both Saint-Marcel and Jeumont, the Equipment business unit's main customers are U.S. utilities, with their aging nuclear power stations. The strategic "alliances" established in the United States in this regard were a major highlight of the year.

Deregulation and an increasingly competitive market have prompted U.S. customers to demand new and more finan-

(1) American Standard of Mechanical Engineering.

cially attractive contracting mechanisms that are both streamlined and more comprehensive. The preference is for global service proposals covering the supply of replacement components, replacement operations per se, and related engineering and licensing support. With its capabilities in design, manufacturing, installation, licensing support and services, the AREVA Group fully meets these demands.

Implementation of the Alliance contract marketing program initiated in 2002 with U.S. electric utilities continued in 2003. The program yielded, in particular, a contract with Dominion (Surry and North Anna plants) for component replacement, services, engineering and licensing activities.

4.5.2.7. Sustainable development and environmental protection

Generally speaking, the business unit does not perform any work that could significantly impact the environment. Nonetheless, its two main entities began the environmental management and ISO 14001 certification process in 2002.

The Jeumont plant received ISO 14001 certification on February 6, 2003. At Saint-Marcel, ISO 14001 is an objective for the second half of 2004.

4.5.2.8. Suppliers and raw materials consumption

The Equipment business unit uses two main types of subcontractors in the nuclear field: tube-makers for steam generator tubing, and steel companies for heavy components made of forged steel parts. These subcontractors are the most critical from a technical standpoint, as component quality and performance depend on them, and the most substantial in terms of added value and cost.

There are only a handful of steam generator tubing manufacturers. For the Western market, there are three: Sandvik in Sweden, Valinox in France, and Sumitomo in Japan. Because they have insufficient capacity to meet demand, these three suppliers tend to regulate the steam generator market. The Saint Marcel plant formed alliances will each of these three suppliers by reserving capacity for the four coming years.

Similarly, only a few steel companies work in the nuclear field. Most of them are in Europe, with Fomas and SDF (formerly Terni) in Italy and CFI in France, and in Asia, with Doosan in South Korea, and JCFC, Kobe Steel and JSW in Japan. The Equipment business unit has also diversified its sources in this procurement segment, using JSW's capabilities in Japan and developing a new relationship with CFI in 2003.

4.5.2.9. Outlook and development goals

Nuclear operations

From a production point of view, strong demand for Saint-Marcel products on the U.S. market has resulted in an increased level of activity, which was up 40% in 2003 over 2002. This trend will continue over the coming years. In 2005, the plant's workload is expected to be two and a half times that of 2002. To accommodate this upsurge, the plant will quickly restructure its operations to achieve maximum production capacity in 2004. Already, the manufacturing of certain components is subcontracted, in whole or in part. The plant's first goal is to take advantage of this favorable economic environment to improve its productivity.

For the first time, a primary reactor coolant pump set will be delivered to a U.S. customer in 2004. This sale gives the business unit an opportunity to penetrate the important U.S. hydraulic systems replacement market. The mechanical systems business line will also experience strong growth as it begins to perform on a contract to replace mechanical systems in EDF's 1,300 MW nuclear plants. The number of systems delivered, of which there were about 100 in 2003, could double by 2007.

The Jeumont and Saint-Marcel plants will continue to grow in the Asian market, particularly in China, where discussions are under way to transfer manufacturing for certain components.

Also, operations at the two plants will be positively impacted when fabrication of heavy components for the Finnish EPR begins, as early as 2004 in the case of Saint-Marcel (steam generators, reactor vessel, reactor vessel head, pressurizer) and 2005 in the case of Jeumont (hydraulic equipment, control rod mechanisms).

Non-nuclear operations

The alternator market does not present strong growth opportunities and competition is fierce. Priority will be given to developing electro-mechanical services, where margins are better and the business unit is becoming increasingly recognized for its expertise. In 2004, Sarelem's and Jeumont's service operations will be merged to implement the strategy and offer services ranging from renovation of industrial machinery under 20 MW to overhauling high-capacity alternators for thermal and nuclear plants.

Finally, a partnership in the wind turbine business should enable this business line to obtain a high-capacity machine meeting European market demand and eventually to become a strong player in this market.

4.5.3. Nuclear Services business unit

4.5.3.1. Key data

(in millions of euros)	2003	2002	2001
Sales	763	664	610
Employees at year-end	3,043 people	2,711 people	2,843 people

4.5.3.2. Businesses

Generate more electricity while reducing generating costs and maintaining a high level of safety: these are the three key drivers for nuclear power plant operators today. Service life extension and enhanced reactor availability and performance are prerequisites to achieving these goals.

The Nuclear Services business unit offers a full range of services to meet these requirements.

- Outage services: these are recurring maintenance operations for which the Nuclear Services business unit coordinates and integrates the various servicing and inspection operations to reduce outage times.
- Engineering services and upgrades: taking advantage of the design and construction skills of the Reactors and Equipment business units, the Nuclear Services business unit offers the full range of nuclear power station design and upgrades services.
- Non-destructive inspections: these are safety inspections of major equipment required by regulation. The Nuclear Services business unit is the world leader in reactor vessel and steam generator inspections, with a wide range of inspection services for all types of operating reactors.
- Primary component services: repair, upgrading and replacement of nuclear steam supply system equipment requiring a designer's know-how to extend reactor service life and maintain the highest levels of reactor performance and safety.
- Services for electrical and control systems: the Nuclear Services business unit offers a complete range of services to ensure operational readiness: servicing, upgrades, replacement, repairs, spare parts, etc.
- Decontamination and chemical cleaning to reduce radiation exposure during repairs and servicing.
- Spare parts procurement: the Nuclear Services business unit has all of the logistical resources needed for warehousing and transportation. The unit relies on a network of highly qualified suppliers to manufacture the parts.
- Away-from-reactor maintenance in "hot" facility[1]: the Nuclear Services business unit has the expertise to perform certain servicing and repair operations on contaminated components in specially tooled workshops.

It should be noted that servicing operations during an outage, which must be kept as brief as possible, may require teams of more than 1,000 people, some of whom are Nuclear Services business unit employees, while others are subcontractors and still others the customer's subcontractors. In this context, the Nuclear Services business unit's mission usually includes an outage management component to coordinate the entire operation and the work of multiple contractors.

4.5.3.3. Capabilities

By definition, the Nuclear Services business unit provides services to customers that operate nuclear power stations. These services draw on process and tooling development resources.

In addition, the unit has access to the "hot" workshops mentioned earlier for off-site maintenance, and to two facilities dedicated to personnel readiness and training: Cetic in France, jointly owned by EDF and Framatome ANP, and another facility in the United States.

Teams are regionally based for easy customer access and to provide personalized service, mainly in:

- France: around 1,500 people,
- Germany: around 400 people,
- the United: States: more than 1,000 people.

4.5.3.4. Market, competition and market share

The Nuclear Services business unit's market consists of 383 reactors, including 303 PWRs and BWRs, and 80 Candu or VVER reactors. Reactor outages are scheduled every 12 to 24 months for servicing, maintenance, or to replace heavy components when required.

Each scheduled outage is a project that varies from a few million to several tens of millions of euros.

AREVA estimates the global reactor services market[2] at €3 billion per year for PWRs and BWRs alone:

- 36% in Europe and South Africa[3],
- 34% in North and South America
- 30% in Asia[4].

(1) A hot facility is a specialized facility where contaminated components may be cleaned, maintained and repaired.
(2) AREVA estimate.
(3) South Africa operates two PWRs.
(4) This figure is uncertain due to a relative lack of knowledge of the Japanese market, which is not an open market at this time.

Three major players control about 55% of this market:

- AREVA, with a worldwide market position and a market share of around 25%;
- BNFL/Westinghouse;
- General Electric.

The largest competitor for the remaining 45% is Mitsubishi Heavy Industries, primarily positioned in the Japanese market, but which has entered overseas markets in recent years and is seeking to expand its services operations to Europe. Then come powerful local companies, such as Hitachi and Toshiba in Japan or KPS in Korea, and numerous small specialized architect-engineering firms, maintenance companies and component suppliers.

AREVA's Nuclear Services business unit is the world leader in nuclear services and has the most complete skills portfolio for servicing PWRs, BWRs and VVERs.

4.5.3.5. Operations and key events during the year

Worldwide, a continuing trend toward multi-year contracts and an increase in unscheduled customer requests defined the year.

- In France, steam generators at the Saint-Laurent B2 nuclear plant were replaced successfully, to the customer's entire satisfaction. At Dampierre, the scheduled outage ended in record time, the site's best performance since 1984. The outage services business grew on the continued strength of integrated services campaigns in France and successful outages at several reactors elsewhere, particularly in Great Britain, South Africa and China.
- A major contract was signed with EDF in November 2003 to perform 100% of the next 12 vessel head and control rod mechanism replacements over a period of 4 to 6 years.
- In Germany, domestic customers confirmed their interest in increasingly global, multi-year service arrangements, contributing solid business. Export operations were strong as well, particularly in Sweden, Japan and Brazil.
- In the United States, 2003 saw solid growth. The replacement market for heavy components, particularly vessel heads, continued to expand. At Oconee 1, the steam generators were replaced successfully. New multi-year "Alliancing" contracts were concluded, demonstrating once again U.S. utilities' desire to enter into long-term partnerships. At Fort Calhoun, the new TWS system ("Trans World System") was used for the first time for vessel inspection. A maintenance facility for pumps and engines was opened in the United States, giving the region access to a first-class facility.
- In China, an agreement was concluded with Company 23 to acquire 35% of the shares of Shenzen Nuclear Engineering (SNE), a company specialized in nuclear maintenance operations on Chinese reactors. The agreement will become effective in 2004. In addition, the first scheduled outage operations at the Ling Ao 2 reactor were performed successfully.

4.5.3.6. Customer relations

The Nuclear Services business unit's customers are electric utilities in Western and Eastern Europe (in particular France, Germany, Belgium, Great Britain, Spain, Sweden, Switzerland, the Czech Republic, Bulgaria and Slovenia), Asia (in particular China, South Korea, Japan and Taiwan), North and South America (notably United States, Canada, Brazil), and South Africa.

EDF is the business unit's largest customer, representing one third of the unit's sales. U.S. utilities represent over 40% of the business unit's sales revenue.

Deregulation pressures are pushing the market towards global solutions to achieve performance objectives, lower costs and extend power plant service life while improving safety levels. These new requirements are prompting operators to merge services under integrated maintenance services agreements and to adopt multi-year "Alliancing" contracts that combine supplies, upgrades, engineering, services and even fuel, especially in the United States.

4.5.3.7. Environment

Generally speaking, the Nuclear Services business unit does not perform work that could impact the environment. The hot facilities mentioned above are monitored with particular care considering their operations in a radioactive environment.

Some of the Nuclear Services business unit's sites have already been certified under ISO 14001. This is the case for the Lyon-site and all of the German sites. ISO 14001 certification before year-end 2005 is an objective for all Nuclear Services business unit sites in France.

4.5.3.8. Suppliers and raw materials consumption

There is a marked trend in markets served by the Nuclear Services business unit to concentrate a maximum number of operations into the shortest possible period of time. In addition, the business unit's operations are strongly seasonal, reflecting the periodic nature of scheduled outages and opti-

(1) Alliancing is a apartnership between the customer and the supplier, generally over a multi-year period, covering several activities. This service package entitles the customer to price reductions and provides the supplier with a secure backlog and good operating visibility.

mization of the regional electric power supply. The business unit must therefore adjust each year to very noticeable peaks in operations.

Also, the inspection and testing business requires highly qualified specialists, which the business unit has in France, but not in Germany or in the United States.

The business unit has therefore entered into numerous partnership agreements with various suppliers to accommodate exceptionally heavy workloads or requests for specific services. These suppliers and service providers are certified in terms of quality and technical capability to ensure compliance with the basic requirements for this type of work.

The Nuclear Services business unit does not use significant quantities of raw materials in its service operations.

4.5.3.9. Research and development

The service business environment is increasingly competitive and customers demand ever-greater optimization of plant availability. R&D is therefore a key discriminator for the business unit, which must meet a dual challenge: fast turnaround times in response to customers' immediate needs, and a mid-term planning horizon to anticipate future demand and the emergence of new markets.

The Nuclear Services business unit devoted around 2% of its annual sales to R&D in the following areas:

- reduction of costs, exposures and outage times;
- upgrading of existing tools and processes used during servicing;
- development of innovative products and technologies for the future;
- optimization of methodologies and approaches among regions based on sharing of best practices and local lessons learned.

The most important R&D programs for 2003 included:

- development of a robotic arm to inspect nuclear reactor vessels (TWS program), shared by the three regions. Final adjustments and industrial deployment is scheduled for 2004. The objective is to reduce the time required for vessel inspections by several tens of percentage points.
- launch of "automated welding" programs to reduce worker exposure to radiation during component repairs while improving weld quality.
- development of the thermal camera, scheduled to be operational around April 2004. This automated camera capable of data acquisition will improve surface inspection reliability while facilitating access to currently inaccessible areas. Approximately 10 fewer steps will be required for surface inspection operations, saving time and contributing to lower exposure.

Also, on January 1, 2004, the business unit integrated non-destructive testing R&D activities that were previously part of the Reactors and Services division's Technical Center.

4.5.3.10. Outlook and development goals

Trends observed in 2003 are expected to continue in 2004 in all three regions, with an increasing number of unscheduled customer requests[1].

The business unit's objective in terms of operations and market positioning is to increase its market share worldwide by:

- developing new offers, integrated services, packages, multi-year contracts and alliances to respond more fully to customer technical and economic concerns;
- strengthening its positions on traditional markets such as China (joint venture established in 2003), Brazil, South Africa and the United Kingdom, while increasing penetration in markets where the business unit still has a limited presence, particularly Canada, Spain, Japan, Korea, Belgium and Sweden;
- developing a commercial platform for reactor types other than BWR and PWR – VVER, Candu and AGR – where the business unit does virtually no business at present.

The main organizational and operational objective remains to optimize profitability in all businesses by seeking synergies and sharing best practices in all service lines to reduce cost, and by improving internal controls[2] to manage risk at the project level.

(1) Unscheduled customer requests correspond to unscheduled maintenance operations.
(2) Control functions, independent from the regional units, have been established in 2003 at the business unit corporate level.

4.5.4. Mechanical Systems business unit

4.5.4.1. Key data

(in millions of euros)	2003	2002	2001
Sales	18	36	3
Employees at year-end	553 people	672 people	740 people

4.5.4.2. Businesses

The Mechanical Systems business unit provides services that are historically linked to major fuel cycle plant construction programs in France and to facilities in the back end of the fuel cycle. Services include the design, manufacture, assembly, testing, maintenance and modification of mechanical systems and their control systems. They also include the manufacture of mechanical and welded parts, components and fully engineered systems. The business unit's main specialty is the mass production of containers and internal equipment for nuclear fuel transportation and storage casks.

4.5.4.3. Manufacturing capabilities

In the nuclear sector, the Mechanical Systems business unit has six facilities in France, two of which are dedicated to non-nuclear operations. Two licensed nuclear facilities and one environmentally regulated facility that formerly worked with uranium are now being cleaned up and dismantled.

4.5.4.4. Market, competition and position

The Mechanical Systems business unit works for the group's other business units, mainly in the nuclear area, and in particular for:

- the Treatment & Recycling business unit, whenever capital is invested in new group facilities or to provide mechanical operating systems of strategic importance for the group's business;
- the Logistics business unit, which does not have its own resources to manufacture the casks it designs;
- global export projects, often led by the Engineering business unit, particularly the Mox U.S. project.

The nuclear and non-nuclear markets served directly by the Mechanical Systems business unit are fragmented and niche markets, and thus difficult to quantify. The competition consists of small and medium businesses and of specialized subsidiaries of manufacturing and services groups.

4.5.4.5. Operations and key events during the year

In nuclear, package builder-integrator operations recovered quite significantly, buoyed in particular by the Mox U.S. project.

4.5.4.6. Customer relations

In the nuclear sector, the Mechanical Systems business unit is providing support to a growing number of the group's other business units. It is also working with nuclear research organizations (CEA, fusion project, etc.).

In the conventional manufacturing sector, the majority of sales came from the aerospace and automobile industries, with key customers being EADS/Airbus, Dassault, Snecma, Delphi, Wagon Automotive, Garett and Renault.

Most contracts were on a fixed-price basis.

4.5.4.7. Suppliers and raw materials consumption

The suppliers and raw materials used in the business unit's operations are conventional and off-the-shelf, though services and procurements are still subject to quality assurance requirements.

4.5.4.8. Outlook and development goals

Over the short and medium term, the Mechanical Systems business unit will focus on its core businesses by strengthening it local services to group nuclear fuel cycle plants and by contributing expertise to major export projects such as the U.S. Mox fuel fabrication plant and the Japanese used fuel treatment plant at Rokkasho Mura. The business unit will continue to increase market share in cask and associated component manufacturing, in particular used fuel storage casks.

4.5.5. Nuclear Measurement business unit

4.5.5.1. Key data

(in millions of euros)	2003	2002	2001
Sales	149	164	153
Employees at year-end	1,092 people	1,089 people	1,068 people

4.5.5.2. Businesses

The Nuclear Measurement business unit designs, manufactures and markets equipment and systems to detect and/or measure radioactivity in the fields of research, radiation protection, radiation chemistry, radiological monitoring, and waste and effluent characterization.

4.5.5.3. Manufacturing capabilities

The business unit integrates equipment design, manufacturing and sales through five marketing subsidiaries and approximately thirty representative offices on all continents. The business unit manages three production plants in Europe and two in North America.

4.5.5.4. Market, competition and position

The nuclear measurement market (excluding Homeland Security in the United States) is a global niche market worth an estimated €700 million per year. The Nuclear Measurement business unit is the market leader, with a 22% market share.

The business unit operates in North America (47% of sales), the world's largest market, in Europe (27%, excluding France), France (15%), Asia (9%) and elsewhere around the globe (2%).

Its main competitors are Eberline, MGP France and Ortec with a 30% market share.

The market is growing at a rate of about 2 to 3% per year, but this may accelerate as Homeland Security takes root. Radiation detection systems must be established at the borders of the United States and a few sensitive countries. Emergency response teams must also be equipped with radiation detection and public safety systems.

The business unit received its first Homeland Security orders in 2003, for equipment for emergency response teams.

4.5.5.5. Operations and key events during the year

Orders were up in 2003 on a like-for-like exchange rate basis. For the second year in a row, orders were significantly above sales revenue, resulting in an increased backlog representing six months of sales as at December 31, 2003.

The year's key events were:

- marketing of a new contamination detection gate, Argos 4, and its successful launch with significant orders from U.S. utility companies and initial sales in Europe. Argos 4 allows faster and more precise detection of contamination and gamma radiation than existing gates. It is also much cheaper to maintain than competing equipment;
- thousands of dosimeters ordered by the U.S. Army;
- launch of new portable detection equipment, mostly for the Homeland Security market.

4.5.5.6. Customer relations

Traditionally, the nuclear measurement market's customers are power stations, fuel fabrication and treatment facilities, radiation chemistry and environmental laboratories, scientific research laboratories and the medical sector.

In addition to these customers, the business unit also serves public and private organizations in charge of radiation monitoring at national borders as well as emergency response teams. The response team customer category is growing, especially in the United States, with its new Department of Homeland Security.

4.5.5.7. Suppliers and raw materials consumption

Among the raw materials the business unit uses, only germanium (a copper residue that does not exist in the natural state) is special because only two or three entities in the world are capable of producing the ultra-pure geranium crystals used to manufacture gamma-ray semiconductor sensors. The Nuclear Measurement business unit is the leader among these three producers, and thus has a competitive advantage.

The other components or materials used by the business unit may be acquired without any particular constraint or risk.

4.5.5.8. Outlook and development goals

In 2004, the business unit will start to benefit from the sale of new products developed in-house. The rebirth of nuclear programs and a strengthening of radiation detection measures, especially in the United States, should also contribute to growth.

Over the short to medium term, the Asian market (Japan, South Korea and China, in order of importance) has significant growth potential due to new reactor construction scheduled in that region and the imminent startup of the Japanese used fuel treatment plant, as well as scientific experiments conducted in Japan.

4.5.6. Technicatome business unit

4.5.6.1. Key data

(in millions of euros)	2003	2002	2001
Sales	299	234	215
Employees at year-end	2,053 people	1,945 people	1,876 people

4.5.6.2. Businesses

The Technicatome business unit's core business is engineering. The unit designs, manages, manufactures, operates and maintains nuclear reactors for naval propulsion and performs all associated testing. This core business is based on a high

level of expertise in nuclear safety, reliability, availability and safety control systems.

These areas of specialization have applications to nuclear propulsion, manufacturing and transportation testing, including nuclear and non-nuclear naval propulsion systems and engineering of complex, highly reliable systems. They require expertise in:

- systems architecture,
- projects management,
- digital safety controls,
- nuclear safety analysis,
- thermohydraulics and neutronics,
- acoustics and vibration,
- integrated logistical support.

For more than 30 years, Technicatome-designed nuclear reactors have been powering the French navy's submarines and aircraft carriers for all operating missions. Similarly, for more than 15 years, metrorail cars have been equipped with digital safety systems ensuring that doors open onto the platform and close in a timely manner, thus guaranteeing passenger safety.

4.5.6.3. Manufacturing capabilities

Technicatome is organized into two customer-oriented divisions supported by several companies and subsidiaries close to customers throughout France.

4.5.6.4. Markets, competition and position

Technicatome serves two basic markets:

Energy and propulsion: meeting extreme operational constraints

For thirty years, Technicatome has been designing and manufacturing nuclear boilers for naval propulsion for every generation of French submarines and the *Charles-de-Gaulle* aircraft carrier. Technicatome also provides propulsion-related services and systems, including operating control systems, and acoustic discretion for facilities, systems and components. Technicatome has unique experience as both designer and operator. In addition to designing nuclear boilers, it operates land-based qualification, training and test reactors used to prevent technological risk and human error at several levels:

- validation of onboard reactors before sea duty,
- full-scale testing of innovations,
- endurance tests,
- predictive maintenance,
- operator training.

Technological entry barriers and clearance requirements for national defense projects result in little competition in this market, which makes up approximately 60% of sales.

There are no international business opportunities in nuclear naval propulsion, as countries that have chosen this type of propulsion understandably restrict entry to national suppliers with security clearances.

On the other hand, recent technological advances in alternative energy systems (fuel cells, electric propulsion, etc.) open up growth opportunities in the non-nuclear naval propulsion field, and Technicatome and its subsidiaries plan to take part in this market.

Engineering and equipment for complex systems: ensuring human safety and equipment availability

Technicatome and its subsidiaries have recognized and proven know-how in the engineering of complex systems and in the design of safe equipment and electronic systems, both on-board and on land. These systems ensure the safety, comfort, reliability and availability of highly safe installations in the manufacturing, nuclear power, and passenger and freight transport sectors. Technicatome has successfully ensured its place in this market, which demands performance levels approaching those of the nuclear industry in terms of safety and availability, offering:

- automatic pilot systems for urban transportation;
- safety monitoring systems for train conductors;
- operating parameter recorders, commonly called "black boxes", to record operating events;
- control systems to open and close subway doors.
- satellite tracking systems for trains, etc.

Currently, around 40% of Technicatome's sales are in the industrial sector (transportation, industrial applications, environment).

Its competitors in this field are traditional systems and technology engineering firms.

4.5.6.5. Operations and key events during the year

Four key events occurred in 2003:

- A contract was signed with CEA/DAM (military applications department) designating Technicatome as prime contractor and supplier for the RES reactor module. RES is a land-based test reactor used to model future naval propulsion reactors for French Barracuda-type attack submarines. The contract is added recognition of Technicatome's strength in its core business of nuclear propulsion.

- Broadening of Technicatome's offering in its core business, nuclear propulsion, with new fixed-price contracts as prime contractor for maintenance and repair operations. Thus, in 2003, Technicatome was awarded a contract for comprehensive maintenance of the forward reactor of the *Charles-de-Gaulle* aircraft carrier during one of the ship's scheduled maintenance periods.
- Strong growth in digital safety systems for rail and urban transit systems, including international markets. As an example, *Société des Transports Intercommunaux de Bruxelles* (STIB, the Brussels area transit authority) chose the Technicatome business unit in March 2002 following a competitive bidding process to supply, install and start up a speed control system to replace the current system and interface with existing traffic signals.
- Significant increase in orders and conclusion of engineering contracts for major scientific and industrial instrumentation. Technicatome is providing support to the Mégajoule laser project on behalf of project owner CEA/DAM. The Mégajoule project is one of two simulation programs in the world. It is being carried out to implement French commitments under the Comprehensive Nuclear Test Ban Treaty. The CEA/DAM contract was signed in May 2003 for an eight-year period.

4.5.6.6. Customer relations

Contracts are based on the principle that the turnkey contractor must provide performance and availability assurances (both technical and financial) for the system as delivered and during operations, as well as firm project management and a real mastery of the key technologies in the systems ordered by the customer.

In the energy and propulsion sector, the main customers are the French navy, *Délégation générale à l'armement* (French armaments agency), naval shipyards (DCN) and atomic energy commission (CEA). In the transportation, manufacturing and environmental markets, French railways SNCF, Paris-area transit authority RATP, Eurotunnel and Airbus are the business unit's largest customers.

4.5.6.7. Sustainable development and environmental protection

Technicatome actively participates in environmental protection and in the group's sustainable development programs through its engineering operations, where eco-design plays a central role, through engineering for decommissioning (nuclear cleanup), and through the measurement technologies and products that it designs and manufactures to control environmental noise and acoustic vibrations.

Technicatome has implemented a continuous improvement program for its own operations that builds on environmental, labor and social criteria.

In the environmental area, Technicatome monitors and analyzes its water and energy consumption and waste volumes and releases, particularly greenhouse gas releases. In the labor and social areas, the business unit monitors its performance in the fields of health, risk and safety, and has taken measures to increase workforce diversity through greater representation of women and the handicapped.

4.5.6.8. Suppliers and raw materials consumption

Technicatome has the means to certify subcontractor quality for critical components (subsidiaries) and to limit procurement risks by diversifying its sources of supply. Technicatome does not own the nuclear materials used to manufacture nuclear propulsion fuels. The CEA is the owner of these materials and, as a nuclear operator, retains responsibility for their monitoring and management.

4.5.6.9. Research and development

In the overall framework of the group's R&D programs and in view of business prospects in the energy, propulsion, and rail and urban transportation fields, the business unit focused its R&D efforts on the following areas in 2003.

- Ongoing feasibility studies for a 300 MWe power and/or water-producing reactor deriving from the design of naval propulsion reactors.
- Safety control systems integrating new computer technology for rail, urban and nuclear applications.
- Exploratory research on energy systems, including lithium-ion batteries: development of 2 and 5 KWe proton exchange membrane fuel cells, the first stage in efforts to design a 50 KWe fuel cell by 2006 for naval propulsion, back-up or autonomous power sources, and urban public transit applications.
- Development of innovative products for acoustical detection and acoustic vibration prediction.

4.5.6.10. Outlook and development goals

The development prospects for energy and propulsion operations suggest growing sales over the coming years. The French defense budget law has confirmed the country's commitment to large programs such as the Barracuda program, the fourth missile-launching nuclear submarine, the Megajoule Laser, and others.

The Technicatome business unit continues to focus on several strong areas for growth: supplementing the AREVA Group's commercial platform with advanced energy systems and equipment design and operation, naval propulsion, environmental protection and transportation. The business unit will also continue to maintain a strong presence in the engineering of large scientific instrumentation and management of servicing and maintenance operations.

4.5.7. Consulting and Information Systems business unit

4.5.7.1. Key data

(in millions of euros)	2003	2002	2001
Sales	137	126	132
Employees at year-end	2,388 people	2,189 people	2,173 people

4.5.7.2. Businesses

The Consulting and Information Systems business lines are:

- Information systems integration and optimization, for around 35% of sales.
- Supply chain, information system and enterprise management consulting aimed at enhancing overall business performance, for around 7% of sales.
- "Evolve", an approach to outsourcing information system (IS) management that evolves with customer needs, for more than 47% of the business unit's sales. In this approach, continuous improvement plans oriented towards streamlining processes are part and parcel of the contract. This business line offers synergies with the business unit's other operations in consulting, systems integration, facilities management and document engineering. The business unit's IS outsourcing solution evolves with the customer's specific needs through a shared quest for new productivity opportunities and service continuity.
- Document engineering the creation, management, use and dissemination of enterprise document resources — accounted for 11% of sales in 2003. This business line was sold on December 30, 2003.

4.5.7.3. Organization and capabilities

The Consulting and Information Systems business unit is organized as follows:

- Information systems (around 80% of the workforce):
  - 15 operational entities throughout France, some of which are repositories of know-how in a particular area of expertise; and
  - three service centers providing hosting services, two of which (Chambéry and Cherbourg) also offer remote operations and management of systems and networks.

Internationally, the business unit entered into strategic partnerships with manufacturers, software publishers, operators and enterprise management consulting firms to manage projects in Europe, the United States and Asia.

- Document engineering (sold on December 30, 2003): four offices in key regions of France.

4.5.7.4. Market, competition and position

The business unit is active in France's outsourced information technology (IT) market, which represented in €27 billion in 2003. The market outlook is favorable, with growth projected at 5 to 7% per year through 2007, boosting the total to €38 billion, driven mainly by average annual growth of 10% in the outsourcing market[1].

The Consulting and Information Systems business unit is a recognized player in the French market and became one of that market's 30 largest information technology services providers in less than 5 years. For certain services, such as consulting on GFF-Global Fullfillment™, the business unit is the market leader. This position reflects the unit's role as undisputed early promoter of results-oriented information systems outsourcing, where performance improvement objectives are integrated into the outsourcing contract. In 2003, the unit was recognized as a major player in the IS outsourcing market, becoming the fourth largest player in the French market[1] .

There are many and large competing service providers in the IT sector. The business unit's main competitors are: the market leader IBM Global Services, which offers comprehensive global services in the same market segments, followed by CGEY (number 2 in the French market) and ATOS (number 3).

4.5.7.5. Operations and key events during the year

Consulting and IS outsourcing markets remained tight in 2003. Competitive pressures increased, triggering a drop in sales prices. Despite this unfavorable economic situation and its negative impact on the information technology market, the business unit maintained its strategic focus in the development of its commercial platform and confirmed its position as an alternative solution provider. Major contracts were won:

- Results-oriented IS outsourcing: a contract for global IS outsourcing and strategic consulting on information systems was signed with Messier Bugatti, a world-renowned group specializing in brakes for the aeronautics industry.

(1) Source Pierre Audoin Conseil.

- The Rossignol group, a world leader in skiing equipment, confirmed its confidence in the business unit with renewal of an IS outsourcing contract, which was expanded to include consulting services concerning the acquisition of an information management system applied to strategic development planning.
- Recognizing the group's e-technology expertise, *Fédération Française de Rugby* (the French Rugby Federation) asked the unit to revamp the League's information systems. This contract opens new doors to the information systems development market.

The business unit received the runner up award from the Outsourcing Center professional association in the "Visionary Projects" category in recognition of exceptional relationship building between partners, the customer and the service provider.

The unit continued to invest in the future. It opened a new information management pooling center, thus further facilitating customer access. The center will offer shared services and IS resources in a totally secure environment with a high level of availability.

4.5.7.6. Customer relations

A majority of the business unit's contracts represent recurring business, primarily due to strong growth in the outsourcing segment, where more than 70% of the contracts are for 3- to 5-year terms. The business unit enjoys a contract retention and renewal rate of over 96% in this segment, one of the best in the industry. The Consulting and Information Systems business unit adjusts contracts to suit individual customer preferences: fixed price, cost-plus, performance contracts based on resources or results the door is wide open to flexible and customized contracting mechanisms.

The business unit does not choose software or software publishers for the customer. It may provide decision support or maintenance services for the chosen solution, but it does not provide upgrades or otherwise ensure the sustainability of the solution.

4.5.7.7. Suppliers and partnership agreements

The business unit has an active partnering program that targets manufacturers, publishers (SAP, for example), operators and enterprise management firms. These partnerships enable us to offer a range of unique and synergistic skills in areas such as consulting, systems integration, maintenance, training, operation and outsourcing, and to ensure that employees are completely familiar with the products.

Through these partnerships, the business unit consolidates responsibility for projects involving several entities under the authority of a single individual in charge of managing the project team and leading the project to successful completion. The business unit commits, under fixed price contracts, to providing genuine value to its customers and ensuring that every member of the project team offers the best solution available for the need at hand.

4.5.7.8. Outlook and development goals

The information technology market is expected to recover slightly in 2004. This recovery should be noticeable only after the second quarter. Price pressure in the services sector is expected to remain strong throughout the year. Ultimately, the global IT market can be expected to recover, returning to growth rates of around 5% per year.

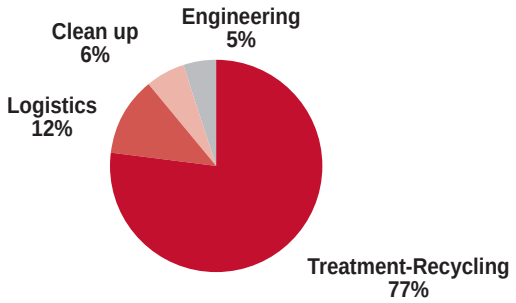
The business unit's strategy for the medium term is to continue to grow its three core businesses – results-oriented outsourcing, systems integration and consulting – using a consistent and streamlined commercial approach and a clear positioning focused on the unit's areas of expertise.

≫ 4.6. Back End division

Key data

(in millions of euros)	2003	2002	2001
Sales	2,023	2,088	2,213
Operating income	155	236	10
Employees at year-end	10,542 people	10,719 people	10,103 people

2003 sales by business unit



Overview and objectives

The Back End division, which accounted for 19% of AREVA group sales [1], includes operations for the treatment and recycling of fuel after it has been used in nuclear power plants. In line with its commitment to sustainable development and environmental protection, AREVA has developed advanced technologies to separate and recycle used fuel materials (96% of its content) and package final waste for disposal, or else store used fuel without treatment. We are the world leader in this market. Countries with major nuclear power programs — including France, Japan, Switzerland, Germany and Russia — are turning to this solution for their used fuel management.

The strategy and objectives of the Back End division are to secure contract renewals for used fuel treatment and recycling, to propose its engineering and logistics know-how at the international level, and to position the group in the growing market for cleanup and dismantling.

The Back End division is also focused on taking part in deliberations on the back end of the fuel cycle in the United States, whose National Energy Policy considers used fuel treatment, discarded since the 1970s, to be a necessary option.

4.6.1. Treatment and Recycling business units

4.6.1.1. Key data

(in millions of euros)	2003	2002	2001
Sales	1,561	1,648	1,797
Employees at year-end	6,023 people	6,161 people	5,948 people

4.6.1.2. Businesses

The Back End division treats and recycles used nuclear power reactor fuel. In line with its commitment to sustainable development and environmental protection, AREVA has developed advanced technologies to separate and recycle materials in the used fuel (96% of its content). This business is conducted in line with our goal of reducing the long-term impacts of our operations in three specific ways:

- conserving natural resources by recycling recovered uranium and plutonium into fresh fuel,
- reducing non-recyclable waste volumes generated by nuclear power plants, and
- protecting the environment by decommissioning facilities at the end of their service life.

Treatment consists of separating recyclable uranium and plutonium from final waste, including fuel assembly structural components and fission products, through a series of physical and chemical operations.

The energy materials (uranium and plutonium) recovered through used fuel treatment, especially plutonium, can be recycled into nuclear reactors in the form of MOX, a different kind of power plant fuel made of a mixture of uranium and plutonium oxides. AREVA dominates the market for recycling technologies and has become the world leader in MOX fuel fabrication in the past few years.

4.6.1.3. Manufacturing capabilities

The Treatment business unit has two production plants: the La Hague plant in northern France and the Marcoule plant in southern France.

COGEMA-La Hague plant

The La Hague plant treats used nuclear fuel from nuclear power reactors. When used fuel is unloaded from the reactor, it contains non-reusable waste consisting of fission products and minor actinides (4%) as well as reusable uranium (95%) and plutonium (1%). Treatment consists of separating the uranium, plutonium and waste.

- The uranium is purified to make it suitable for reuse and concentrated in the form of liquid uranyl nitrate. It can then be converted into an oxide and reused to make fresh fuel (see Chemistry business unit).
- The plutonium is purified to make it suitable for reuse and conditioned in the form of oxide. It can then be mixed with uranium oxide to make fresh MOX (mixed oxide fuel).
- The fission products, which contain most of the used fuel's radioactivity, are calcined and incorporated into an inert glass matrix that is poured into universal stainless steel canisters (CSD-V canisters). The metal structural components of the fuel are compacted and also placed in stainless steel universal canisters (CSD-C canisters).

The La Hague plant has two production lines, UP2 and UP3, each with a capacity of 1,000 metric tons (MT). The plant is licensed to treat up to 1,700 MT of used fuel per year.

Marcoule plant

France's first treatment plant, UP1, ceased operations in late 1997. Cleanup of the UP1 plant began in 1998 and will extend

(1) Unaudited pro forma 2003 figures after integration of the Transmission & Distribution business at the beginning of 2004.

over the next 20 years. Three separate programs are in place:

- Decommissioning: This program involves in-depth cleanup of the facilities to a radiological level enabling safe and cost-effective dismantling operations.
- Mapping and dismantling: This involves dismantling the most contaminated equipment to “level II”, the level at which the facilities are no longer considered to be nuclear facilities and become environmentally regulated facilities instead.
- Waste retrieval and packaging: This program pertains to waste generated in the early days of site operations that have been in storage since then. Operations began in 2000 with the startup of two facilities for bitumen drum retrieval. The waste will be retrieved, sorted, processed if necessary and repackaged.

The Recycling business unit has three commercial production plants, described below:

Melox plant

The Melox plant provides large-scale fabrication of Mox fuel assemblies from mixed uranium and plutonium oxides for use in nuclear generating stations around the world. The plant entered service in 1995 and achieved a production level of 101 metric tons of heavy metal (MTHM) per year in 1997. Since 2002, it has been the world leader in Mox production.

In September 2003, the French government authorized AREVA to raise annual plant production to 145 MTHM. This facilitated the transition of Cadarache plant commercial operations to the Melox plant in late July 2003, making Melox the Mox production center for France.

The recently built Melox plant complies with stringent standards for nuclear safety, occupational safety and environmental protection. The plant has been certified under ISO 9002 since 1997 and ISO 14001 since 1999. In 2000, it received the Regional Award for Quality from the Languedoc-Roussillon region of France, where it is located, and, in 2001, the French Award for Quality.

COGEMA-Cadarache plant

On July 16, 2003, the COGEMA-Cadarache plant fabricated its last Mox fuel rods for customers in Germany.

Site operations now consist of applied R&D and packaging fabrication scrap in the form of rods. Facility cleanup operations are scheduled to begin in 2006, followed by dismantling.

The facility entered service in 1962, established by the CEA to develop the plutonium fuel fabrication process. Initially, the Cadarache plant fabricated fuel for fast breeder reactors, then, when it was taken over by COGEMA in 1991, it fabricated fuel for the latter’s French, German and Swiss utility customers.

In the fall of 2000, AREVA submitted proposals to the ministries of the Environment and Industry concerning the future of the site, in light of changes in regulations regarding seismic standards. One of these was to shut down commercial operations at the site and transfer them to the Melox plant.

Belgonucléaire’s Dessel plant

To supplement production from Melox and Cadarache (through July 2003 for the latter), AREVA has a long-term contract with *Belgonucléaire* that sets aside capacity (around 40 MTHM/yr) at its plant in Dessel, Belgium, through 2005.

4.6.1.4. Market, competition and position

The world market for used fuel treatment and recycling is extremely concentrated and has strong barriers to entry, such that only a few companies have succeeded in building treatment and recycling facilities.

These barriers include:

- an oligopolistic industry with a limited number of suppliers of recycling facilities, including AREVA, the only one to offer large capacity facilities;
- major technological barriers;
- extremely high development costs for substitute technologies;
- capital-intensive industry (capital cost of facilities); and
- environmental regulations and barriers.

With an annual treatment capacity of 1,700 MT, the COGEMA-La Hague plant is the largest used fuel treatment plant in the world, giving AREVA an effective worldwide market share of 75%. This installed capacity and vast experience rank the AREVA group number one worldwide in treatment, followed by BNFL of the UK and Minatom of Russia.

Worldwide treatment capacities

Nuclear fuel type	Nominal capacity (MT/yr)	Effective capacity (under contract)	2003 production
Light water reactor fuel:			
- France, La Hague (AREVA/COGEMA)	1,700	1,700	1,115 + JNLF training campaigns
- RU, Sellafield (Thorp)	1,200	900 max.	unknown
- Russia, Cheliabinsk (Mayak)	400	150 max.(1)	150
Total in 2002	**3,300**	**2,750**	
Japan (Rokkasho-Mura, 2006 startup)	800	800	
Total beginning 2006 (at the earliest)	**4,100**	**3,550**	

Source: AREVA, World Nuclear Association.

At year-end 2003, three plants in the world produce Mox fuel in commercial quantities. One is in France (AREVA), one in Belgium, and the third is in the startup phase in the United Kingdom (BNFL). In 2003, about 190 MT of Mox containing 12 MT of plutonium were produced. Worldwide Mox fuel fabrication capacity is currently on the order of 300 MT/yr, representing usage of 18-22 MT of plutonium. AREVA's share of worldwide installed capacity is thus around 57%.

4.6.1.5. Operations and key events during the year

- Since the 2001 signature of the EDF contract, which ensures workload through 2007, EDF and COGEMA have made progress in negotiations for a post-2008 contract covering the 2008 to 2020 period.
- Work continued under the technical support contract with Japan Nuclear Fuel Limited (JNFL) relating to startup of its Rokkasho Mura treatment plant. Six of the seven scheduled campaigns have been completed since 2002. In a spirit of teamwork, cooperation intensified with the future operators of the Rokkasho Mura plant, scheduled to start up in 2006, strengthening the ties between France and Japan in the field of used fuel treatment.
- Following ramp-up of the last two major facilities at the La Hague plant, all production operations are now performed in a completely updated and optimized plant. The plant received ISO 14001 certification for its environmental management system and ISO 9001-2000 certification in November 2002, testifying to the organizational quality of this technologically complex site, where close to 5,000 people are employed. License amendments were granted for the STE3, UP3 and UP2-800 facilities of the La Hague plant in 2003. This new regulatory framework enables treatment of a wider range of fuel.
- Returns of canisters of vitrified waste, or "glass", to customers outside France are on schedule. In 2003, we shipped the 1,000th glass canister to Germany. Return shipments of 14 casks have been made to Japan, the Netherlands and Belgium. In all, 25 casks – the equivalent of 1,300 MT of treated used fuel – were shipped in 2003 as per our commitments, representing 40% completion of the return shipment program.
- The first phase of the UP1 decommissioning program at Marcoule was completed in 2002. Close to 90% of the radioactivity and 2,000 MT of equipment has been removed from the UP1 plant. Codem, a joint venture of CEA, EDF and COGEMA, manages the decommissioning and waste retrieval and packaging programs. The 3,000th canister of glass was produced in October 2003 at the Marcoule vitrification facility. The facility is now being used to vitrify rinsing solutions used for site dismantling operations.
- In May 2003, COGEMA was awarded a contract for some $30 million with Bechtel SAIC Co. to design a dry used fuel unloading facility for the Yucca Mountain Project in the United States. The operating experience acquired by COGEMA-La Hague and the AREVA group in the area of used fuel receiving and storage is a key factor for project success. The contract covers design and engineering through 2007, when the Nuclear Regulatory Commission (NRC) is expected to grant a construction permit.
- The La Hague site welcomed several public figures in 2003, including in particular US Secretary of Energy Spencer Abraham. His visit was especially important for the group in that it demonstrates US interest in its used fuel treatment technologies, this against a backdrop of a revival of nuclear power in the United States.
- The La Hague plant will treat used fuel from the Hifar research reactor operated by the Australian Nuclear Science and Technology Office (ANSTO), which was shipped to La Hague in December 2003 to reduce the volume of used fuel stored at the Lucas Heights site in Australia.
- The 2,000th Mox fuel assembly was delivered on July 21, 2003, to EDF's Gravelines power plant. Since 1987, when the first French reactor was loaded with Mox, most of this type of fuel has been fabricated in AREVA's Melox plant, the world leader, and at Cadarache.
- On September 4, 2003, the French government authorized an annual capacity increase for the Melox plant, from 101 to

(1) Primarily VVER fuel. Mayak cannot treat used PWR or BWR fuel from Western reactors.

145 MTHM. This license application was subject to a public inquiry process in the first quarter of the year. The Cadarache plant was thus able to shift production for German utilities to the Melox plant before ceasing commercial Mox production on July 31, 2003. The first German fuel assemblies containing fuel rods fabricated at the Melox plant were delivered to the Philippsburg site on December 3, 2003.

- The Cadarache plant began working in 2002 to reclassify some of the site's 300 employees within the AREVA group. This objective was achieved by July 31, 2003. All departures and reassignments, including 40 to Melox, were done on a volunteer basis. Since closure, and for the next three years, the site is primarily working to package scrap from prior fabrication operations in the form of fuel rods.
- AREVA's internationally recognized technology and expertise in plutonium recycling and Mox fabrication were chosen by the United States and Russia in the framework of their disarmament accords. This will involve fabricating four Mox fuel test assemblies at the Cadarache and Melox plants, subject to the approval of French nuclear safety authority ASN *(Autorité de Sûreté Nucléaire)*, using US defense plutonium. These assemblies will be qualified in US power reactors operated by Duke Power, a project partner.

4.6.1.6. Customer relations

Electric utilities are the principal customers of the Treatment and Recycling business units, including EDF in France and German, Belgian, Swiss, Dutch and Japanese utilities.

Recent contracts are for global fuel services – transportation, treatment, uranium conversion and MOX fuel fabrication – for which the Treatment business unit provides overall coordination. Services are provided by the Treatment business unit as well as the Logistics, Chemistry and Recycling business units.

National research centers are also customers of the Treatment business unit for the treatment of test reactor fuel:

- These include France's *Commissariat à l'Energie Atomique* (CEA) and the Institut Laue-Langevin IN2P3 in Strasbourg (Max von Laue),
- Belgium's Research Center in Mol,
- the Australian Nuclear Science and Technology Office (ANSTO).

In the nuclear field, as in most industrial sectors, customers increasingly seek global services that include both the production component and a significant number of related services.

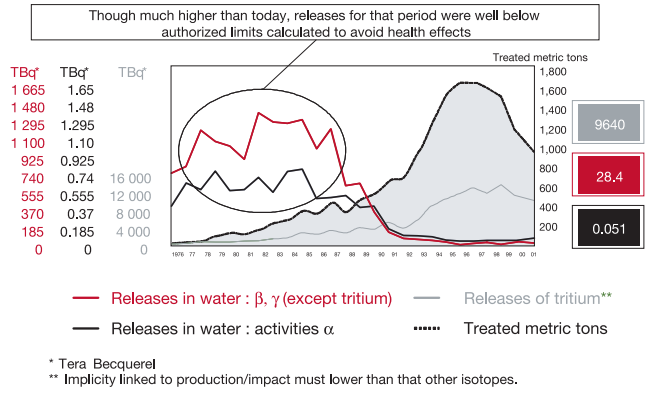
4.6.1.7. Sustainable development and environmental protection

In line with AREVA's environmental policies, the Treatment and Recycling business units have adopted sustainable development programs that are fully integrated into their existing continuous improvement programs. Through these programs, the La Hague site was able to renew its ISO 14001 certification, initially awarded in 2001, and the Marcoule plant secured ISO 14001 certification in December 2003.

At La Hague, a ministerial order dated January 10, 2003 reformulated the site permit for liquid and gaseous releases to reflect substantial improvements achieved by the operator since the previous permit was issued in 1984.

Work focuses on minimizing airborne and aqueous releases, even though the annual dose to the most affected members of the public is so low as to be deemed insignificant by the experts and is comparable to one day of exposure to naturally-occurring background radiation.

On this subject, it is important to note that the group adopted continuous improvement objectives to reduce releases using the best available and most cost-effective technologies at least ten years ago, without being prompted. This philosophy has reduced releases at La Hague by more than 90% even as the plant quadrupled its production capacity, as shown below.



The European Commission recently ordered an independent study to identify and compare radioactive release sources in the Atlantic region. That study, known as Marina II, shows that the nuclear industry's radioactive contribution to the Atlantic and North Sea zone (the so-called Ospar zone) is minor compared to the contributions of the fertilizer (phosphates), oil, and gas industries, despite their progress in this area.

With respect to environmental impacts, the plants have conducted more detailed analyses of their chemical impacts to identify and target areas for improvement. The Treatment business unit is also performing an assessment of radiological impacts on biotopes so as to optimize its continuous improvement programs.

4.6.1.8. Suppliers and raw materials consumption

96% of a utility's used fuel consists of raw materials that can be recycled. These constitute the feed material for the Treatment and Recycling business units. The other materials needed for operations consist of acids and conventional industrial products. The metal components used to make Mox fuel assemblies are identical to those used in the fabrication of enriched uranium fuel.

Numerous external suppliers perform non-strategic operations at some of the group's sites, particularly the COGEMA-La Hague plant. These companies are subject to a rigorous selection process and are closely supervised to ensure their technical competence and their compliance with health and safety requirements applicable to all operations at these sites. The site operators and the suppliers meet annually to review continuous improvement objectives and performance.

4.6.1.9. Research and development

In the treatment field, two key R&D programs are being conducted: adapting technologies to new customer requirements and minimizing the environmental impacts of operations even further.

Higher burnup rates for fuel to be treated have required waste and waste package characterization to optimize final waste volumes.

4.6.1.10. Outlook and development goals

Over the mid- to long-term, treatment operations will continue at the La Hague plant. Used fuel from EDF reactors (850 MT/yr) and from customers in Germany, Switzerland and the Netherlands will be treated, giving an estimated combined production capacity of 1,100 to 1,200 MT of fuel per year. The future operators of the Rokkasho Mura reprocessing plant in Japan will train at the La Hague site through mid-2004. Cooperation under the current agreement with JNFL will continue through the end of 2005. Discussions are in progress on continuing the partnership relationship.

Also, return shipments of vitrified waste to foreign customers will continue apace. More than two thirds of the vitrified waste to be returned to Japan has already been shipped.

Now that the ACC facility for compaction of used fuel hulls and end-fittings and the R4 facility for plutonium purification are in service at La Hague, all production operations are performed in a completely updated and optimized plant.

In the recycling field, Mox fuel fabrication for EDF will be around 100 MTHM per year under signed contracts. German utilities will take from 30 to 50 MTHM of Mox per year.

Melox produced the first MOX fuel for Japanese utilities in 1999. This fuel was to be used in 16 to 20 Japanese reactors. The current climate of public mistrust of the Japanese nuclear industry following a series of events has prompted the utilities to suspend their Mox programs until they have regained public confidence. As these programs restart, Melox capacity will need to be increased once again to meet the demand (30 to 50 MTHM per year).

AREVA's internationally recognized technology and expertise in plutonium recycling and Mox fabrication were chosen by the United States and Russia in the framework of their disarmament accords. The countries have each elected to recycle 34 tons of surplus defense plutonium into Mox fuel so that it may be used to fuel civilian nuclear reactors.

In connection with this program, the Cadarache and Melox plants may, subject to the approval of French nuclear safety authority ASN, fabricate in 2004 four demonstration Mox assemblies using US defense plutonium to qualify the fuel in US reactors.

4.6.2. Logistics business unit

4.6.2.1. Key data

(in millions of euros)	2003	2002	2001
Sales	243	200	203
Employees at year-end	914 people	843 people	812 people

4.6.2.2. Businesses

The Logistics business unit operates in the following areas:

- design and fabrication management of casks [(1)] and other specialized equipment to transport and/or store nuclear materials from the front end and back end of the fuel cycle,

(1) Through its subsidiaries COGEMA Logistics and Transnuclear, Inc. in the United States and Transnuclear Tokyo in Japan.

- organization of nuclear materials transportation and management of the transportation fleet,
- road transportation of nuclear materials in France [1],
- logistics for nuclear and non-nuclear industries [2].

4.6.2.3. Capabilities

Due to the international nature of its business, the Logistics business unit has offices in three major world regions:

- in the United States (90 people), where it has two subsidiaries specialized in cask design and fabrication and nuclear materials transportation management;
- in Japan (40 people), where it specializes in engineering, transportation management, and at-reactor cask management; and
- in Europe (780 people), via: COGEMA Logistics, the business unit's lead affiliate (336 people), which has expertise in all areas; *Lemarechal Celestin*, a ground transportation company (135 people) with a 160-vehicle fleet; and Mainco (305 people), which specializes in nuclear and non-nuclear logistics.

4.6.2.4. Market, competition and position

The business of front-end/back-end transportation and design of nuclear materials transportation and/or storage casks is characterized by:

- the wide variety and large number of materials involved,
- the international nature of the market, and
- regulatory requirements that are both stringent, particularly for the back end of the fuel cycle, and subject to change, and that are different for each transportation mode and applied differently in each country.

The market in which the Logistics business unit operates centers on the needs of electric utilities that operate nuclear reactors and on those of nuclear industries, such as mining or enrichment. To a lesser extent, it includes the needs of national nuclear research centers/laboratories and research/test reactors.

Storage capacity requirements and the type and volume of materials transported vary from one country to the next, depending on installed nuclear generating capacity, availability of fuel cycle facilities, and the back-end option chosen by the utilities.

- In Europe, in addition to French utility EDF, the Logistics business unit provides fuel transportation services to most of Europe's nuclear utilities and also offers dry storage capacities in Germany, Belgium and Switzerland. Political decisions concerning the back end of the fuel cycle have prompted the emergence of a major market for used fuel storage. Already well established in Western Europe (Belgium, Switzerland, Germany and France), the Logistics business unit is now positioning itself in Eastern European markets, where competition is strong.
- In the United States, utilities do not presently recycle used fuel from their power plants. The US government had committed to taking title to the fuel by 1998 for final disposal, but the repository is not expected to be available until the end of the decade. In the meantime, the utilities have a growing need for dry storage capacity. The US affiliates of the Logistics business unit are leaders in this market. Later, when the final repository becomes available, there will be substantial demand for used fuel shipment to that facility.
- In Asia, the group is primarily active in Japan, which has opted to treat and recycle its fuel using French and British capacities. There is thus a large market for shipments of recycled Mox fuel and waste from Europe back to Japan.

The Logistics business unit is the only commercial entity to operate in every stage of the nuclear cycle on an international level. Its competitors in various market segments are shown in the following table:

	Transportation	Casks and Equipment
Europe	NCS, BNFL, RSB	GNS/GNB, NAC, BNFL, Holtec
United States	NAC, TLI, Edlow, RSB	Holtec, NAC, GNS/GNB
Asia	NFT, Japanese traders	MHI, HZ, Mitsui, Hitachi, Toshiba, NAC, Holtec, GNB

- The business unit is the European transportation leader in the back end of the fuel cycle, providing used fuel transport to La Hague for EDF and German, Dutch and Swiss utilities.
- In the front end of the fuel cycle, the transportation market is highly segmented, less specialized and therefore highly competitive. The Logistics business unit is nonetheless present in these markets in Europe, North America and the Far East.
- The business unit also sells a broad range of equipment meeting the latest requirements. Its competitive advantage lies in its ability to offer comprehensive solutions.

(1) Through its subsidiary Lemarechal Celestin.
(2) Through its subsidiary Mainco.

4.6.2.5. Operations and key events during the year

Key operations for 2003 include:

- A large number of used fuel transports in Europe (183 casks for EDF, 77 for European utilities, mainly German) and numerous cask orders from European, US and Japanese utilities.
- Ile-de-France Quality Award in recognition of its Business Excellence and continuous improvement initiative launched several years ago and involving all categories of personnel.
- Front End Transportation department established: The business unit created a dedicated unit for transportation in the front end of the fuel cycle sector to meet the requirements of this highly competitive market.

Key commercial operations include:

- In Europe, contracts were awarded for the supply of 11 used fuel storage casks to Swiss power plants.
- In the United States, the business unit is involved in a contract awarded to the group by Bechtel relating to surface facilities for used fuel storage at Yucca Mountain, Nevada. Several casks were ordered for the Oconee, H.B. Robinson, Brunswick and Crystal River plants and for the Hanford site.
- In Japan, several additional casks were ordered by NFI to transport uranium oxide powder.

4.6.2.6. Customer relations

The Logistics business unit's main customers are European utilities in France, Germany, Switzerland, Belgium and the Netherlands, as well as some of the largest utilities in the United States and Japan, nuclear fuel fabricators, nuclear materials traders, and national agencies such as the US DOE or Swedish spent fuel management agency SKB.

Most of the business unit's services, including back-end transportation operations and the supply of transportation and storage casks, are covered by long-term contracts. In fact, some of our contracting approaches have become the international standard over the years, particularly with respect to loading and unloading interfaces in fuel cycle facilities.

4.6.2.7. Sustainable development and environmental protection

The Logistics business unit is fully engaged in an environmental management initiative that resulted in ISO 14001 certification for its transportation subsidiary *Lemarechal Célestin* in 2002. COGEMA Logistics, the lead company in the business unit, received ISO 14001 certification in February 2003.

4.6.2.8. Suppliers and raw materials consumption

In addition to high-impact steel alloys and other conventional metallurgical materials, the business unit's cask fabrication subcontractors use borated stainless steel alloys and borated [1] aluminum alloys, both of which require specialized expertise. Supply quality and availability are closely monitored for these materials. Monomer resins (neutron radiation shielding) are also an important component in cask fabrication, but are not deemed critical from a supply standpoint. Our principal equipment suppliers are large welded equipment suppliers and mechanical companies around the world that use certified fabrication processes.

The business unit uses every mode of inland and maritime transportation available – road, rail, sea and river. Suppliers are chosen based on quality and safety criteria first, before cost is even considered.

4.6.2.9. Research and development

The business unit conducts research and development in partnership with many laboratories and with our partners in the United States and Japan. Key research and development areas are:

- cask performance, particularly cask materials;
- nuclear safety demonstrations; and
- optimization of computer modeling tools to characterize nuclear safety margins.

In addition to this work, the business unit is actively involved in technology monitoring and in a program to protect proprietary inventions. Three patent applications were submitted in 2003.

4.6.2.10. Outlook and development goals

The Logistics business unit is pursuing two key objectives:

- to be a world-class player in the three leading markets of Europe, North America and the Far East, and
- to bolster its world leadership position in transportation and storage for the front end and back end of the nuclear fuel cycle.

These objectives may be further broken down by market as follows:

- Europe: consolidate its position in the storage market and adjust its commercial platform for front end and research reactor transportation;
- North America: maintain leadership in storage and prepare for the Yucca Mountain transportation market;
- Asia: conquer market share in storage and expand to the intercontinental transportation market for the front end.

(1) Boron is a neutron-absorbing material and is needed due to the type of material to be transported or stored.

4.6.3. Clean up business unit

4.6.3.1. Key data

(in millions of euros)	2003	2002	2001
Sales	111	100	88
Employees at year-end	2,724 people	2,556 people	2,190 people

4.6.3.2. Businesses

The Cleanup business unit provides services to nuclear facility operators in five areas:

- nuclear waste processing and packaging;
- facility and equipment decontamination and cleanup;
- dismantling of decommissioned facilities;
- radiation protection for individuals and the environment, and characterization of nuclear waste and waste packages; and,
- nuclear logistics during outages for routine maintenance of nuclear power reactors and fuel cycle facilities.

Three categories of business unit personnel work in each of these areas, usually in the customers' facilities:

- maintenance personnel;
- operating personnel for certain customer facilities; and
- engineers for feasibility studies, construction and maintenance.

The Cleanup business unit also provides nuclear safety, occupational safety, quality assurance and radiation protection training to its own personnel and to other nuclear service companies.

4.6.3.3. Capabilities

Most of the business unit's services are performed at customer sites. A wide variety of physical, chemical, electrochemical and other techniques are used to process low- and medium-level waste and effluent, reduce their volume, and safely package them. The business unit has a patent for an innovative technique for waste encapsulation in concrete, the Thor cementation process.

In addition to its human resources, the business unit owns an environmentally regulated facility where it maintains contaminated equipment, recertifies equipment, and processes low-level waste for its customers and for its own account.

4.6.3.4. Market, competition and position

The business unit conducts most of its operations in France, a market of approximately €290 million per year. The market grown only slightly in the past four years, but is expected to rise significantly going forward as new dismantling projects arise. EDF and the CEA have confirmed that they will dismantle their decommissioned facilities, with each planning to invest close to €3 billion over the next 20 years. EDF, which is increasingly turning towards "global services" type contracts, is by far the largest customer, representing close to half of the market.

The Cleanup business unit is the leader in France, with a market share of close to 50%. The main competitor is the Onet group, which operates in the same sectors and for the same customers. Suez, primarily through its subsidiaries Endel and Sita, is also beginning to win business and, which, given its size, makes it a leading competitor. Bouygues and Vinci are also competitors in the dismantling sector. The many other competitors are smaller companies. Foreign companies have not made significant inroads into the French market.

For the past three years, strong price pressures from all customers have characterized demand. The combination of price pressures and fierce competition has reduced margins, requiring productivity gains to maintain profitability.

4.6.3.5. Operations and key events during the year

- Lower volumes than forecast for EDF operations.
- Increase in human resources with the development of new markets.
- Successful dismantling of the Saturne accelerator for CEA/Saclay reaped rewards for the Cleanup business unit by winning it the linear accelerator dismantling project at Saclay.
- The CEA also awarded a multi-year contract for technical support for nuclear waste processing at its Grenoble site and off-site disposition.
- CEA / Fontenay-aux-Roses awarded a trade-off study for the dismantling of some of its facilities.
- Customers are increasingly turning to subcontractors to operate their facilities under multi-year contracts (Centraco, CEA, Andra, etc.).

4.6.3.6. Customer relations

The vast majority of the business unit's customers (95%) are nuclear companies: utilities (EDF), fuel cycle companies, nuclear waste processing companies such as Socodei (melting and incineration), waste disposal agency Andra, and the CEA.

EDF sharply revised its contracting programs for maintenance and nuclear services in favor of a more global and integrated

approach that combines services previously subcontracted to several different entities. This approach has prompted companies either to acquire the necessary skills in-house or, more often than not, to enter into partnerships. The Cleanup business unit has secured all of the needed skills and/or partnership relationships to serve these global services markets. EDF also increased the contract term for global services to multiple years (usually 3-5). In addition, the scope of these contracts was widened to include several nuclear sites in a given "regional block".

This change works to the advantage of larger suppliers, including the Cleanup business unit, by allowing them to draw on synergies and to package services offered by their various entities in order to meet customer requirements.

4.6.3.7. Sustainable development and environmental protection

Virtually all of the Cleanup business unit's operations are directed towards environmental protection and sustainable development. The business unit's environmentally regulated facility does not release any liquid or gaseous effluent, as confirmed by regular checks and inspections by the relevant prefectoral office. Waste is packaged and shipped to the Andra disposal site.

4.6.3.8. Outlook and development goals

The French market should grow significantly in the years to come due to new decommissioning and dismantling programs and to greater customer emphasis on "housekeeping" and on radiation protection, for individuals and well as for the environment. The priority goal in this market will be to take advantage of growth opportunities while improving the business unit's operating profitability sustainably.

4.6.4. Engineering business unit

4.6.4.1. Key data

(in millions of euros)	2003	2002	2001
Sales	107	139	126
Employees at year-end	881 people	1,159 people	1,153 people

4.6.4.2. Businesses

The Engineering business unit provides facility design and construction services to worldwide nuclear operators as well as plant modifications and optimization of existing facilities. It also provides operating support in areas such as safety analysis and engineering calculations.

The business unit operates primarily in the front end and back end of the nuclear fuel cycle, and its services encompass every stage in the plant life cycle:

- process development and facility design;
- project implementation, including project management, procurement, construction, testing and startup;
- operating support; and
- facility and site decommissioning programs.

The business unit's almost 50 years of skills acquisition and process development for nuclear fuel cycle facilities translate into unique added value and operating experience for its customers.

4.6.4.3. Capabilities

The Engineering business unit consists of design and engineering personnel based in France and in the United States, and advance teams at construction sites, particularly in Japan, where the group's personnel make up the country's largest community of French expatriates. The business unit also has a development and testing facility in France.

4.6.4.4. Market, competition and position

The Engineering business unit's key markets are the front end of the nuclear fuel cycle (uranium chemistry and enrichment) and the back end of the fuel cycle (used fuel treatment, waste management and decommissioning).

The business unit provides four types of services to meet customers' global needs:

- process engineering: development and industrial application of processes developed by the CEA and COGEMA,
- engineering for construction: design and construction of commercial nuclear facilities,
- engineering services: operator support for upgrades and modifications to existing facilities,
- engineering for decommissioning project management for decommissioning operations following final facility shutdown.

The Engineering business unit conducts business in every country with nuclear power programs through its operating units in France and in the United States.

The nuclear fuel cycle is currently characterized by a high percentage of engineering studies and a relative decline in equipment supply. Turnkey contracts are scarce. Key selection criteria for customers in search of engineering services are cost-effectiveness, proven processes and technologies, and superior safety and technical performance.

In France, the AREVA group continues to be the Engineering business unit's primary market. Internationally, the business unit has been active in Asia, North America and Europe for many years, whether for major projects of strategic interest to the group or for more focused projects.

Outside of the group's affiliates, the Engineering business unit's main customers are the CEA, EDF and Andra in France; JNFL in Japan; the DOE in the U.S.; AECL in Canada; and the Nuclear Decommissioning Agency in the United Kingdom.

Competition is plentiful, although region-specific. The main competitors are:

- in France: Thalès Ingénierie and Comex (Onet group), as well as local engineering firms;
- in Europe: BNFL and RWE Nukem;
- in the United States: Bechtel, Fluor Daniel, Washington Group Inc., Jacobs;
- in Japan: the big "makers" – MHI, Toshiba and Hitachi – and JGC.

It is difficult to provide a market assessment because, paradoxically, the market for engineering services is a narrow one and highly oriented towards the back end of the fuel cycle. In fact, the market is limited to the major projects listed above (Mox). Other projects relate primarily to used fuel and waste management or to decommissioning, and are treated as operating costs (waste) or as drawdowns of provisions by the customer.

4.6.4.5. Operations and key events during the year

Overall, business was down in 2003. A variety of situations account for this downturn.

In the United States, where the Engineering business unit provides support to the US Department of Energy, sales were up. Work continued at a high level on design and licensing of the US Mox fuel fabrication plant in connection with the US program for disposition of defense surplus plutonium. For the Yucca Mountain Project, the Engineering business unit participated in design studies for the surface facilities of the future used fuel repository under a subcontract with Bechtel SAIC.

In Japan, the Engineering business unit provided support for the chemical testing phase of the JNFL treatment plant in Rokkasho Mura in preparation for startup.

In Europe, the Habog facility in the Netherlands, a mixed nuclear waste and fuel storage facility designed and built by the Engineering business unit, was successfully started up. In addition, the business unit continued engineering work for Andra on the deep radioactive waste repository in connection with the latter's site selection program, pursuant to French waste legislation passed in 1991.

4.6.4.6. Customer relations

Projects are generally performed under conventional cost-plus or fixed price contracts for a range of services, from engineering to turnkey facilities.

The Engineering business unit works directly for nuclear facility operators and as a subcontractor. The business unit also works for the European Commission on projects in Eastern Europe.

In the back end of the fuel cycle, some of the business unit operations are performed under long-term transnational agreements for technology transfer in critical fields. In summary, the business unit is a partner for commercial nuclear facility operators, directly or indirectly, in France and abroad.

4.6.4.7. Outlook and development goals

The Engineering business unit will work to increase its cost-competitiveness while pursuing its ongoing cost-reduction programs to compete in its markets. Strategically, its objective is to deploy its know-how at the international level in support of nuclear fuel cycle operations by positioning itself as the leading vehicle for technology transfer from the group. Its activities will be primarily oriented towards waste management and facility decommissioning technologies.

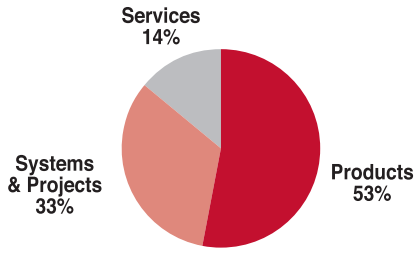
≫ 4.7. Transmission & Distribution division

Key data

AREVA's acquisition of the Transmission and Distribution division became effective on January 9, 2004. Financial data for the division is therefore not included in AREVA's 2003 financial statements.

(in millions of euros)	2003[1]	2002	2001
Sales	2,859	n/a[2]	n/a[2]
Employees as of year-end	21,805	n/a[2]	n/a[2]

2003 sales by business



4.7.1. Business lines

The T&D division supplies equipment, systems and services to medium and high voltage energy markets. Its products are used to transmit and distribute electricity from the power plant to the final user while managing information flows and ensuring reliable, safe, high-quality power distribution and efficient electric grid operations.

4.7.2. Market, competition and position

4.7.2.1. Business growth factors

Four main factors drive market growth in the T&D industry, discussed below.

Electricity demand and generation

Constant growth in electricity demand and generation is driving the need for increased network capacity to transmit and distribute power from the generating plants to the end-users. These upgrades involve strengthening existing networks or expanding them with new power lines and substations. Capital expenditure in electric generating capacity translates into investment in new transmission and distribution capabilities about two years later. The steady growth in electricity demand of 2 to 3% per year will contribute to stable growth in the global T&D market in the coming years.

Quality of electric networks

Transmission and distribution networks are the nerve centers of power supply systems. Significant upgrades are required in many regions of the world. Existing infrastructure is aging and should fuel continuous demand for T&D products and services. Other factors contributing to network-related investment include an increased focus on power distribution safety, quality and reliability, and additional capacity requirements in certain transmission corridors.

Deregulation

The deregulation process has reached worldwide proportions. Ten years ago, only three markets were deregulated. Today, 60% of the world's electricity is generated in a competitive environment.

In developed countries, electric companies are seeking transmission cost reductions and improved transmission and distribution network quality. In addition, market deregulation is triggering an increasing need for inter-regional and international electric power transmission. The original interconnection systems were not designed for that purpose, and modifications or upgrades will most likely be required.

In nations where transmission and distribution networks are still under development, deregulation is a means of developing networks by attracting private investors.

Environmental factors

Concerns regarding the visual impact on the environment of new electricity transmission lines have inspired the development of technical solutions to upgrade existing infrastructure capacity without building new power lines.

4.7.2.2. Market segmentation

The T&D market consists of electricity transmission and electricity distribution. Transmission involves transporting electricity generated by the power plant over long distances and at voltages ranging from 52 kV to 800 kV. Distribution involves delivering medium voltage (1 kV to 52 kV) to local low voltage distribution networks.

Transmission

Transmission is a €11 billion per year market worldwide, with 3 to 4% growth expected over the next four years. Growth is expected primarily in North America and in Asia, especially China. Virtually all of the demand for transmission comes from integrated electric utilities and electric companies specialized in transmission.

Distribution

The distribution market is estimated at around €15 billion per year. Annual growth of 3% is anticipated over the next four years, with North America and Asia expected to have the highest growth rates. Customers include electric utilities and the

(1) Representing 26% of AREVA's consolidated sales. This pro forma data has not been audited. Some activities (e.g. Indian and Pakistani operations) are being transferred and are not included in the 2003 data.
(2) This business was purchased in early 2004 and the financial statements were drawn up for the calendar year for the first time in 2003. The fiscal year ended on March 31 in previous fiscal years.

industrial sector, as well as numerous medium voltage systems integrators and installers that do not manufacture the products themselves. The industrial sector makes up 60% of the demand for distribution and electric utilities account for the remaining 40%.

In the industrial medium voltage market, the T&D division has identified the following promising industries:

Industry	Market size
Chemicals, oil and gas	€2.5 billion
Mining and metals	€2 billion
Transportation and infrastructure	€1.2 billion

New markets for intelligent solutions

Intelligent solutions are integral to the global transmission and distribution market and include:

- Substation automation and control systems: data acquisition, substation monitoring and control through a broad range of high and medium voltage protection relays and control and measurement instrumentation;
- Network management systems to control information flows;
- Market management systems to process financial data;
- Decentralized power generation systems;
- High voltage direct current (HVDC) power lines.

This market is estimated at €7 billion per year, with 6% growth expected over the next years, fueled by energy deregulation and greater awareness of environmental factors. Electric utilities represent the bulk of demand in this market.

High value-added services

The power transmission and distribution market includes installation, start-up, repairs and high value-added services, such as network maintenance and repair. Demand for these services reflects the need for companies to outsource operations that are not their core business. These services include:

- Services on products: repairs, replacement;
- Network engineering;
- On-site services: operations, maintenance;
- Asset management services.

The market for high value-added services is estimated at €3 billion per year. Annual growth of around 5% is expected. The actual growth rate will depend on how successful suppliers are in persuading power companies to increase their outsourcing. At this point in time, industrial customers are more receptive than electric utilities to these types of service offers.

Market size

The global T&D market is estimated at €36 billion, divided as follows:

Conventional T&D market *(in billions of euros)*	
Products	14
Systems	9
Services	3
Total	**26**

New T&D markets *(in billions of euros)*	
Intelligent solutions	7
High value-added services	3
Total	**10**

4.7.2.3. Global ranking of T&D division

AREVA T&D ranks third worldwide in terms of sales and is close behind the second-ranked company.
In particular, AREVA T&D is:

- Number 3 for medium voltage products;
- Number 2 for high voltage products;
- Number 1 for electric power market management software.

4.7.2.4. Competition

Three companies dominate the transmission and distribution market: AREVA T&D, ABB, and Siemens. Combined, these companies represent 36% of the world market. Among other players, VA Tech focuses mainly on high voltage, while Schneider Electric competes on the medium voltage market to supplement its low voltage operations. Japanese companies TM (a Toshiba/Mitsubishi joint venture) and JAEPS are regionally focused.

The high voltage market is much more concentrated than the medium voltage market, which includes numerous local companies and intermediate players, such as panel builders and installers.

4.7.3. Customer base

The T&D division serves 30,000 customers around the world. The market may be segmented into the five categories of customers set forth hereunder.

4.7.3.1. Integrated electric utilities

Integrated electric utilities control all of the processes needed for electricity generation, transmission and distribution from the power plant to the end-user. T&D's utility customers are all over the world, including Sonelgaz in Algeria, ONE in Morocco, Dewa in Dubai, Wapda in Pakistan, EGAT in Thailand, Vattenfall in Sweden, CFE in Mexico and Eletrobras in Brazil.

4.7.3.2. Electric power transmission companies

Deregulation is triggering the separation of power generation, transmission and distribution operations. Power transmission companies are the first to form, such as NGT in the UK, Transelec in the U.S., and RTE in France. In some countries, these companies may balance power supply and demand.

4.7.3.3. Electric power distribution companies

Distribution companies deliver electric power to the end-user. They can be private companies or owned by local municipalities.

4.7.3.4. Industrial customers

Some high-user industries – Arcelor, Chevron, Aluar, Alba, Volkswagen, Walmart, etc. – rely on T&D division expertise for their site power supply.

4.7.3.5. Infrastructure companies

Areva T&D also provides turnkey electrification to owners of large infrastructure projects, such as airports or railway systems.

4.7.4. Business lines

The T&D division has three business lines organized into six business units that offer a complete range of products and services to its customers:

- The Products business line includes the High Voltage Equipment and Medium Voltage Equipment business units;
- Services are offered through the Services business unit;
- The Systems and Projects business line includes the Transmission Projects business unit and the Distribution Systems business unit.

The Automation and Information Systems business unit provides support to all three business lines.

4.7.4.1. Products

Businesses

T&D designs, manufactures and delivers a complete range of products covering every stage of electric power transmission and distribution:

- high voltage equipment to regulate, interrupt, transform and dispatch electric current throughout the transmission network. T&D high voltage products include:
  - conventional equipment,
  - shielded substations,
  - instrument transformers,
  - power transformers;
- medium voltage equipment to regulate, interrupt, transform and dispatch electric current throughout the distribution network before it is reduced to low voltage for end-users. T&D medium voltage equipment includes:
  - compact transformer substations,
  - distribution transformers,
  - circuit breakers,
  - load break switches,
  - disconnecting switches,
  - engine starting cells,
  - lightning arrestors;
- network automation, safety and control equipment:
  - safety equipment for medium voltage and high voltage electric networks,
  - control instruments for electrical substations,
  - power indicating instruments,
  - monitoring and control systems for electrical substations,
  - control systems for secondary distribution networks.

The key strengths of the Products business are its research and development expertise, its understanding of changing customer requirements, quality management and optimized production site operations.

Manufacturing capabilities

As part of its global strategy, T&D has expanded its manufacturing capabilities for power transformers, instrument transformers, high and medium voltage instrumentation, and safety relays in several target countries: China, India, Brazil, Turkey and the United States.

2003 operations and highlights

Strong product performance ranks the T&D division second worldwide in the high voltage market and third in the medium voltage market. The Products business line represents half of the division's sales.

To reduce operating costs, AREVA is presently reorganizing its manufacturing operations. The T&D division is working to improve the performance of its European plants and to strengthen its manufacturing plants worldwide. The group is also opening procurement offices in low-cost regions and streamlining its product portfolio.

In 2003, the Products business confirmed its market positions, winning prestigious orders such as a second 500 kV power line protection project in China.

4.7.4.2. Services

Businesses

In addition to product-related services, the T&D division provides network management services, operating support and maintenance services. T&D offers medium and long-term contracts covering the entire life cycle of its customers' electric power systems:

- Network engineering, consulting, training, transmission and distribution expertise;
- Long-term product and substation maintenance contracts;
- Repair services, spare parts and product start-up services;
- Electrical substation upgrading and refurbishing;
- Information technology support for network management systems and safety/control products.

The key strengths of the Services business are a keen understanding of its customers and the T&D products they use, the ability to supply products and related services, quick troubleshooting turnaround times, and project management expertise.

Manufacturing capabilities

The Services business operates in 17 countries and every region of the world. Each country serves neighboring markets to ensure speedy response times at a competitive cost. This geographic organization is mirrored by a globally oriented management structure that ensures knowledge transfer, process sharing, and the development of new solutions.

2003 operations and highlights

The Services business, representing over 10% of T&D division sales, offers a very broad range of services. Currently, for example, it is providing network engineering to British operator National Grid Transco (NGT) in partnership with the Transmission Projects business unit. It is also performing on several maintenance contracts in New Zealand (transmission networks), Kuwait (substations) and the United Kingdom (periodic maintenance and repair of electric distribution networks).

The group is bolstering its presence in its traditional markets of France and Germany. Business development continues in Mexico, China and Dubai. The restructuring of operations in the United Kingdom and Brazil is contributing to enhanced efficiency, and the Services business is harvesting synergies with other group affiliates.

4.7.4.3. Systems and Projects

Businesses

The Systems and Projects business unit offers turnkey projects and electric network operating systems. Customers turn to the unit for substation engineering experience, electric network expertise, command of advanced technologies and T&D products, and project management know-how.

AREVA T&D supplies:

- High voltage and medium voltage substations;
- Power electronics for direct current substations and systems to increase existing network capacity and quality;
- Operating systems for transmission and distribution networks;
- Electric power market management systems.

The Systems and Projects business unit's key strengths are technology and applications expertise, particularly in power electronics, know-how in real-time management of electric power flows, understanding the customer’s technical and economic issues, and partnerships with suppliers.

Manufacturing capabilities

Local units with engineering and project management resources are based in Asia, the Middle East, Africa and the Americas. These local operations provide a valuable interface with the customer and competitive manpower costs.

2003 operations and highlights

AREVA T&D is one of the top three providers of electric power projects and systems worldwide and has a highly diversified portfolio of projects.

In transmission, AREVA T&D is contributing its direct current technologies (HVDC) to improve undersea power transmission capacity between the Danish and Swedish grids. T&D is also building several substations in the Persian Gulf region and the first shielded 400/200 kV substation insulated with SF6 in Algeria. The group offers numerous innovative products such as the UniLox substation, a compact prefabricated unit that uses up to 80% less space than conventional subsystems, reducing site preparation requirements and environmental impacts.

In distribution, T&D is electrifying the upper section of an offshore platform off the coast of Nigeria and is revamping the distribution network in the Oran region of Algeria.

In network operating systems, T&D has been asked to improve grid management and control systems for part of the U.S. network. This project is critical to ensuring a perfectly controlled power flow in a market open to competition. With its grid overload management systems, the customer will be able to match electricity demand with transmission capacity, thus ensuring effective and continuous power delivery.

4.7.5. Human resources

4.7.5.1. Key data*

As of year-end 2003, T&D employed approximately 22,000 employees on six continents. Personnel by country/region was as follows:

France	22%
Germany	12%
United Kingdom	8%
Other Europe	16%
North and South America	13%
Middle East and Africa	1%
Asia	20%
Pacific	8%

Employees by business/activity was as follows:

Products	54%
Projects and Systems	24%
Services	14%
Sales network	8%

** Including operations currently being transferred.*

Most employees are male (85%); about 30% of them are engineers and managers. This percentage is higher in the Systems business than in the Products business.

4.7.5.2. Highlights and outlook

The past two years have seen a significant number of employee reassignments with implementation of the marketing and manufacturing strategy to standardize products, streamline production and enter new markets.

Several production units had to reduce staffing levels significantly or even shut down, particularly in Europe. In all instances, T&D implemented appropriate social measures to mitigate the impact on individuals concerned by these restructuring plans.

Under this plan, the division's technical expertise had to be strengthened in three areas:

- sales force management: technical training of sales representatives continued while new training programs were introduced to improve sales of increasingly complex solutions,
- project management: core competencies and specific expertise were mapped to assess available resources and to train as needed to meet objectives,
- technical expertise: a network of experts was established in 2002, and tools and processes were introduced throughout 2003 to manage and support these highly qualified employees. For example, at the first worldwide convention of T&D experts held in September 2003, workshops identified ways of increasing expertise, including nurturing skills and greater recognition of the pool's contribution. Specific action was initiated in 2003 and will continue in 2004.

Management skills are also being developed, with training programs focusing on leadership and coaching supplemented with more systematic implementation and monitoring of performance management processes. The goal is to improve management performance at T&D, still perceived as uneven in a survey of all management personnel performed in late 2002.

These changes are expected to continue in 2004. One of the year's biggest challenges will be the division's integration with AREVA. The AREVA Values Charter and the AREVA Way program will provide clear guideposts for integration by creating a common language and establishing shared values and objectives.

4.7.6. Suppliers

Production and non-production procurement represents almost half of AREVA T&D's sales revenue. The division's purchasing organization is based on the Key Commodity Management system, which allows division-level procurement of major items for all business units. It also enables AREVA T&D take advantage of the volume effect and gives it access to world-class suppliers.

In addition to cost, the division focuses on supplier quality and commitment to deadlines. For production procurement, the strategy is based on key sourcing leverage criteria: globalization, procurement in low-cost countries, standardization and early procurement department input during new product development. Techniques such as e-procurement and e-purchasing support this strategy.

4.7.7. Research and development

4.7.7.1. Key technologies

Electric insulation, conduction, and electric power interruption management

In the area of materials, the T&D division monitors technology development and conducts research to integrate new materials

into its products. Power interruption management is one the division's key applications; T&D is participating in fundamental research that could lead to innovation in this area. AREVA T&D protects its applications and does not rely on licenses from third parties to use its technologies.

Power systems and equipment

This area is clearly the core business of the T&D division, which has expertise in every aspect of the technologies involved. The division's R&D operations are comparable to those of its competitors and the risk of being outpaced in the technology arena is negligible.

Power electronics

T&D monitors technology development in this area and is participating in European programs on silicon carbide, the most promising material for very high voltage applications. R&D programs focus on systems integration of the components and on developing control strategies and codes.

Digital controls and information systems

Together with power electronics, this area is an increasingly important part of the customers' capital spending budget, though still the minority. T&D controls all of its applications and targets technologies that are key to its businesses in its technology development monitoring programs. T&D is the technology leader in power network information systems and actively participates in research initiatives, especially in the United States. The risk of losing business to a competing innovation is very limited and, in this product line, always temporary.

4.7.7.2. Research and development policy

As a percentage of sales, the division's R&D spending is comparable to that of its competitors. Approximately 10% of this amount is dedicated to technology development monitoring. T&D has full control over its technologies and does not rely on licenses from third parties for the majority of its operations. Innovation is growing steadily and the risk of a technological breakthrough that significantly impacts market positions remains very theoretical.

Main programs

R&D programs have three main thrusts:

- Improve product performance and functionality in an environment of rapidly falling costs;
- Multiply solutions and services allowing our customers to focus on their core business;
- Participate in developing the energy systems of the future and in perfecting new materials.

R&D centers

These centers include research centers as well as centers of excellence. Some 20 centers of excellence throughout the world develop products and systems for our commercial platform. Another 20 units customize products to meet region-specific requirements. Four research centers in France and Great Britain focus on longer-term projects concerning systems and materials.

Partnerships

T&D is working on short-term and long-term projects with over 40 universities and research laboratories in Europe, the United States and Asia. Several programs are government funded, including those of the European Community, the U.S. Department of Energy and the U.K. Department of Trade and Industry.

2004 Programs

In 2004, programs will focus on strategic requirements and environmental protection:

- Replacement and rejuvenation of facilities;
- Price reductions caused by deregulation;
- Broadening the range of solutions and services.

4.7.8. Outlook and development goals

AREVA T&D is a major company in its markets. The division's success relies on several factors:

- A very broad installed equipment base;
- Preferred access to customers and long-term relationships;
- Strong technology content.

The division and its market environment are in the process of change:

- T&D was built through a series of European acquisitions. Their integration must be brought to completion;
- Customers are changing their procurement processes and expressing new requirements;
- High-growth markets are located outside Europe, with growth especially strong in China and India;
- Demand for network improvement is growing in North America;
- Margins are under increasing pressure.

To ensure the division's success, AREVA has launched a comprehensive strategic review. The objectives are to focus T&D on its core businesses and markets while improving profitability. The strategic review will address:

- Strategic realignment:
  - market review (customers),
  - business lines review (products / projects),
  - restructuring of production resources (production centers / capacities).

- Operating performance:
  - cost reductions,
  - procurement optimization,
  - productivity enhancement.

- Organizational efficiency:
  - organization adaptation to changing markets (products, systems, services),
  - harvesting synergies.

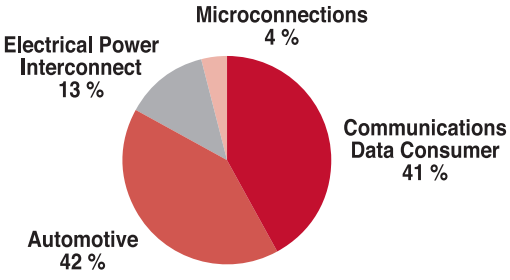
≫ 4.8. Connectors division

Key data

(in millions of euros)	2003	2002	2001
Sales	1,338	1,560	1,966
Operating income before restructuring costs	21	(137)*	(181)*
Employees at year-end	12,211 people	14,015 people	15,259 people

** The division's operating loss after restructuring costs was -€114 million in 2003, -€406 million in 2002 and -€235 million in 2001.*

2003 sales by business unit



Overview and objectives

Technology

The connectors business is defined as the combination of technologies and processes needed to design and manufacture passive components called "connectors", which are used to transmit electrical or optical signals from a cable to a piece of electrical or electronic equipment, or from one printed circuit board to another.

Fundamentally, a connector consists of metal contacts that transmit the signal. The contact may be connected either to the end of an electrical wire, which is usually copper-clad, or to a card bearing electronic components. The contacts on any given connector are insulated from one another by the plastic insulation that holds them in place. The metal contacts thus assembled in their electrical insulator constitute the connector.

The Connectors division makes several billion electrical contacts a year that typically sell for €0.01 to €0.04 apiece. These contacts are usually protected with gold or tin coatings to ensure their electrical quality and to maximize the number of times the connector may be inserted without altering its performance.

Several hundred million cover squeeze-ons are manufactured annually, generally of plastic, and can be sold separately to cable makers, who then crimp their own contacts and insert them into housings for the auto industry, or are manually or automatically assembled by the division, depending on the production run. These connectors or connector parts are sold at prices ranging from a few tenths of a euro to several euros each.

The connectors business today is in the midst of major technological breakthroughs, particularly miniaturization, higher transmission speeds, and systems utilization requirements spanning a wide range of temperatures, all with a minimal failure rate.

As a consequence, connector manufacturers must constantly innovate, primarily through research and development combined with aggressive patenting of inventions, and this as the product life cycle continues to shrink.

The AREVA Connectors division and its manufacturing resources

FCI was founded in 1989, is wholly owned by AREVA, and is the group's fifth division. The division contributes 12% to AREVA group sales [1]. It is ranked third worldwide, after second-ranked Molex. However, global industry leader Tyco far outranks its competitors, with sales nearly three times as high. The market is highly fragmented among a thousand players. This figure has been relatively stable over the past ten years, as new players continuously replace those who withdraw or merge.

A great deal of demand is shifting to Asia, which is attracting ever-increasing numbers of major electrical and electronics

(1) After the integration of T&D at the beginning of 2004. Pro forma data non audited.

manufacturers seeking to lower their labor costs. The largest players can decide at any time to boost their competitive edge by moving their production overseas. They are generally followed by their competitors and by smaller players, who must similarly lower their costs in order to compete effectively. With this as a backdrop, the division completely restructured in 2002 and 2003, ending the year with some thirty plant sites equally distributed among North and South America (down), Europe (down) and Asia-Pacific (up). The division's products are distributed in 80 countries.

The division continued to invest in critical R&D, with a portfolio of over 9,000 patents growing at a rate of 150 to 200 new patents a year.

4.8.1. Communications Data Consumer business unit (CDC)

4.8.1.1. Key data

(in millions of euros)	2003	2002	2001
Sales	533	616	986
Employees at year-end	6,003 people	6,824 people	7,750 people

4.8.1.2. Businesses

The Communications Data Consumer business unit designs, manufactures and supplies board-to-board, board-to-cable and input/output connectors for most telecom, IT, consumer electronic and industrial electronic applications.

4.8.1.3. Manufacturing capabilities

The Communications Data Consumer business unit's technical centers and production plants spanned three continents in 2003, with four in Europe, three in the United States and six in Asia. The development centers are located in France's Sarthe department, Valley Green in the United States, Den Bosch in the Netherlands, Cochin in India, Ishioka in Japan, and in Taiwan and Singapore.

4.8.1.4. Market, competition and market share

The Communications Data Consumer business unit has traditionally been one of the leaders in its target market segments, mostly due to strong positions in telecommunications, a potentially large market that accounts for the largest share of the division's sales. However, this business represented only 40% of the Connectors division's sales in 2003, compared with 39% in 2002, 51% in 2001 and 65% in 2000. The IT and telecom market has been in a deep recession since 2000. The Connectors division has not lost market share in this segment, but its sales have naturally followed the sharp decline in global demand. A market recovery seems indicated in the second half of 2003.

The mid-term outlook looks favorable, going by initial indicators of worldwide economic recovery. In the market segments concerned, the CDC business unit is moving towards subsegments in telecommunications (data and access networks) and information technology (PCs, servers, storage devices). It is also turning to consumer electronics (mobile/cell phones, digital cameras, flat screen devices, computer communications, DVDs) and industrial electronics. In 2003, the accessible electronics market was an estimated $13.5 billion. CDC holds a 3.5% share, behind Tyco and Molex, and Foxconn in Taiwan. (Source: Bishop).

The following table breaks out the sales of the four principal segments.

2003 sales of the Communications Data Consumer business unit

User sectors	In percent of 2003 sales
Telecommunications (switching & routing, transmission systems, hardwire and cordless access, local telephone networks)	38.0
Information technology (PCs, servers, storage devices, peripherals)	36.8
Consumer products (mobile/cell phones, DVD/CD players, video games, TV decoders, video cassette players, modems)	14.0
Industrial electronics (medical, instrumentation and control)	11.2

Source: AREVA

Because of their strong synergies in terms of technical definition, products for these four user segments are grouped within the CDC business unit. This involves pooling distribution networks and technical design. The products require the same technology and the same capacities, and they have similar manufacturing processes that use identical materials and the same machinery.

In the area of telecommunications infrastructures and servers, the CDC business unit has a competitive advantage with its AirMax VS technology, which can send high-speed signals at more than 10 gigabits per second.

4.8.1.5. Operations and key events during the year

The business unit is optimizing its production resources. Restructuring plans resulted in several site closings in 2003 accompanied by layoffs. Several production lines in the United States and Europe were relocated to Asia, where 50% of operations are now conducted, compared with 25% in 2000.

The sale of FCI's Cable and Assembly business to Sanmina is indicative of FCI's current strategy: to focus on its core business of connectors for the telecommunications, information technology, consumer products, automotive, industrial, and energy markets.
CDC is reorganizing to transition from a regional outlook to a global structure focused on market development, streamlined accounts, new product development, and integrated supply chain management.

To focus on strategic accounts, CDC is stepping up globalization of its distribution network with Arrow, Avnet and TTI. These distributors are known to have the infrastructure and know-how necessary to manage a large number of accounts and are now in charge of some of the business unit's small and medium-sized accounts.

The CDC business unit is also signing agreements to develop new high-tech products with its competitors. For example, the division entered into an alliance with Tyco Electronics to secure co-development of next-generation high-speed connectors (GIG-Array, among others) and offer an alternate source of supply. The partnership will pool expertise from both companies to jointly market new high-speed products from two different supply sources. This agreement will help the companies improve product time-to-market in a highly competitive environment, yet meet the needs of customers looking for several different suppliers.

CDC expanded the licensing agreement for its BGA technology to include Samtec in addition to Tyco and Molex. The agreement gives Samtec specific utilization rights for the division's patented BGA technology for an application to BGA microprocessor connectors.

Following the telecommunications crisis, CDC is positioning itself in other market segments. By entering the information technology market and bolstering its presence in consumer products, it will be able to acquire IT market share with new products (SATA, the NewCard and Mini PCI Express product families, next-generation docking connectors, etc.). Capitalizing on its miniaturization technology, CDC is developing new products for the growing digital and flat-screen device market in cooperation with strategic international customers. The division has also launched a new platform for high-speed backpanel connectors using AirMax VS technology designed specifically for the IT and telecom markets.

4.8.1.6. Customer base

Original equipment manufacturers (OEMs) account for one-third of the Communications Data Consumer business unit's sales, and electronic manufacturing service (EMS) suppliers and original design manufacturers (ODM) for half. This break-out illustrates the trend for outsourced manufacturing that began a few years ago. The remainder of sales goes through distributors. The business unit's leading OEM customers are Ericsson, Lucent, Nokia, Alcatel, Nortel, NEC and Cisco. Its main EMS customers are Solectron, Flextronics, Celestica, Sanmina and Jabil. In the IT sector, key customers are Dell, IBM, HP-Compaq, Intel, Samsung, Seagate, Western Digital and Hitachi. Consumer electronics and industrial electronics are sold to Motorola, Samsung, Siemens, Philips, Thomson, Nokia, Schneider, Alstom and ABB.

4.8.1.7. Human resources

The restructuring plan implemented in 2003 has resulted in a 12% reduction in the workforce. The business unit is relocating part of its production to low-cost areas such as China or India. The relative size of that production is increasing for the segments it serves.

4.8.1.8. Suppliers and raw materials

Most of the materials that the Communications Data Consumer business unit uses (particularly plastics and metals, especially copper-clad metals) may be procured without any particular risk from several suppliers.

4.8.1.9. Research and development

The Communications Data Consumer business unit's R&D strategy is to continue to make a major effort to remain on the cutting edge of technology and to offer innovative and competitive solutions, despite the difficulties affecting the telecom-IT sector.

The business unit has seven development centers employing more than 300 engineers in three regions of the world: in the United States, France, the Netherlands, India, Japan, Taiwan and Singapore.

To keep pace with the market's technological challenges, the business unit concentrated its 2003 R&D efforts on:

- connectors for high-speed transmission systems of 10 Gbits per second,
- board-to-board connectors using the business unit's patented technology,
- miniaturized products for the consumer product market,
- methods of reducing the gold content in connectors (NXT coating technology).

4.8.1.10. Outlook and development goals

Technology trends

The trend is still towards smaller, faster, and cheaper interconnection solutions. Electronic component assembly costs will continue to decline, and connector manufacturers will have to offer targeted solutions for their systems integrator customers.

Transmission speed is another challenge that will require new feats of technology. The Communications Data Consumer business unit has developed characterization and design support techniques for printed circuit boards for OEMs and EMSs.

The products of the future must also be user-friendly. Consumers are inundated with cables and connectors, especially in developed countries. Emerging technologies will accelerate the widespread use of wireless technology, particularly Bluetooth and WIFI. Bluetooth can be used in PCs for wireless keyboard and mouse, or for telephone/laptop computer communications, while competitor WIFI, with its higher transmission rates, is used for HS Internet communications. These technologies should have the effect of adding certain connectors, such as PCMCIA cards, and eliminating others. The use of Intel's Centrino wireless microchip in microprocessors, for example, makes some connectors unnecessary. These systems contain fewer connectors by definition, but they offer other possibilities with the growing share of wireless network applications (local radio broadcasting).

Along these same lines, the trend for connector installations (i.e. cable layout plans) is towards greater simplification and flexibility for the user. This is already the case in the automotive market, for which the business unit is also a supplier. The boom in embedded communications systems in that market is another growth engine for the business unit. Its high degree of synergy with the Automotive business unit should help the Communications Data Consumer business unit win new markets.

Technological breakthroughs have been made, notably with the shift to very low voltage signals shielded from internal and external electromagnetic effects. Demand is moving towards a distinction among extremely low signals, undesirable noise, and the interference that is present everywhere in transmission channels. These different techniques for protecting signal integrity constitute a new technological challenge.

Market and sales

It is not possible to make short-term sales forecasts. The segments involved – telecommunications, information technology and consumer products – are closely tied to the world economy and consumer/operator confidence, and the response times are very short. Taking exchange rate fluctuations into account, CDC recorded growth in the second half of 2003 compared with last year. This is rather encouraging news for 2004.

Over the long term, equipment requirements in these segments will continue to be considerable, and will require products that perform even better in an environment of fierce price competition. The market's structural move from Europe and the Americas to Asia will continue as manufacturers adapt to the consumer multimedia transmission boom, with sales to CEMs rising at the expense of sales to OEMs.

4.8.2. Automotive business unit

4.8.2.1. Key data

(in millions of euros)	2003	2002	2001
Sales	542	531	500
Employees at year-end	4,091 people	3,782 people	3,535 people

4.8.2.2. Businesses

The Automotive business unit designs, manufactures and supplies interconnection systems for the majority of the automobile's electrical and electronic applications.

Towards the close of the 1990s, automotive connectors gradually became one of the key components of a car's electrical and electronic systems. Initially limited to basic functions like lighting, automotive connectors have followed the advances in electronic components, providing comfort, safety and environmental protection in addition to electrical control systems [1].

Automobiles are increasingly complex products in which electronics were nearly absent 20 years ago. Electronics made a big entrance with the arrival of fuel injection systems. Today, the average vehicle contains at least three electronic control units containing up to thirty microprocessors. Luxury models have up to 120 electric motors. Similarly, the number of contact points has risen from a few dozen to over 2,000 per car, for some two kilometers of wiring. This has occurred despite multiplexing technology that transmits several signals through the same harness.

The pervasiveness of electronic and electrical control systems in modern vehicles has enabled the Automotive business unit to focus its innovations on this market and to go beyond supplying simple products to offer complete connection systems.

The three main segments in which the Automotive business unit operates are:

(1) Estimates are that 17% of a car's production cost goes into electronics, about the same as for its mechanical components. This proportion climbs to 30% in luxury vehicles.

- connectors for electrical distribution systems (EDS), based on standards defined by car manufacturers, which represents around 60% of the business unit's sales;
- connectors for airbags and safety restraint systems (SRS), which constitute a fast growing market due to their proliferation in all classes of cars;
- connectors integrated into electronic control units (ECUs) and sensors.

4.8.2.3. Manufacturing capabilities

To ensure proximity with the world's major carmakers, the Automotive business unit has concentrated its manufacturing plants in the world's principal regions with:

- 6 plants in Europe,
- 3 plants in North America,
- 1 plant in Brazil,
- 1 plant in South Korea, which also supplies the Japanese market.

The manufacturing plants in each of these regions possess the key processes needed for automotive connector design and manufacture, particularly high speed stamping machines, precision molding lines for plastics and inserts, and component assembly equipment.

4.8.2.4. Market, competition and market share

The global market for automotive connectors is estimated at €6.2 billion per year [1]. The Automotive business unit ranks fourth in the market [2] with a market share of 8%. The world market for light-duty vehicles in 2003 was up moderately, by 1.7%, due to steady growth in emerging countries that offset declining sales in North America (down 1.2%) and Western Europe (down 2.2%). The auto market has traditionally grown at an average rate of 2% a year over the past 30 years.

Despite a steady drop in prices of some 3% a year, demand for automotive connectors continues to increase moderately. Some segments are more buoyant, such as connectors for airbags and electronic control units.

The automotive connectors market is one of constant technological change, mainly due to more stringent requirements for safety, comfort and communications [3].

The market segments and competitive landscape can be summarized as follows:

- the electrical distribution systems (EDS) segment, where the Automotive business unit ranks fifth. Although growth is limited, it is a key segment for the access it provides to the other core businesses;
- the electronic control unit (ECU) segment, where the Automotive business unit also ranks fifth;
- the safety restraint systems (SRS) segment, which has the strongest growth, where the Automotive business unit ranks number one worldwide with a third of the market, ahead of Tyco and Amphénol.

4.8.2.5. Operations and key events during the year

The business unit has advanced in all three segments in which it operates. Growth was achieved not only with established customers, but also in new segments, particularly through major contracts for ABS systems in North America for mold-in connectors (GM OPEL), and new generations of squib connectors for airbags and flex connection systems for automatic transmissions at Hyundai.

Bolstering the business unit's position in Japan, the strategic partnership with MCIL has entered an active phase with the realization of a first joint development project, and prospects are on the horizon for new Mitsubishi and Renault/Nissan platforms. As the shakeup and globalization of the automobile industry continues (Renault/Nissan, Daimler/Chrysler, etc.), carmakers are looking for suppliers who are equally global, and this approach is in response to that need.

In terms of products and technologies, the Automotive business unit has developed new generations of miniaturized connectors and is introducing technologies borrowed from the telecommunications sector (Pressfit) into applications for electronic control units, while continuing to pursue its work in new architectures (mainly flex and fiber optics).

The business unit has also continued to relocate business lines to countries with low-cost labor in every region of the world, including Hungary, Mexico, and China, where the business unit began manufacturing in 2003.

4.8.2.6. Customer base

The business unit's customers are mostly:

- manufacturers of electric cable harnesses for automobiles;

(1) A car's average connectors content is about €100 to €120, or 1,000 to 2,000 electrical contacts and 150 to 300 housings.
(2) Is ranked second in Europe, an enviable position for FCI insofar as European carmakers are trailblazers in terms of technology.
(3) The business unit formed a "Multimedia" segment in February 2003 to pursue this growth opportunity.

- manufacturers and suppliers of electrical cable harnesses/ systems and electronic control units;
- carmakers, which play a key role in setting their own standards for connectors and in choosing their preferred suppliers. The Automotive business unit is a partner of such major carmakers [1] as BMW, Daimler/Chrysler, Fiat, Ford, General Motors, PSA, Renault/Nissan, and VW.

In the electrical distribution systems segment, the main customers are cable makers such as Delphi, Yazaki, Lear and Valeo. In the electronic control unit segment, customers are mainly major parts manufacturers, such as Bosch, Siemens, TRW and Delco. In the safety restraint systems segment, most sales are to airbag module suppliers, such as Autoliv, TRW and Takat, or to companies that supply cabling to the module manufacturers.

In the airbag connectors and seat-belt restraints segment, the Automotive business unit supplies all of the world's carmakers except for Honda in Japan. Its patented technology is used in over 50% of the world's vehicles.

The business unit's largest customer accounts for a little over 11% of its sales, while its top ten customers make up 63% and its top 20 represent 77%.

4.8.2.7. Suppliers and raw materials consumption

Most of the materials used by the Automotive business unit, mainly plastics and copper, can be procured without any particular risk from several suppliers. No "exotic" material is used.

Suppliers are associated to the business unit's objectives by helping in particular to provide lower cost solutions to satisfy parts manufacturer and carmaker customers alike.

4.8.2.8. Research and development

Some upcoming technological challenges for automotive connectors are:

- Miniaturization: cables and connectors must be housed in ever smaller spaces, requiring a larger number of contacts carrying more and more low voltage electronic signals in any given surface area.
- Temperature: some connectors may now be required to work in temperatures in the range of 150ºC, which demands different coatings.
- Vibration: vibrations are a source of resonance for increasingly plentiful onboard computers and the connectors plugged into them.
- Power: connectors must deliver more power, for which the risk of electrical arcing must be managed.
- Signal integrity: as in aviation, interference between the vehicle's electronic components is a cause for concern, placing growing importance on equipment shielding.

In addition to the development of new connectors for cars on the drawing board, the business unit's R&D program aims to meet key time-to-market requirements: lower production costs, miniaturization and new technological and materials solutions for increasingly harsh environments, particularly with respect to temperature and vibration.

An increasing share of the R&D effort is covered by customer contracts for special product development. The proposed projects are carried out in keeping with the customers' long-term needs, often in the form of partnerships, thus minimizing the risk of misallocating R&D funds.

4.8.2.9. Outlook and development goals

The 2004 market forecast for the auto industry is an uncertain one due to the global economic situation. Worldwide automobile production is expected to increase only moderately, with the market flat in Europe and the United States.

To meet the technological challenge raised by the looming market for multimedia applications for the automobile, one priority will be to take advantage of the full range of synergies that exist with the Communications Data Consumer business unit by transferring the best technologies to the Automotive business unit and pooling some stages of product development.

One of the key objectives of the Automotive business unit will also be to improve its supply chain processes even more for better procurement and customer satisfaction.

The trend towards moving operations closer to growth areas is likely to continue worldwide.

In this regard, the Automotive business unit is focusing on:

- continuing to acquire new market share by further positioning itself as a global supplier of automobile connectors, and

(1) 40% of vehicle failures are electrical or electronic, with connectors or their cable harness integration being the leading cause. In light of this, carmakers that outsource production to the major connectors manufacturers write the technical specifications to ensure that reliability - a major issue - ultimately meets their expectations. Beyond the notion of reliability, the big carmakers especially want to standardize connectors as much as possible, control those standards, and prevent the proliferation of supplier standards.

• being recognized by its customers as a strategic, competitive and innovative partner.

4.8.3. Electrical Power Interconnect business unit (EPI)

4.8.3.1. Key data

(in millions of euros)	2003	2002	2001
Sales	165	200	244
Employees at year-end	1,570 people	1,641 people	1,873 people

4.8.3.2. Businesses

The connectors fabricated by the EPI business unit are quite different from other connectors in that they are used to transport electricity rather than signals. EPI connectors tend to be heavy (up to several kilos) and metallic. They are used by all major electric power companies in the generation, transmission and distribution of electricity. Industrial maintenance and construction sites and telecom equipment manufacturers around the globe are also major customers.

EPI's product platform was developed more than 20 years ago. Customer requirements are more for reliability and quality than for new technologies. The connectors must be able to withstand a temperature of 200°C on power lines, as well as freezes, snow, storms and similar constraints.

The demand for electrical products is driven by power consumption and infrastructure expansion. EPI is a worldwide supplier that sells primarily under brand names Burndy™, Malico™, SAAE™ and Racine™. Its products comply with the many electrical performance and facility standards in effect throughout the world.

4.8.3.3. Manufacturing capabilities

In the Americas, EPI sites are located in New Hampshire and Connecticut in the United States; Scarborough, Canada; Toluca, Mexico; and Sao Paolo, Brazil. In Europe, EPI has plants in Evreux, Nantouin and Fressenneville in France, and in Barcelona, Spain. The EPI business unit is also present in Yokosuka, Japan, and in Brisbane and Sydney, Australia, with sales and service centers in Singapore and in Hanoi, Vietnam.

EPI's R&D centers are located in Manchester, New Hampshire, in the U.S., in Evreux, France, in Barcelona, Spain, and in Yokosuka, Japan. All other sites have product line expansion groups that adapt existing products from other EPI design centers to local market requirements.

4.8.3.4. Market, competition and market share

The EPI business unit operates in a market segment that has no global industry reporting. Referring to market share is thus sheer speculation. EPI is either the third or fourth largest vendor in its product lines, after Tyco and possibly Thomas & Betts.

The Energy division of Tyco is EPI's only competitor on a global scale. Through an aggressive series of acquisitions following on the heels of the AMP acquisition, Tyco has become a generalist supplier of electrical connectors and electrical system components. Tyco is beginning to set up centers of competence for some electrical product lines and primarily caters to large accounts. It is not an active player in the wholesale electrical distribution market, particularly in the United States.

Thomas & Betts and Panduit are the leading competitors in the U.S., with a specific focus on compression connectors and cable management products. Neither competitor appears to be broadening their commercial platform to other subsegments or product families. Panduit does not supply the electric utility market for connectors.

Other competitors are national or regional in scope and tend to be niche suppliers in specific product lines or distribution channels.

4.8.3.5. Operations and key events during the year

The demand for electrical products is driven by power consumption and infrastructure expansion. Following the unprecedented dark years of electricity consumption, in 2000 through 2002, world demand picked up in 2003. Regional differences were very pronounced: industrialized countries experienced sluggish, though consistent growth, while the developing countries recorded spectacular growth with a proportionate increase in investment from abroad. The decline in business unit sales was due mainly to weak US and European electric distribution markets.

A number of commercial successes did brighten 2003, however. Schneider Electric's Square D division switched to the Connectors division's Burndy™ compression connectors for

all its new product platforms. It continues to modify existing current designs by product line and engineering department.

Arrow entered into a partnership with EPI to use EPI products exclusively. The new cooperative effort grew out of Arrow's strong commitment to the CDC business unit and EPI's marketing and sales efforts. Arrow also cross-referenced EPI products with those of Panduit and Thomas & Betts, and then placed a first order with EPI.

EPI carried out a "Tool-up" promotional drive in the United States. The campaign resulted in additional connector sales in the customer relations management market. The division's installation tools were offered as a way to boost connector inventories following the general decline in purchases by retailers.

Houston-based GE Industrial Systems chose to purchase its connectors from AREVA for its Burndy™ products.

In the telecommunications market, 2003 sales surpassed those of 2002, year-on-year. This bodes well for the recovery of EPI products in the telecommunications market, and the beginning of a return to growth.

The national grid ordered battery-operated hydraulic tools with custom-made insulated heads to improve safety for linemen. The order was a very large one in terms of volume and a major victory over the international competition in the areas of services, added-value design, and quality/price ratio.

EPI Europe also confirmed the trend for utilizing tubular lugs in electric circuits for automotive applications. The trend is to its advantage, and several customer projects have been launched.

In parallel, EPI is restructuring. The Marketing function was divided into sections specific to each market to bring it into alignment with the sales organization. A market study department was also created to provide a source of detailed information.

4.8.3.6. Customer base

EPI's customers are located around the world and are quite diverse. The main customers are players in the wholesale distribution market, with the largest absorbing nearly 8% of the business unit's total deliveries, although these sales are distributed among more than 300 sites in North America. As for the main end-users of EPI products, they are the key players in the global electric power generation markets; construction, maintenance and industrial sites; and telecommunications equipment.

Graybar is the main retailer for EPI products. This Western Electric legacy is a key factor in the telecommunications market. Graybar is a partner that cannot be ignored, as it is present in every market targeted by EPI.

Wesco is the second leading retailer after Graybar. It has a solid foothold in North America. It is the leading partner in the electric power generation market and is expanding into other segments. EPI Europe is also working with EDF in engineering and procurement. EPI is one of its main suppliers of overhead and underground power lines, power line ties and cable accessories.

Tokyo Electric Power was EPI Japan's first customer and product development partner for overhead line connectors and installation tools. This historic partnership is continuing with the development of new products.

CED is a large distribution network with more than 500 outlets serving the residential, commercial and industrial markets. CED provides EPI with a reliable sales channel that gives it access to a large number of builders and industrial sites of all sizes.

4.8.3.7. Suppliers and raw materials consumption

The raw materials used in EPI's connectors are aluminum, copper, and steel, mainly in tube, rod, ingot and extruded form. In North and South America, the main raw materials are copper and tubing, and products in the form of tubes, ingots and silicon bronze cables. For the European Transmission business, an increasing number of forged steel and cast gray iron products are purchased from Asia. In 2003, Japan depended heavily on low-cost countries for many products, a trend that should continue.

EPI selects suppliers based on total cost and service options. It plans to continue to use European and U.S. suppliers for essential raw materials and to rely increasingly on Asian suppliers for commodity type products, which are procured in large volumes. EPI does not depend heavily on any one supplier. The supply portfolio is highly diversified. Due to the

large number of processes and materials used for the products, it is impossible for any one supplier to be awarded more than 6% of all business unit purchases.

4.8.3.8. Research and development

EPI has three regional engineering departments. R&D activities are also managed at the business unit level. There are two project categories: short-term modifications to customer products on a per-unit basis, and larger, market-driven projects involving product development. Most of EPI's projects involved technology application, not technology development. Short-term projects are managed as part of a continuous improvement process, the main objective being to remain responsive in marketing proposals and deliveries. For longer-term product development projects, EPI relies on a phased project management system, with each phase of the project approved through financial and risk-management filters

In North and South America, development efforts focus on four areas: installation tools (especially battery-driven tools and tools with improved insulation), mechanical and compression connectors for equipment manufacturers, dead-end joints for exposed overhead power lines, and accessories for new high-temperature power supply leads.

In Europe, development efforts center on four subjects: continuous improvement of electricity transmission equipment and vibration monitoring software and systems, insulation piercing connectors for aerial bundle cable (ABC) systems and related envelopes for underground networks, conductor accessories for ADSS and OPGW cables, sub-station connectors, and coordination of related projects.

The Japanese engineering department is concentrating on connectors for overhead electricity networks, electrical connections, and connecting signals for railway networks.

4.8.3.9. Outlook and development goals

Strong growth should return to EPI in 2004. The year should hold a slight expansion of its main markets, a large number of new product launches, and distribution channel development plans. The business unit should continue to propose on key electricity transmission projects in Asia and South America. The strategic decision to relocate many production lines to low-cost countries should help EPI increase its operating income and return to markets it had been forced to leave.

EPI will also rely more on the division's Corporate Design Center in India to improve its time-to-market and reduce development costs.

Sales volume of the EPI business unit should increase in 2004 following the sale of Nantouin. By year's end, the Toluca site will be a low-cost, high-volume foundry capable of meeting the needs of North and South America. A third 500 kV power line project should be initiated in Vietnam by the end of the third quarter. The partnerships established in Asia should help to end price discrepancies among international markets for basic product lines. In Europe, restructuring should continue and will help to reposition the product mix and know-how, and to meet the needs of the European and international markets without ignoring its French customers.

4.8.4. Microconnections business unit

4.8.4.1. Key data

(in millions of euros)	2003	2002	2001
Sales	58	61	63
Employees at year-end	296 people	286 people	285 people

4.8.4.2. Businesses

The Microconnections business unit manufactures 1.3 billion micro-connectors per year. These connectors are flexible circuitry for memories or microprocessors on many types of smart cards, including telephone cards, check/credit cards, and the fast-growing markets of access control, tracking and identification cards. High-density flexible circuits are also used in such applications as computer printers and laptop computers.

The Microconnections business unit is the world leader in smart card circuitry, supplying customized products to the majority of the world's smart card module manufacturers. Sixty percent of the world's smart cards have connectors supplied by the Microconnections business unit. The business unit also manufactures an increasing number of products for the micro-packaging industry, with the watch-making sector offering potential for growth.

4.8.4.3. Manufacturing capabilities

The design of flexible circuitry requires expertise with a variety of technologies, which the business unit has been amassing for more than 20 years. The Microconnections business unit

holds several patents on key technologies, including etching of high-density flex circuits and manufacturing antennas for radio frequency identification device (RFID) applications.

4.8.4.4. Market, competition and market share

The Microconnections business unit is ranked first in the smart card circuitry industry.

In 2003, prepaid phone card usage continued to decline as mobile/cell phone usage continued to rise. Market trends in other applications, such as banking, mobile/cell phones and security, are on a steady upward trend. Going forward, volume growth in the smart card market will continue in the double digits, driven by microprocessor cards.

4.8.4.5. Operations and key events during the year

With the saturation of the market for prepaid phone cards, the smart card market fell below its usual annual growth in 2003, notably in the area of multi-application smart cards.

The year had a sluggish start, but sales rose in volume during the following three quarters, with significant penetration in Asia, especially China, where the business unit is in the lead. Asia represents a potential for growth over the next few years.

The business unit established a new production unit in Singapore, scheduled to start up as early as 2004, to gain greater proximity to its customers. The new plant will boost efficiency through responsiveness and customer service.

4.8.4.6. Customer base

Customers of the Microconnections business unit include manufacturers of smart cards and of the integrated circuits used for the cards, and also large micropackaged system manufacturers. Its main card customers are Axalto, Gemplus, Infineon, Oberthur Card Systems, Philips and STMicroelectronics.

4.8.4.7. Suppliers and raw materials consumption

The Microconnections business unit sticks to a policy of double-sourcing, even for raw materials that are used in small quantities each year.

4.8.4.8. Research and development

Almost all of the business unit’s engineers and technicians are involved in new development programs outside the core business aimed at broadening its business to additional applications. High density interconnect flex circuits and radio frequency identification devices are the two main vehicles for new business. These two business lines are developing along the lines of continuous manufacturing techniques for printed flex circuit boards that can be controlled by the business unit. They are relevant to two flourishing sectors: high density flex circuits for LCD screens used in monitors, laptop computers and television sets, for which demand is rising sharply, and antennas for smart labels, a market that should explode in the next few years.

4.8.4.9. Sustainable development and environmental protection

The business unit's commitment to the environment is an overriding concern, for the financial returns that this can reap as well as for ethical and social reasons. A continuous effort to conserve water was made in 2003.

4.8.4.10. Outlook and development goals

Several countries are initiating smart card projects in targeted cities or for much larger identity card projects. Large-scale trials should begin in 2004-2005. The smart card market will show sustained growth in the more traditional segments, in particular banking and mobile/cell phone applications. It will continue to see double-digit volume growth going forward, driven by microprocessor boards.

The business unit is developing new products, now in the qualification stage, that will lead to significant diversification of the product portfolio in the coming years. Product launches began in 2003 and will accelerate in 2004. Besides its traditional smart card market, the business unit continues to develop new flex (flexible film) business for the micropackaging industry, and the watch-making market is an important area for development.

Future business will be directed towards flex microcircuits for high-density interconnect systems and radio frequency identification systems.

Investments were made in 2003 to develop new manufacturing technologies for printed flex circuits. A pilot line for high density circuits was installed at the Mantes plant in France, where all business unit processes and future products are developed.

Through its diversification programs, new products and technologies are being developed and several patents have been filed in the area of radio frequency identification devices (RFID).

4.8.5. The Military/Aerospace & Industrial business unit (MAI) (sold on April 30, 2003)

This section no longer applies, as the business was sold on April 30, 2003.

Key data

(in millions of euros)	2003*	2002	2001
Sales	40	149	162
Employees at year-end	n/a	1,204 people	1,164 people

** Up to the date of its sale.*

≫ 4.9. Investment strategy

AREVA's strategy has always been to invest heavily and consistently to ensure long-term growth. Sustainable development principles, shareholder value and profitability are integral components of this strategy. As the world leader in the nuclear energy business, AREVA's strategy is a selective one. The ultimate goal is to strengthen its positions locally, especially in North America, accelerate its international growth, anticipate customer requirements, and ensure that it has the best available technology on the market. In the Connectors division, the priorities are to continue restructuring telecom operations and selectively seek partnerships that will enable it to expand into new markets, especially in the automotive sector.

2001

In 2001, AREVA invested €559 million in tangible and intangible production assets and €232 million in net financial assets [(1)].

- In financial investments, AREVA purchased COGEMA shares owned by TOTAL.
- The Front End division pursued its production capacity diversification and reorganization plan, and began operating a uranium leaching and concentration pilot plant in Kazakhstan.
- The Connectors division finished construction and began operating a regional tool manufacturing center in Cochin, India, to supply quality tools to all of the division's production units.
- The Reactors and Services division acquired Canberra, making AREVA the largest nuclear instrumentation company in the world and strengthening its position in a high growth market while significantly increasing market share in North America. Elsewhere, AREVA's 46.1% participating interest in Clemessy was sold to Dalkia after the latter was merged into EDF.

2002

In 2002, AREVA invested €200 million in tangible and intangible assets, net of asset sales, compared with €559 million in 2001. This decrease reflects the sale of certain property interests, including the Framatome Tower, now renamed the AREVA Tower, in the Paris La Défense business district.

- Net investment remained stable in Nuclear Power, at €370 million compared with €364 million in 2001. Spending focused on maintaining existing production facilities in perfect working order and top safety condition.
- Due to weakness in the telecommunications market, the Connectors division cut back severely on investment in equipment and facilities, from €210 million in 2001 to €88 million in 2002.

The acquisition of Duke Engineering & Services in April 2002 boosted AREVA's U.S. engineering and nuclear services operations.

Net investment in long-term financial assets was stable at €(213) million in 2002, compared with €232 million in 2001. Net investment includes:

- acquisition of Duke Engineering & Services in the United States in April 2002;
- acquisition of Sagem and Coficem shares in June 2002;
- the sale of Sovaklé shares in early 2002.

2003

In 2003, net investment in tangible and intangible assets after disposals was €336 million, compared with €200 million in 2002, when major real property assets were sold off (AREVA tower). In nuclear power, investments were down from €370 million in 2002 to €268 million in 2003, reflecting the planned completion of capital projects in the Back End division, giving it a completely revamped and optimized production plant. Net investments for the other divisions was relatively stable in all other divisions. In Connectors, investments fell from €88 to €62 million from 2002 to 2003, in accordance with the restructuring plan.

Net investment in long-term financial assets was -€7 million in 2003, compared with -€213 million in 2002. Net 2003 investment includes:

- the sale of the Connector division's Military/Aerospace & Industrial business in April 2003,
- a first down-payment on a 50% participating interest in the Enrichment Technology Company (ETC) to gain access to

(1) In addition to AREVA's integration of Siemens' nuclear operations, described in paragraph 4.1. A share issue reserved for Siemens AG funded this acquisition.

centrifuge technology for uranium enrichment. The balance of payment is expected to be made in the coming years.

≫ 4.10. Research and development programs, intellectual property and trademarks

4.10.1. Research and development

4.10.1.1. Key data

	2003	2002
R&D Expenditure	€286M	€332M
- Nuclear Power share	70%	65%
- Connectors share	30%	35%
Number of patent applications	152	192

AREVA spent 3.5% of its sales revenue on research and development in 2003, slightly less than in 2002. Resources dedicated to nuclear R&D were stable. Despite difficult market conditions, the Connectors division maintained R&D expenditures at more than 6.4% of total sales.

4.10.1.2. Overall organization of R&D

The AREVA Group sets the pace for the competition in terms of technology, with hard-driving programs to harness advanced technologies and integrate them into our products and services. Ever since the first industrial applications for nuclear energy, we have worked continuously to build up a large intellectual asset base, maintain our strong technological lead and bolster our international positions. We have pooled our research and innovation functions as a group to tap into the synergies resulting from our establishment and to protect and multiply our technology assets. By functioning in integrated mode, we are able to consolidate best practices from throughout the group and thus boost R&D effectiveness in areas as wide-ranging as technology management, knowledge and know-how management, intellectual asset protection, innovation, and leadership for a portfolio of R&D projects.

AREVA's Research and Innovation Department establishes group-level programs for basic operations such as R&D action plans, project portfolio management, technological expertise and excellence management, and intellectual property management. The Research and Innovation department also fuels innovation throughout the group.

The second annual AREVA Innovation Awards were handed out at the group's annual managers' meeting in 2003. The winners, chosen from among many who applied, were:

- AirMax VS™, a line of high-speed connectors developed by FCI to meet customer requirements at the lowest cost,
- Sierion, a control valve for nuclear and thermal power plants requiring no external power supply,
- Helps, a proton exchange membrane (PEM) fuel cell prototype developed by Hélion (Technicatome) with applications for the naval and ground transport industries,
- new generation gloves for sealed glove boxes that are twice as strong as any other product on the market, developed by COGEMA in partnership with Hutchinson,
- Artur, an automated robotic manipulator designed by Framatome ANP to inspect and maintain primary PWR piping.

The Research and Innovation Department has avoided the pitfalls of the overly centralized organization in carrying out its mission. The very diversity of the group's activities calls instead for incentivizing R&D initiatives in the field and close local monitoring, with an intentionally limited number of corporate decision-making units. Still, R&D units are structured so as to be in tune with the strategic and technological orientations of AREVA affiliates and divisions.

4.10.1.3. Partnerships

Thirty years of technological achievement and commercial successes going beyond France's borders have positioned AREVA as a world leader in the nuclear industry. In addition to our historically solid presence in Europe, AREVA has strongholds in North and South America and in Asia. Scientific and technical partnerships reflecting our international dimension will be a cornerstone of our continued growth. We already have a broad network of partnerships with the world's leading research laboratories. A good example is the Generation IV [1] initiative in which the world's finest nuclear R&D teams are studying cutting-edge reactor concepts representing potentially major technological breakthroughs. For mid-term industrial applications (2015 horizon), AREVA is focusing more particularly on high and very high temperature reactors (VHTR).

(1) The goal of the international "Generation IV" initiative is to develop fourth-generation nuclear reactors capable of replacing current reactors by 2030.

4.10.1.4. Future directions

Nuclear Power

Our R&D programs are anchored in our customers' requirements. They aim to enhance safety, reduce operating costs, minimize final waste volumes and conserve natural resources.

Optimizing the economic performance of reactors

• Boosting nuclear fuel performance

Rather than resting on its laurels, the Front End division is conducting far-ranging and innovative programs on cladding materials, fuel pellet microstructure and the thermal hydraulics of fuel assemblies. Performance improvements in burnup, i.e. the amount of energy delivered in the reactor, and maneuverability are being made while scrupulously complying with very high fuel reliability standards so as to maintain reactor availability.

• Enhancing fuel and reactor design tools

AREVA puts considerable effort into its modeling tools and codes. Our goals: even greater fuel optimization and reactor core management, and boosting capacity during scheduled outages for major plant modifications.

• Understanding aging phenomena

We are conducting far-reaching R&D programs with the CEA and EDF to anticipate and improve our understanding of irradiated materials aging. This level of preparedness will enable us to increase reactor service life beyond the 30 to 40 years for which the reactors were designed. Every year gained in so doing translates into substantial savings for our utility customers.

• Offering innovative digital control systems

Control system products and programs offering a high level of safety are being integrated into the group's new reactors, such as the EPR, as well as into existing reactors. The result: enhanced operations and availability, more power, and greater ability to respond to variations in load demand from the electricity grid. The Reactors and Services division recently revamped the Neckar 2 power reactor in Germany; the resulting control system improvements are helping to cut down on maintenance costs.

Developing enhanced solutions for the back end of the fuel cycle

• Taking advantage of "burn-up credits"

The Back End division, the CEA (French atomic energy commission) and the IRSN (nuclear safety and radiation protection institute) have embarked on a major program to develop and qualify Cristal™. This is new nuclear safety and criticality software for burn-up credit calculations that factors in reactivity margins from fission products in used fuel. The advantage of these valuable margin gains is twofold: more used fuel storage in reactor pools and treatment units, and more efficient used fuel transport.

• Improving used fuel transport and storage

The Back End division is developing new materials – resins, radiation shielding, shock absorbers – for the design of innovative shipping casks and even more efficient integrated storage solutions that factor in the evolving characteristics of used fuels.

• Optimizing fuel treatment and reducing final waste volumes

The 30 years of industrial research and development that have gone into the La Hague site have made it the reference in used fuel treatment today. The plant is the "third generation" of such plants, to use the terminology of reactor development. The Back End division continues to perform research and adjust the plant's operating parameters to take into account the evolving characteristics of used fuel (such as higher burnups) and to accommodate research reactor fuel.

Planning for next-generation reactors and related fuel cycle facilities

• Developing new gas-cooled reactors

In addition to the existing portfolio of advanced products – N4 and EPR in the PWR category, SWR1000 in the BWR category – AREVA is in the planning stage for a new family of potentially cost-competitive and highly innovative reactors: high temperature reactors (HTR) and very high temperature reactors (VHTR). These reactors can supply direct heat for industrial and chemical processes (400-1,000°C) as well as electric power. Longer term, they can be used for large-scale production of hydrogen, without emitting greenhouse gases. These projects are being conducted cooperatively and in an international framework.

• Participating in the "Generation IV" initiative

The Reactors and Services division is also conducting advanced technology assessments of other reactor types under the international "Generation IV" R&D initiative. Most of these reactor concepts make use of neutron hardening to ensure access to energy resources for several centuries, thus offering an effective and sustainable answer to the energy and environmental challenges of the future.

• **Designing the fuel cycle facilities of the future**
The fuels of the future, such as for the HTR, could be very different from those of today. The Front End division is conducting research on large-scale, cost-competitive fabrication processes for these fuels. To optimize back-end operations, AREVA is assessing the future handling of these fuels, with their innovative materials, after use in the reactor. Advanced research on treatment technologies is being conducting jointly with the CEA in connection with research mandated by the 1991 "Bataille" law on nuclear waste management. The goal is to design the fuel cycle facilities needed to support fourth-generation reactors.

Connectors

Miniaturization, speed, ruggedness: meeting the price challenge while increasing the utility value of connectors for our customers is the focus of our R&D programs.

Cutting costs requires major development effort, especially to optimize manufacturing processes. Further upstream, research is focusing on large-scale, targeted technology development. Projects include new coating materials, greater bandwidth (transmission speed), multipoint contacts, precise modeling of key steps in contact manufacturing, and readiness for changes in standards, such as the automotive sector's transition to 42 V. These efforts have paid off with innovative solutions for our customers, particularly in the automotive sector, where onboard electronics occupy an increasingly important place. In 2003, product development focused on:

- microprocessor boards;
- AirMax™, a new-generation high-density connector that is highly cost-competitive;
- high-density flex circuits for printers;
- low insertion force (LIF) connectors for the automotive sector;
- high-speed connectors for servers and storage devices.

4.10.2. Intellectual property and trademarks

Intellectual property, licenses, patents, trademarks and technical expertise in general are enmeshed in the group's daily operations and thus in the production and protection of AREVA products, services and technology. Protecting our knowledge and defending our unique know-how requires a comprehensive system to develop and manage AREVA's intellectual assets in each business unit. This is also the key to negotiating successful technology transfer and process license agreements, now standard practice for large-scale international projects in the nuclear and connectors industries.

Building a unified technology culture and asset base also means laying down principles that can be accepted by all group affiliates. A simple set of rules governing the transfer of innovative and mature technologies between group companies must be defined, with the goal being to ensure optimum use and valuation group-wide, while establishing equitable compensation mechanisms.

Aware that adequate protection of AREVA Group intellectual assets is a strategic issue, in 2003 we worked to strengthen the intellectual property role of our affiliates and involved all of them in activities to pool our dedicated resources. AREVA has a portfolio of nearly 15,000 patents.

The choice of a unifying name for our affiliates was a crucial issue when the group was established and has now crystallized with the "AREVA" name. This name is the property of the holding company, whose legal name remains "*Société des participations du Commissariat à l'Energie Atomique*".

"AREVA" is a registered trademark in France and 74 other countries. The holding company closely monitors use of the name and trademark, as well as domain names, and takes legal action in the event of infringement of our rights to this essential component of our image and intellectual assets. At year-end 2003, two-thirds of the applications filed were for permanent registration of the AREVA trademark.

On the practical side, each subsidiary's name now appears under the AREVA name, showing its affiliation with the group. Older trademarks and domain names, such as COGEMA, still appear next to the AREVA name and continue to be managed by the main subsidiaries, which have their own portfolios of trademarks and domain names.

The January 2004 acquisition of Alstom T&D modifies the scope, organization and management of AREVA Group intellectual property. Alstom T&D has a new legal name, AREVA T&D, which will be given to all of its subsidiaries. This has launched a new wave of filings for the AREVA trademark in countries where T&D is active but AREVA was not yet established, and in new product classes specific to T&D business lines

≫ 4.11. Risk and insurance

4.11.1. Overview

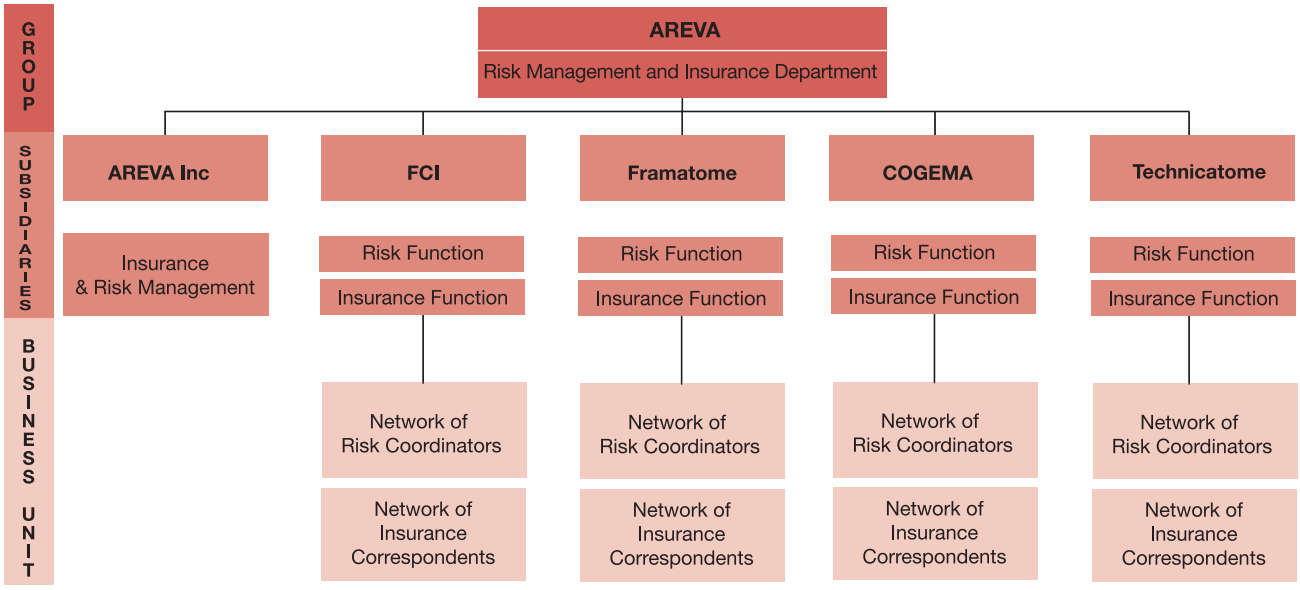
4.11.1.1. Organization of Risk and Insurance Department

AREVA has a group-wide policy for financial hedging and insurance aimed at preventing and reducing the consequences of certain potential events on its earnings. The group has thus implemented an operational risk management program to identify, prevent and protect itself from risk and a financial risk management program consisting of on-market transfer and self-insurance to mutualize risk.

AREVA's risk management and insurance department implements the risk management policy laid out by the group's Executive Board. The department establishes methodologies to ensure consistent treatment of risk among the subsidiaries and promotes the use and exchange of best practices.

The risk management and insurance department assesses and covers risk at group level, notably by implementing comprehensive and worldwide programs to insure risks, with financing transferred to the insurance market.

The risk management and insurance department includes both a risk function and an insurance function at each subsidiary's head office that works alongside the functional departments and the business units. Together, they establish shared principles, carry out the risk management and insurance department's action plan in their respective companies and draw up the necessary summaries and reports to each subsidiary's management. Due to the magnitude of AREVA's North American operations, a risk management office was also set up in the United States for all of the group's North American units to coordinate US and Canadian risk management functions.



4.11.1.2. Risk mapping

Immediately after its creation in 2001, the group mapped its risks. The risk map is updated each year as part of AREVA's group-level risk management program, which is founded on risk identification and, more importantly, on appropriate prevention and/or protection measures determined at operating unit level and functional department level.

To implement the risk management initiative, AREVA's risk management and insurance department establishes a common set of methodological tools and criteria. It designates a risk management and insurance representative in each business unit / division and in each functional department to ensure a seamless organization, and provides the training necessary to use the tools, roll out the initiative and monitor action plans. The risk maps are presented every year to the Management Committees of the affiliates, to the Executive Committees of the first tier subsidiaries, and to the AREVA Executive Board. The risk maps are also presented to AREVA's Audit Committee.

The group's multi-year audit plan builds on risk-mapping results, which are updated annually. The audit department conducts regular audits of the group's affiliates and in the risk management and insurance department to ensure ongoing follow-up.

4.11.1.3. Risk management

The notion of risk applies to the operations of each of the group's entities, which entails controlling their normal operating risks based on prior decisions and known facts as well as implementation of a business strategy whereby objectives involving both risk and potential profit are defined.

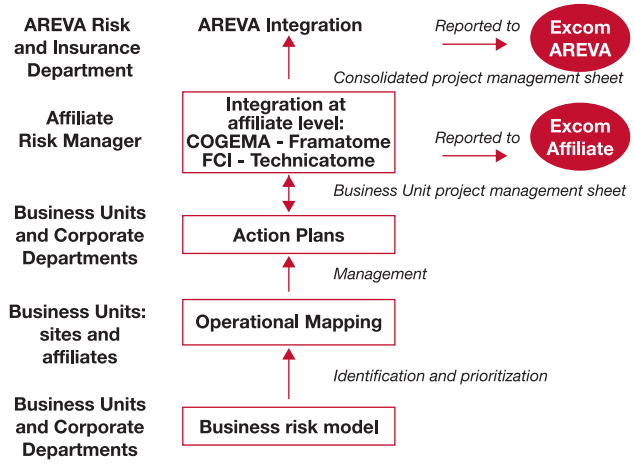
In both cases, risk management arises from a shared methodology, starting with risk analysis. The objective is to manage the risk, cradle to grave.

Consequently, the business units determine operational road maps based on which they recommend and carry out action plans.

Managing normal risk entails:

- an ongoing documented process of risk identification, analysis, ranking, optimization, financing and monitoring;
- a broad scope of action covering all of the group's activities, both operational (manufacturing, sales, projects, services, etc.) and functional (finance, legal constraints, contractual commitments, organization, human resources, etc.);
- contributing to resource optimization and cost reduction; and
- developing business continuity and emergency management plans.

4.11.1.4. Risk management process of the AREVA Group



Source: AREVA

The first step in risk management is to identify and describe the risk. To this end, the group has drawn up a business risk model (BRM) to be used by its business units. Working from a limited number of typical risks or families of risk (BRM risk), the model indexes all of the foreseeable or unexpected situations or events that could have an impact on employee safety, the financial performance of the business unit, those of the subsidiary or even of the group, and its corporate image. Each BRM risk encompasses one set of issues.

The BRM can be enhanced based on best practices and lessons learned.

Using the BRM as a starting point, each business unit establishes an operational risk map that graphically illustrates the gravity of its risks and its degree of management at any given moment. The business unit can then define criteria to put in place appropriate action plans to reduce each risk and render any residual risk acceptable to the group.

The business units are thus responsible for analyzing, ranking and managing their risks by implementing action plans using appropriate means.

Each subsidiary's risk management departments, each in their area of expertise, provide their management with a business unit-wide picture of risks and how the business unit is managing them. Each subsidiary's Executive Committee is then informed of the status of action plans and decides which risks affect the group's strategic objectives.

4.11.2. Controlling risk related to the group's nuclear operations

Under regulations, industrial facilities operated by AREVA are classified in various categories depending on the level of risk incurred and the quantity of nuclear materials involved.

Ensuring facility safety means:
- protecting workers from radiation (radiation protection),
- protecting workers and members of the public by preventing radioactive products from having a significant environmental impact, compared with naturally occurring background radiation (nuclear safety).

4.11.2.1. Nuclear safety in the group's nuclear facilities

Definition

Nuclear safety encompasses all of the technical dispositions and organizational measures concerning facility design, construction, operations, shutdown and dismantling. It also applies to nuclear materials transportation.

Nuclear safety is founded on technical design dispositions and organizational measures for operations. These dispositions are designed to:
- ensure normal facility operation,
- prevent incidents and accidents, and
- limit their consequences.

The first objective of any nuclear safety measure is to prevent the dispersal of radioactive substances under all circumstances and to minimize the impact of radiation.

Organizational measures

Nuclear safety is an absolute priority for AREVA. This commitment is based on AREVA's prime responsibility as an operator and translates into dispositions applicable to the entire group:
- clearly defined responsibilities,
- a skilled support structure,
- an organization that can be adapted to emergency management.

To ensure optimum nuclear safety, AREVA has also established a highly qualified corps of nuclear safety inspectors charged with conducting safety inspections of the group's facilities.

Group affiliates operate in accordance with international regulations. In France, AREVA is inspected by nuclear safety authority ASN *(Autorité de Sûreté Nucléaire)*, reporting jointly to the ministry of the Environment, the ministry of Industry and the ministry of Health. ASN is responsible for technical and regulatory inspections in matters of nuclear safety and radiation protection. Abroad, AREVA's operations are subject to the same rigorous inspection and control measures (e.g. Nuclear Regulatory Commission in the United States).

Licensed nuclear facilities of the AREVA Group

AREVA's main licensed nuclear facilities (INB under the French acronym) include:

Place	Business Unit	Description
	Front end Division	
Romans, France	Fuel	Fuel fabrication
Dessel, Belgium	Fuel	Uranium fuel and Mox fuel fabrication
Lingen, Germany	Fuel	Fuel fabrication / Storage of UF6 cylinders
Richland, USA	Fuel	Fuel fabrication
Lynchburg, USA	Fuel	Fuel fabrication
Miramas, France	Chemistry	Depleted uranium storage (storage emptied)
Pierrelatte, France	Chemistry	Preparation of uranium hexafluoride (UF6)
Pierrelatte, France	Chemistry	Conversion of uranyl nitrate into uranium sesquioxide
Pierrelatte, France	Enrichment	Georges Besse plant – Isotopic separation of uranium by gaseous diffusion
Pierrelatte, France	Enrichment	Plant for uranium decontamination and recovery
Pierrelatte, France	Chemistry	Conversion of enriched uranium-bearing materials
	Reactors and services division	
Maubeuge, France	Equipment	Maintenance of contaminated equipment
Veurey, France	Mechanical Systems	Experimental facilities
Veurey, France	Mechanical Systems	Uranium oxide pellet manufacturing facility
	Back end division	
Cadarache, France	Recycling	Mox fuel fabrication Commercial Production shut down in July 2003
La Hague, France	Treatment	Used fuel treatment plant
Marcoule, France	Recycling	Melox – Mox fuel fabrication
Marcoule, France	Treatment	Used fuel treatment plant undergoing dismantling

AREVA does not operate any nuclear power plants. Its operations consist of converting or treating regulated products.

4.11.2.2. Nuclear risk management and prevention

The guidelines for facility risk management are:

Risk identification

The list of risks is developed from long experience in safety analysis and is submitted to the nuclear safety authorities as part of the licensing process applicable to each facility.

Risk minimization through facility design

Facilities are designed to contain radioactive materials by introducing a series of barriers between the materials and the environment.

Risk management demonstration

Proof must be provided that facility design and equipment features enable objectives set by the safety authorities to be met.

Different types of nuclear safety risks are distinguished and their consequences are systematically analyzed and assessed as part of the facility licensing procedure, with special attention given to the items discussed below:

Nuclear risk

Nuclear risk corresponds to events that are characteristic of the radioactive materials involved.

Radioactive release and contamination risk

Uncontained radioactive materials can disperse and cause human or environmental contamination.

To control this risk, the first priority is to prevent radioactive material dispersal in any form (solid, liquid, gaseous) and under all circumstances (normal or accident operating conditions).
Facilities are designed with “containment systems” to prevent the dispersal of nuclear materials. Radioactive materials are surrounded by a series of barriers at a varying negative pressures, which channel exterior air to the secondary and then to the primary containment system. The air in each containment system is thus cleaned and contaminants are filtered before the air is released to the atmosphere.

The efficacy of these containment systems is verified prior to facility commissioning, and they are inspected periodically to keep them in working order.

Considerable effort was devoted to the design to ensure containment system integrity during maintenance operations using special equipment replacement processes.

Radiation

Whenever a person is in the flow of ionizing radiation emitted by radioactive materials, there is a risk of exposure.

The effect of radiation on the human body is expressed in millisieverts (mSv). The maximum annual dose authorized by regulations is 1 mSv/year for the general public and 20 mSv/year for nuclear workers in the European Union (vs. 50 mSv/year for nuclear workers in the United States).

The group's objective is to follow the European Union standard of 20 mSv/year for all workers at its facilities worldwide, including subcontractor personnel.

The risk of exposure to radioactive sources for personnel inside the primary containment system exists when nuclear materials are transferred in or out, during sampling or maintenance operations, or similar interventions.

The main protective measures are:

- for fixed radiation sources inside the primary containment system: standard work processes are defined with corresponding maximum exposures. The maximum acceptable exposure decreases in inverse proportion to the estimated duration of the task involved. Shielding is installed to minimize radiation doses to workers and to comply with authorized dose limits;
- for mobile radiation sources: protective measures for the transportation of radioactive materials on public roadways are established by regulation. Among other forms of protection, workstations are designed to minimize the duration of personnel proximity to the source.

In addition to the regulations that apply in this area, the group follows the ALARA principle (As Low As Reasonably Achievable), which holds that any reasonable technical or organizational action will be taken to reduce exposure to radiation. All radiation protection departments continually verify compliance with this principle.

Every nuclear worker or operator is monitored closely from a health and radiation protection point of view. Training sessions are organized on a regular basis to ensure that their knowledge is up to date.

Example: By following these practices, the supplemental work-related dose to workers at the La Hague treatment plant, where some of the most highly radioactive materials are handled, was limited to 0.071 mSv/person/year in 2003. For purposes of comparison, a French person’s average annual exposure to naturally occurring radioactivity (terrestrial and

celestial) is 2.4 mSv/person/year, with a minimum of 1 mSv/person/year and a maximum of 10 mSv/person/year, depending on the region.

Criticality

Criticality risk means the risk of an uncontrolled chain reaction with a brief and intense emission of neutrons. This risk, should it occur, would result in irradiation of workers or individuals located near the event, causing lesions proportional in seriousness to the intensity of the radiation received.

This risk is taken into consideration in any facility that may receive fissile materials.

Risk prevention is based on limiting the factors leading to uncontrolled chain reactions, under "criticality control modes". The most effective control mode is used based on the process involved (limitation of mass, volume or the geometry of the equipment containing the materials).

In the facility's most radioactive areas, shielding is installed for normal operations and very significantly reduces the consequences of a potential criticality accident on workers. In other areas, preventive measures may include a detection, alarm and measurement network for criticality accidents.

In transportation, nuclear safety and criticality are monitored under both normal and accidental operating conditions. Regulations specify storage rules applicable during transit, particularly in terms of the criticality risk.

Radiolysis

Radiolysis corresponds to the radiation-induced decomposition of a chemical compound into hydrogen. Measures are taken to prevent a potential explosion of the hydrogen and the resulting release of radioactive materials.

In normal operating mode, facilities are designed to limit hydrogen concentrations to half of the lower limit of flammability. This result is achieved by injecting flushing air into the relevant equipment. A backup system comes on line in the event of a loss of normal flushing capacity, causing the concentration to rise to the limit value in a few hours or tens of hours.

Thermal releases

When radiation is intense, the corresponding energy absorbed by the materials can lead to an increase in temperature. To avoid unacceptable consequences and prevent the dispersal of radioactive materials, the energy is evacuated. Redundant heat exchangers and ventilation systems ensure cooling.

Non-nuclear risks of internal origin

Non-nuclear risk of internal origin comes from events associated with facility operations and the presence of personnel. These events are common to any industrial operation. In the nuclear industry, strong preventive measures are taken, since incidents could affect nuclear safety-related equipment. Preventive measures therefore target the causes of these events and limitation of their consequences.

Handling

Handling equipment includes lifting, transportation and positioning equipment.

The main failures include lifting equipment breakdown, poorly secured loads, collision with an obstacle and derailment of a transfer mechanism.

Consequences may be direct, such as loss of container integrity, or indirect, such as the destruction of equipment containing radioactive materials or a containment failure.

Risk management involves analyzing the causes of failures of process equipment used to transfer radioactive materials and maintenance equipment used for handling. It also means establishing stringent procedures that prevent risk from materializing (equipment size, preventive maintenance, inspections, operator certification, etc.).

Limiting the consequences of a handling failure involves limiting transport heights, designing objects subject to impact so they may withstand a fall, strengthening the loads and dissipating the resulting energy.

Fire

Fire can cause the loss of certain process or protection functions, with potential radiological consequences, including contamination due to containment barrier failure, irradiation due to destruction of radiation protection and criticality accidents.

Risk prevention consists of preventing the simultaneous presence of flammable materials, oxidizing substances and ignition sources in the same location.

In the event of a fire, safety functions are protected by compartmentalizing work areas to limit fire propagation to a small number of areas, by utilizing fire-retardant materials, by isolating ventilation systems, and by installing a remotely controlled fire extinction system in each sector.

Firefighters must be able to intervene within a short interval of time to prevent radiological consequences outside the buildings.

Internal pressure burst or explosion

The use of reagents and the occurrence of chemical reactions create an explosion risk. An explosion could cause a deterioration of primary containment, causing the external release of radioactive products. The secondary containment system is designed to prevent products from being released.

Measures to prevent the creation of conditions conducive to an explosive reaction include limiting the temperature of flammable products in the process, limiting the concentration of products that may cause an explosive reaction using proper ventilation, eliminating traces of reagents before any new processing step is undertaken, and controlling the quantity of reagents in each facility.

Use of chemical reagents (specific to UF6)

Prevention and monitoring concerning reagents are based on the principles already applied to other types of risk, i.e. explosion and fire, combined with principles regarding internal explosion and release of radioactive materials, taking into account their possible effect on workers and the environment.

Reagents used in a process may create additional risk when incompatible products come into contact. Chemicals may be hazardous through direct contact or when fumes are inhaled.

The packaging, storage and use of reagents and worker protection must take these characteristics into account.

Special case of uranium hexafluoride UF6

Uranium is handled in the chemical form of UF6, which is a solid at normal temperatures and pressure and gaseous when heated. It may react when it comes in contact with moisture in the air, forming uranium oxide and hydrofluoric acid, a highly toxic element for humans and animals.

In consideration of the quantities handled at the production sites, the risk relating to UF6 has been factored into facility design (triple containment, automated monitoring of risk areas, etc.).

Use of electricity

Risk prevention related to the use of electricity means facility compliance with applicable industry standards, compliance with applicable maintenance instructions and procedures, and periodic facility inspections.

Use of pressure vessels

Prevention of pressure spikes is based on compliance with industry standards for accessible equipment and additional requirements for inaccessible equipment.

The consequences are limited through leak detection, feed interruption and personnel evacuation.

Internal flooding

Internal flooding risk relates to the presence of fluids inside the facilities. Leaks are limited through facility design. Potential leaks result from seal deterioration, corrosion and overflows.

The main radiological risk due to flooding is criticality. Facility design and operations take this risk into consideration in areas where it may occur.

Non-nuclear risk of external origin

Non-nuclear risk of external origin is associated with the facility environment. Unlike risk of internal origin, it is not always possible to act on the causes of these events. Safety is based primarily on controlling the consequences.

A non-nuclear event of external origin may have direct or indirect radiological consequences.

Seismic event

Earthquakes are not a nuclear risk as such, but they can cause damage that could disable nuclear safety systems.

The risk of a non-nuclear earthquake affecting facilities that handle nuclear materials is incorporated into the design of the equipment, systems and facilities using the “design basis earthquake”. The analysis consists of demonstrating that damage affecting the nuclear safety of the facility is unlikely to occur. These parameters and demonstrations are included in the facility safety analysis reports, which are approved by the relevant safety authorities.

All of the group’s licensed nuclear facilities have undergone an assessment of the consequences of an earthquake in accordance with current standards and regulations.

Aircraft crash

This risk concerns the crash of an aircraft, or part of an aircraft, on a facility. It is determined based on the number of uncontrolled aircraft that could reach the site and takes into account sensitive surface areas at each facility.

Key site features include:

- location away from authorized airspace,
- location away from military flight zones, and
- absence of airport in the vicinity.

Safety studies aim at preventing risk, including voluntary attacks, and limiting its consequences by taking into account airspace use, type of flights, known crash statistics, etc.

French nuclear facilities are subject to measures to protect against terrorism, which have been reinforced under the national *Vigipirate* security plan.

By definition, these measures may not be disclosed publicly.

Adverse meteorological conditions

Most equipment is located inside reinforced buildings. Weather conditions have very little impact on their operation.

Any threatening weather condition is announced. At each facility, procedures specify additional measures to be taken, such as increased monitoring or other specific actions.

External flooding

Some sites are located in areas where flood risk exceeds the one thousand-year flood level. Exceptional flooding in the fall of 2002 had limited consequences on group facilities. Nonetheless, an action plan was implemented in 2002 to reduce residual risk even further.

Other nuclear safety items

In addition to the various types of risk identified above, nuclear safety applies to nuclear materials transportation and to the non-proliferation of these materials.

Nuclear materials transportation

Radioactive materials are transported on public roadways. To protect members of the public and the environment against radiation risk during transportation, shipments are carried out following a concept called “defense in-depth”. Transportation cask design is the primary defense. As with any nuclear operation, these operations are governed by stringent international regulations.

According to the regulations, the cask must ensure nuclear materials containment under both normal and accidental operating conditions and must maintain sub-criticality when fissile materials are transported and provide radiation shielding. The corresponding regulatory requirements govern cask design, manufacturing processes, and inspections during operations and maintenance. The larger the amount of radioactivity it contains, the stronger the cask must be.

The AREVA Group has acquired all of the necessary skills, products and processes to ensure a high level of nuclear and occupational safety during transportation. The AREVA Group covers its civil liability with insurance, as described in paragraph 4.11.4.2.

Non-proliferation of nuclear materials

Proliferation is the diversion of nuclear material by third parties for non-peaceful purposes.

Non-proliferation is a shared objective for all of the signatory countries of international agreements in this area. The applicable requirements are covered under the IAEA’s Convention on the Physical Protection of Nuclear Material, the Euratom treaty on the non-diversion of materials from their stated uses, and various laws and ministerial orders in France. Inspectors from the IAEA and Euratom regularly verify compliance with these requirements.

In this regard, AREVA has taken measures designed to know, at all times, the amount, quality, use and location of the materials held at any given time by the group’s entities.

The record shows that all AREVA reports accounting for the materials it holds have always been approved by the national and international jurisdictions with which they are filed.

4.11.2.3. Safety in the group’s French facilities subject to “Seveso” laws (article 23 of law no. 2003-699 of July 30, 2003 on prevention of technological and natural risk and compensation for damages)

Three group companies, COGEMA, Comurhex (a COGEMA subsidiary) and Cézus, operate nine facilities subject to Seveso laws (high-threshold) at their Pierrelatte, Malvési and Jarrie sites.

As part of its risk management programs for all group affiliates, the group has put in place the necessary measures to meet its obligations.

In accordance with regulatory requirements, these plants have established procedures to prevent major accidents and limit their consequences on individuals and the environment. Organizational procedures (safety management system) and technical documents (hazards studies) have been submitted to the competent authority. On occasion, these authorities have requested clarifications and additional information. In addition, experts may be asked to give their opinion on all or part of a document.

In matters of insurance, COGEMA and Comurhex are covered by the group's civil liability program. Coverage varies based on quantification of reasonably expected risk and on underwriting capacity available on the insurance market.

A victim indemnification procedure is being developed with AREVA's civil liability insurers. This procedure would apply in the event of an industrial accident for which COGEMA or Comurhex would be liable.

4.11.3. Risk factors

The group considers that, as part of its risk management and insurance management program, it has thoroughly mapped and analyzed all general and specific risk to which it may be exposed. It is not possible, however, to affirm with certainty that no residual risk has gone undetected. The group will carry on its risk mapping and evaluation process and adapt the corresponding type and level of coverage as necessary. The possibility remains, however, that a risk might trigger an uninsured loss or might exceed the insurance coverage.

4.11.3.1. Risks specific to the group

The group supplies complex products and services that sometimes require additional work.

The group provides services and designs, manufactures and markets a broad range of very expensive products used in major projects, including the design and fabrication of pressurized water reactors, boiling water reactors and electricity transmission and distribution equipment. Occasionally, final adjustments may be required, products may need to be modified after manufacturing has begun or after clients have placed them in service, or services to be provided must be adapted. For service contracts and certain products (such as nuclear steam supply systems), contractual terms may provide for warranties, performance guarantees, and performance, availability or late performance penalties. The group's commitments may require that it address possible design errors or product fabrication defects, to retrieve products already delivered or to correct services already rendered. Although the group's contractual warranties are mostly limited and consequential damages are excluded, the group sometime agrees to extend its warranty beyond 20 years for reasons of competition in the major component replacement market, for example. Contractual arrangements sometimes also allow the group's customers to cancel the contract or to refuse to accept equipment if clauses relating to performance or to deliveries have not been met. Although it is AREVA's policy to avoid such clauses, problems relating to the group's products and services in the context of such clauses could trigger unexpected costs. The group controls this risk through rigorous checks of product and service compliance and quality management efforts. It is not possible, however, to rule out a possible product or service failure that might have an impact on the group.

The group cannot guarantee that its strategic alliances and its restructuring, mergers and acquisition operations, in particular the T&D acquisition, will be integrated as planned or will produce the synergies and cost reductions expected.

The group is involved in a variety of acquisitions, strategic alliances and joint companies. In particular, on January 9, 2004, AREVA executed a final agreement to acquire Alstom's Transmission and Distribution division. The group anticipates that these acquisitions, strategic alliances and joint companies will strengthen its position. However, a certain level of risk is inherent in these transactions, particularly the risk of overvalued acquisitions, underestimated operating costs and other costs, potential integration difficulties with personnel, operations, technologies and products, or the lack of performance on initial objectives.

The group is involved in a number of disputes that could impact its operations or its financial position [1].

In the normal course of business, the group must handle a number of disputes, generally based on competition laws or product liability. These disputes can result in significant litigation expenses for the group. In addition, the group may be ordered by the courts or may agree by settlement to pay damages that may have a very negative impact on the group's net income. The main disputes involving the group are described below.

USEC

In 2002, the United States Department of Commerce (DOC) ordered that countervailing duties be levied on enrichment services exported to the United States from France, Germany, the Netherlands and Great Britain. This action followed complaints submitted in December 2000 by the United States Enrichment Corporation (USEC) against Eurodif and Urenco. To guarantee payment of these countervailing duties for alleged dumping and illegal subsidies, as of end of 2003, Eurodif has deposited €146 million with the US customs administration. This deposit can be recovered after the case is adjudicated. Eurodif appealed the decision with the US Court of International Trade in April 2002.

On March 25, 2003, the CIT issued a decision qualifying Eurodif's operations as a service, thereby exempting them

(1) See note 22 of the notes to the consolidated financial statements regarding provisions for risk and liabilities.

from anti-dumping and anti-subsidy duties. In 2003, the DOC verified Eurodif's 2001 and 2002 imports. In parallel, legal proceedings initiated by COGEMA and Eurodif in the U.S. Court of International Trade resulted in a favorable decision in September 2003.

Finally, the US Court of Appeals for the Federal Circuit is reviewing the case. A final decision is expected in 2004. No provision has been made in connection with this dispute in light of the group's level of confidence in its outcome.

Additional detail is provided in note 13 of the notes to the consolidated financial statements concerning “Other long term notes and investments”.

McClean

On September 23, 2002, the Federal Court of Canada, ruling on a claim submitted by the Inter-Church Uranium Committee Educational Cooperative (ICUCEC) against the nuclear safety authority for violating the permitting process, canceled the permit to operate the McClean uranium mine and mill issued by the Atomic Energy Control Board (AECB) in 1999. The Canadian Nuclear Safety Commission (CNSC), which replaced AECB, and COGEMA Resources, Inc. have appealed this decision and requested the right to continue operations at McClean pending a decision on their appeal. On November 7, 2002, a judge designated by the Federal Court of Appeal of Canada granted the group's request for a stay on the lower court decision. The judgment on appeal is expected in 2004.

Exelon

During the first half of 2003, Exelon, a Framatome ANP Inc. customer, submitted a claim concerning nuclear fuel under warranty.

Having observed leaking fuel rods in a few assemblies loaded in its reactors, for which the technical origin and responsibility have yet to be established, Exelon decided unilaterally:

- to suspend the contract “for cause”,
- to unload the assemblies ahead of schedule, along with other assemblies of the same type in one of its reactors, and plans to do the same thing in two other reactors.

The technical reason for the leaks was not known by March-end 2004 and Framatome ANP's responsibility in the matter is not yet established. Accordingly, Framatome ANP Inc. is still challenging the main aspect of the warranty claim for “burnup guarantee not met” and maintains its initial proposal consisting essentially of sharing direct costs for evaluation and analysis concerning this anomaly.

Discussions leaning in the group’s direction are in progress to reach agreement and resume contract performance. The group's balance sheet at December 31, 2003, includes a provision for an amount that the group considers reasonable.

Paks

On April 10, 2003, an incident occurred during chemical cleanup of a batch of fuel assemblies at the Paks nuclear power plant in Hungary. Following this incident, an increase in radioactivity level was measured and damage to the assemblies was observed.

The IAEA confirmed the shared responsibility of the Paks plant operator, the Hungarian safety authority and Framatome ANP GmbH, which designed the chemical cleanup system. The group has reached an agreement with the customer regarding its contribution to repairs of certain material damages. This dispute is now resolved from a commercial and financial point of view. The customer has announced the reinstatement of commercial relations with the group.

Aérazur

FCI France is involved in a dispute with Aérazur and Snecma. The point in dispute is whether a civil aircraft engine must be manufactured as part of an earlier program called “GE 90” governed by agreements concluded by these companies in 1994, or as part of a new program (GE 90 “Growth”) requiring additional financial contributions from the parties, as Snecma alleges. Aérazur and FCI France asserted that the GE 90 Growth program is subject to the 1994 agreements and that, consequently, no additional financial contribution may be requested from them.

Consequently, Snecma decided to exclude Aérazur and FCI France as preferred partners for the GE 90 Growth program.

Aérazur (a FCI France supplier) then sued FCI France for €8.9 million in alleged damages. FCI France denied the claim and submitted a warranty counterclaim against Snecma. In a decision dated October 9, 2003, the Paris Commercial Court denied Aérazur's claim. Aérazur has appealed this decision.

The group has made no payment in connection with this dispute. The group's balance sheet at of December 31, 2003 includes a provision for an amount that the group considers reasonable.

EDF

EDF has submitted a warranty claim against Framatome ANP SAS for leaks in some fuel reloads. The group expects to resolve this issue in 2004. A provision corresponding to the warranty claim has been recorded.

ISF 2 contract (Ukraine)

In April 2003, the customer requested design changes. Negotiations took place in 2003 and an arrangement to share additional expenses resulting from this new design was reached. An amendment to the original contract was signed in 2004. AREVA's 2003 financial statements include the corresponding provisions for losses on completion of contract.

Tax disputes

The French tax administration is reviewing the consolidated net income reported by the group for 2000 and 2001. AREVA has received a tax adjustment notice for 2000. This notice is now under discussion with the tax administration.

To the group's knowledge, there is no other dispute, arbitration or exceptional event that might have, or has had in the recent past, a significant impact on the group's financial position, income or assets.

The group conducts various businesses in international markets where intense competition could impact its operating income, cash flow and financial position.

The group's products and services are sold on international markets characterized by intense competition on price, financial terms, product/service quality and the capacity for innovation. In some sectors, the group is competing against powerful competitors that are larger than the group or have access to more resources. Moreover, certain competitors may make decisions influenced by extraneous, non market-driven considerations, or even by anti-competitive intentions that could have a negative impact on the group's operations or financial performance.

The group's Connectors business is also confronted with strong competition and new products must be developed and brought to market quickly to occupy available market segments. The group's competitive position in the Connectors market is highly dependent its capacity to adapt to market change and to reduce its manufacturing costs for new and existing high-quality products.

Political and economic risk in certain countries where the group does business could affect its financial performance.

AREVA is an international group with Nuclear Power and Connectors operations in many countries. The group operates in many countries with varying degrees of political stability. The group's mining activities, for instance, are located in countries such as Niger, Kazakhstan, Sudan and Côte d'Ivoire, where economic and political change may impact the group's operations. Political instability may lead to civil unrest, expropriations, nationalizations, changes in legal or tax standards, monetary restrictions, and renegotiation or cancellation of agreements, leases, mining permits and other agreements. For example, mining operations were suspended in Côte d'Ivoire due to recent unrest in the country. The group also operates in countries, including France, where political decisions could delay or at least affect some of its projects, particularly military programs. In Canada, for instance, the group is confronted with political opposition concerning the permits and authorizations it needs to implement its projects. Any of the events mentioned above could, therefore, have a negative impact on the group's financial performance.

The French State is AREVA's majority shareholder. It has the power to control its strategy and to make most decisions in the general meetings of the shareholders.

The French State holds, directly and indirectly, approximately 94% of AREVA's shares and 99% of the voting rights.

As majority shareholder, the French State has the power to direct the group's strategy, control its management and make most decisions under the purview of the general meetings of shareholders, including decisions regarding elections of members of the supervisory board and decisions regarding dividend distributions.

Due to the nature of the group's business, its sales revenue may fluctuate significantly from one period to the next.

The nature of the group's operations, particularly in the Energy divisions (due to the irregularity of orders), may cause uneven distribution of sales revenue through the year and from one year to the next. While the Energy divisions' backlog represents several years of operations, the specificity of the group's operations may complicate, or render moot, comparisons between periods.

Foreign exchange volatility, notably euro versus dollar exchange rates, may have a negative impact on the group's long-term financial performance.

Policy

The euro is the main currency used by the group. Sales outsides the euro zone represented approximately 40% of the group's sales revenue in 2003. The main foreign exchange risk concerns the euro vs. U.S. dollar exchange rate. The group generated 22% of its 2003 sales revenue in the North American region. Sensitivity to other currencies is negligible.

The group's exchange risk policy is to cover foreign exchange risk on transactions, whether certain or potential. Risk is covered using derivative financial instruments and specific insurance contracts (see note 28 of the notes to the consolidated financial statements). Balance sheet risk related to loans and advances made to a company of the group in a currency other than the lending company's accounting currency is also covered to protect the group's consolidated net income.

Impact in 2003

The main foreign exchange positions were covered as of year-end 2003. In 2003, the impact of foreign exchange variations on the group's operating income was more than €5 million, a negligible amount considering the group's operating income of €342 million.

Outlook for the divisions

- Front End division: For deliveries to be made in the next 18 to 24 months, this division is essentially covered for exposure to the US dollar, the worldwide reference currency for natural uranium, uranium conversion and uranium enrichment prices. The division's mining business exposure is automatically reduced for uranium production in the dollar zone (Canada).
- Reactors and Services division: This division is essentially protected against US dollar fluctuations. In services and engineering, expenses are generally incurred in dollars when the sales revenue is denominated in dollars. The resulting margins are not normally specifically covered. Specific insurance coverage is acquired to cover the risk associated with sales of major components (steam generators, reactor vessel heads), for which costs are incurred in euros while sales are denominated in US dollars.
- Back End division: This division is generally not exposed to foreign exchange risk. Most sales outside the euro zone are denominated in euros.
- Connectors division: Specific coverage was acquired on a case-by-case basis in 2003.
- Transmission and Distribution division: All sales denominated in foreign currencies are covered.

Over the medium to long-term, a further decrease in the US dollar's value could have a negative impact on the group's operating income and net income.

Rate risk: the group is exposed to changes in interest rates on its debt.

Policy

The group uses a variety of financial instruments, according to market conditions, to allocate its debt between fixed rate and variable rate obligations and to allocate its investments. These instruments mainly include swap contracts used in debt and cash investment management, and short-term rate futures used in managing medium term investments.

2003 impact

The group's debt totaled €800 million as of year-end 2003. This debt is mostly subject to variable rates.

The group's cash on hand totaled €2.036 billion as of year-end 2003, giving a net cash position of €1.236 billion. The group's rate exposure is therefore limited, since it can arbitrage its position at any time by reimbursing debt with available cash. This was used in 2003 when the group reimbursed more than €1.8 billion in debt by recapitalizing its subsidiary FCI (see note 23 of the notes to the consolidated financial statements).

Risk on equities: the group has substantial investments in listed equities and is exposed to financial market fluctuations.

The group has four types of investments in listed securities:

- Investments consolidated under the equity method: these equities, essentially STMicroelectronics and Eramet, are described in note 12 of the notes to the consolidated financial statements.
- Other long-term notes and investments: this heading concerns AREVA's 16.9% participating interest in Sagem (see note 13 of the notes to the consolidated financial statements).
- Equities held in the portfolio of financial assets earmarked for future cleanup and decommissioning expenses (see paragraph 4.11.3.2 “Risks related to the Energy divisions” - The group is exposed to the risk of a decrease in the value of assets it manages to fund decommissioning expenses).
- Listed equities and other marketable securities held as short-term investments. The description of these securities may be found in note 17 of the notes to the consolidated financial statements. Their market value at December 31, 2003, was €862 million. The sensitivity of the group's cash

position to these equities and other marketable securities is as follows:

	Impact on the value of securities	Market value of equities and other marketable securities held as short-term investments
-10% on securities	-€86 million	€776 million
Reference as of 12/31/03	**-**	**€862 million**
+10% on securities	+€86 million	€948 million

The group has significant insurance expenses for its operations and anticipates a cost increase over the next five years.

The total cost for nuclear and non-nuclear risk insurance in 2003 is estimated to be one half of a percent of the group's 2002 consolidated sales.

This cost could increase significantly in the short term, reflecting market conditions, with insurance offering down worldwide, and potential modifications to international conventions on nuclear liability insurance specific to nuclear facility operators. Consequently, the risk of the future unavailability of certain types of insurance coverage that the group bought in the past and/or an increase in insurance costs could have a significant negative impact on the group's financial position. The potential cost increase may be estimated at around €10 million per year, or even more if insurance premiums continue to increase over the long term.

Certain agreements with financial institutions include covenants that the group might not be able to satisfy if its financial situation were to weaken.

Almost all of the group's lines of credit include a clause stipulating that the borrowing subsidiaries must remain AREVA subsidiaries and that at least 51% of AREVA's stock must continue to be held by the French State. In general, however, the credit terms granted to the group are not related to the fact that a controlling majority interest is held by the French State.

The group's ability to obtain and maintain financing depends for the most part on its financial performance. As indicated in the table under note 23 of the notes to the consolidated financial statements in the 2003 annual report, some of the group's financial commitments include covenants requiring that pre-established financial ratios be met.

AREVA has access to a $600 million credit facility (€490 million) that is currently unused. Under the terms of this facility, AREVA has committed to maintain a net debt / EBITDA ratio equal to or lower than 3. This covenant was irrelevant at December 31, 2003, since AREVA had no debt.

Under a residual financing arrangement representing C$280 million (Canadian dollars), equivalent to €171.7 million, i.e. 13.3% of the group's net cash position at December 31, 2003, COGEMA Resources is bound by three financial covenants concerning its corporate financial statement:

- total non-group debt / (equity + shareholders' advances) = 100% or less;
- consolidated cash flow + interest expense (group + non-group lenders) + change in debt to group companies / interest expense = 1.5 or more;
- adjusted working capital requirement = C$10 million or more (Canadian dollars).

All covenants were met with a good margin of safety as of December 31, 2003. However, any change in the group's financial position might prevent it from meeting these covenants in the future.

The group is exposed to credit risk linked to its use of derivatives to manage certain types of exposure.

The group uses several types of financial derivatives to manage exposure for foreign exchange, commodity prices and certain traded securities, or to manage interest rate risk on its debt and protect its financial investments. The group primarily uses forward buy/sell contracts and derivative products such as futures or options to cover this risk. These transactions create an exposure to a risk of default by the counterparty.

The group is also exposed to a risk of non-payment for its products and its services. The group manages this risk by verifying its customers' credit profile and/or by requesting prepayments or secured payment methods for customers exceeding a certain level of credit-risk. Although the group takes every step to limit its exposure to credit risk, it is not possible to eliminate all such risk.

The measures taken by the group to manage these financial instruments and its principal positions are described in note 28 to the consolidated financial statements (chapter 5).

4.11.3.2. Risks related to the Energy divisions

Due to its nuclear operations, the group is exposed to substantial liability risk and to potentially significant supplemental operating expenses.

The group's nuclear operations cover every stage of the nuclear cycle, including (i) uranium ore mining and processing, (ii) fuel fabrication, (iii) uranium enrichment (iv) reactor design, fabrication, maintenance and upgrades to achieve continuous performance improvement, (v) recycling of spent fuel and recoverable materials (vi) waste packaging and storage, (vii) logistics and transportation associated with these operations.

By nature, these activities involve risk (see paragraph 4.11.2 on control of risk related to the group's nuclear operations).

The group may therefore have substantial liability, in addition to the negative impact such events would have on its assets, equity and operating costs as the result of, among others:

- incidents and accidents;
- security breaches, malicious acts, terrorist acts and aircraft crashes;
- natural disasters such as floods or earthquakes;
- equipment malfunctions;
- malfunctions of storage system handling or treatment of nuclear materials and substances.

Such events could have serious consequences, particularly due to radioactive contamination and/or irradiation of the environment, individuals working for the group or the general public.

The group's operations involve processes that use toxic chemicals in significant quantities and radioactive materials such as uranium hexafluoride (UF6). The transportation of nuclear materials by sea, train, road and air, which is handled by the group's Logistics business unit, also entails specific risks, including potential environmental contamination resulting from transportation accidents. Moreover, some of the group's uranium chemistry and enrichment plants are located in areas subject to flooding, particularly the Rhone valley. The group does not always control the factors influencing the severity of a potential accident concerning a group plant or affecting the transportation of materials. These factors include the volume of radioactive materials dispersed in the environment, the speed of corrective actions implemented by employees, weather conditions and wind speed. Although the strategies and control procedures implemented by the group to minimize the risk correspond to the highest standards for these types of operations (see paragraph 4.11.2 on control of risk related to the group's nuclear operations), it is not possible to eliminate such risk completely. Events that could have a significant potential impact on the environment and the public cannot be entirely ruled out. Such an event would have a significant negative impact on the group's financial situation.

An industrial breakdown or a work stoppage in the group's manufacturing units could delay or stop the flow of AREVA products or services.

AREVA, as a plant operator, is thus exposed to the risk of an industrial breakdown that could cause a delay or interrupt the flow of supplies or services. In each business, the group's various plants are highly interdependent and interconnected. A breakdown or production stoppage in one plant could affect the entire production cycle and stop the flow of supplies or services. Although the group has implemented measures to limit the impact of a possible breakdown and has covered its exposure through business interruption insurance, as described at paragraph 4.11.4, it is not possible to rule out the possibility that a major event might have an impact on the group's financial performance.

The group must bear the full or partial cost of dismantling its nuclear facilities and mines. Provisions have been set up to cover the estimated costs, but actual costs could be significantly different.

As a nuclear facility operator, AREVA is legally obligated to secure and dismantle any of its facilities after shutdown, in whole or in part, and to manage nuclear waste resulting from these operations. In addition, group mines must be shut down and reclaimed at the end of the operating period. At Cluff Lake, preliminary mine reclamation work began in 2001 and will continue in phases as environmental permits are received. Future expenses for this work have been identified and a special provision has been set up to cover them. Details concerning the provision may be found in chapter 5 and in notes 10, 13 and 22 of the notes to the consolidated financial statements.

As part of this program, the group considers that it has recorded all of the provisions required to cover environmental protection obligations that could be reasonably estimated as of December 31, 2003. However, it is not possible to affirm with certainty that the provisions currently recorded will be sufficient to cover the group's obligations, particularly considering the increasing burden placed on industrial operators by

environmental laws and regulations and their interpretation by the courts.

It is therefore possible that these future obligations and additional environmental expenses or responsibilities could have an impact on the group's future financial performance.

In addition, third parties are responsible for a share of these end-of-life-cycle expenses. COGEMA is currently negotiating with EDF to define, firstly, EDF's share of dismantling obligations concerning facilities shut down at the UP2 400 plant or in operation at the UP2 800 and UP3 plants at La Hague and, secondly, EDF's share of waste retrieval and packaging obligations. COGEMA and EDF made progress on these points in 2003, although a final agreement had not been reached by December 31, 2003. However, a late July 2003 statement of joint conclusions accepted by both parties updates the base cost estimate for dismantling and establishes the respective shares of decommissioning expenses to be funded by each party. It is difficult to predict the outcome of these latest negotiations. Although AREVA does not anticipate a significant impact on its financial statements or financial position, the cost ultimately to be borne by the group may exceed the amount currently contemplated in the provisions.

The group is exposed to a risk of decrease in the value of assets it manages to fund decommissioning expenses.

To fund its future cleanup and decommissioning expenses, the group has built a portfolio of financial assets over the years. As at December 31, 2003, this portfolio was comprised of bond mutual funds and money market funds (25%) and of European equities via directly held interests in publicly traded French companies and via mutual funds invested in European equities (75%). As at December 31, 2002, the financial portfolio had been comprised entirely of equities. Long-term asset/liability allocation models recommend a significant proportion of equities, generally considered as likely to offer higher returns than other asset classes. However, they are more volatile and, as a result, the portfolio's value could decrease at certain times.

The portfolio was valued at €2.221 billion as at December 31, 2003. Based on this value, the portfolio must achieve an annual net return of 3.6% after tax and inflation to cover all of AREVA's decommissioning expenses when the time comes.

The required return varies depending on increases and decreases in portfolio value resulting from equity market performance and/or interest rate variations.

The sensitivity of the portfolio's required return based on equity market performance and interest rate variations is as follows:

	Impact of equity market performance and interest rate variations on portfolio value	Market value of portfolio	Corresponding required rate of return
Conservative scenario			
-10% listed equities and +100 basis points on rates	- €160M - €8M	- €168M	€2,053B	4.1%
Reference case at December 31, 2003	-		**€2,221B**	**3.6%**
Best-case scenario			
+10% listed equities and - 100 basis points on rates	+ €160 M + €8M	+ €168M	€2,389B	3.2%

The cleanup and decommissioning fund monitoring committee of AREVA's supervisory board, charged with providing guidance and recommendations in this matter, took up its mission in 2003. A management charter formalizing portfolio management methods and allocation rules is currently being discussed and developed. Risk allocation rules and limits on the percentage of the portfolio invested in securities of any one company are designed to limit the equity portfolio's volatility.

Bringing group facilities into compliance with new environmental regulations could result in additional costs and expenses.

The group's operations require authorizations issued in accordance with local regulations, including release permits and licenses governing production capacities. Operations must comply with applicable legal requirements specific to environmental, personnel and health protection as well as nuclear safety, under penalty of suspension of those operating licenses. Authorities may temporarily suspend the license for as long as they deem necessary in the event of an incident requiring an investigation or when there is too great a discrepancy between a facility's actual condition and the regulations. In addition, some of the group's affiliates may be subject to third party claims for matters pertaining to environmental liability.

AREVA's mining operations are conducted under concession agreements or partnerships, such as the joint concession with Cameco in Canada. These long-term concessions provide good economic visibility to those operations. However, the operations are exposed to the risk of non-renewal of the concession, which could limit their deployment.

Some of the group's operations are also subject to confidentiality or secrecy constraints (defense programs and research) or to specific tax rules.

Events that could have an impact on the group's financial performance or position include new laws and changes in or strengthened regulatory requirements or the regulatory environment, particularly in matters of the environment and nuclear health and safety.

The loss of one of the group's main customers, or a reduction in their procurement, could have a significant negative impact on the group's position.

In the Front End, Back End and Reactors & Services divisions, customer requirements are sustainable and procurement contracts are long-term (5 to 10 years). The group supplies several major energy producers and has a strong position at EDF, its largest customer at one third of sales in the nuclear business. Its commercial relationship with EDF is governed by periodically renewed master agreements. In 2002, EDF announced that it would gradually open procurement to other suppliers, particularly for nuclear fuel. If EDF's decision to call for competitive bids were implemented more quickly than contemplated in the group's scenarios, this would require restructuring of AREVA's production resources, given the importance of this customer. This could have a negative impact on the group's financial performance or position.

EDF represents less than 25% of the group's consolidated sales. Besides EDF, the five largest group customers represent 18% of the group's 2003 consolidated sales. The loss of any one of these customers and the corresponding reduction in sales could have a significant negative impact on the group's financial performance.

A decrease in the supply of certain strategic components or an increase in the cost of electricity could have a negative impact on the group's production costs.

In the nuclear business, certain operations such as uranium chemistry, enrichment and fuel fabrication require large supplies of specific raw materials and semi-finished products (commodities, zircon ore). Some operations (enrichment) also use large quantities of electricity, supplied in large part by the group's main customer. For all of these activities, a shortage of raw materials could translate into production cuts.

The Connectors division uses copper and gold that can easily be procured, considering the division's markets, although procurement prices may fluctuate. Procurement of certain supplies may be vulnerable to quasi-monopoly positions held by manufacturers of semi-finished products used to manufacture components. In any event, the Connectors division remains on guard and monitors its suppliers' financial strength while trying to identify alternative sources of supply.

AREVA made a significant investment to gain access to centrifuge enrichment technology as the group prepares to build its future enrichment plant. However, the expected return on this investment cannot be guaranteed.

On November 24, 2003, the group signed a series of agreements with Urenco and its shareholders to acquire joint control of ETC, the company that owns the centrifuge uranium enrichment technology, and to obtain the right to use this technology, which has been used by Urenco for several years. This technology will enable the group to build a new enrichment plant, Georges Besse II, to replace its existing plant, Georges Besse I, which uses the gaseous diffusion enrichment process. That process is more expensive to deploy in an entirely new plant. The Georges Besse I plant, which entered service in 1979 and is fully depreciated, would be shut down towards 2012 and subsequently dismantled.

The acquisition of the technology and the construction of the Georges Besse II plant cost approximately €3 billion. The plant will become operational around 2016-2017. These agreements have no impact on relations between the group and Urenco, which are competitors in the enrichment market. Their implementation is subject to two conditions precedent: firstly, signature of a quadripartite agreement by France, Germany, the United Kingdom and the Netherlands regarding control of ETC as a supplier of sensitive equipment and technology and, secondly, authorization from antitrust authorities. The group would have to find other means to replace the gaseous diffusion technology if these agreements were not implemented. There is no assurance that AREVA would be able to do so, or to do so under equivalent financial conditions.

While the group is gaining access to an already operational technology, as with any industrial investment, it cannot guarantee that the Georges Besse II plant will be available on the scheduled date. Also, the anticipated return on investment might not be achieved if the technology turns out to be obsolete of if the group overestimated its value.

Some of the group's operations are sensitive to energy policy decisions made by certain countries.

The risk of energy policy changes in certain countries, particularly under the influence of pressure groups or in the aftermath of certain events that give the nuclear industry a negative public image (incidents or accidents, violations of non-proliferation rules), cannot be ruled out and could have unfavorable consequences on the group's financial performance. However, as demonstrated in Germany and Belgium, the long period of time involved and nuclear operators' need to have access to other power generation and transportation capacities and to resolve other disengagement issues slows implementation of these changes. For example, though a law to disengage from nuclear power was adopted in Germany in 2002, that country does not plan to phase out its nuclear power production until 2020.

Electricity market deregulation and competition from other energy sources could hinder the development of nuclear power and result in a corresponding decrease in demand for the group's services.

Ongoing deregulation of the electric power market could impact the group's nuclear business. Deregulation may lead to lower prices for electricity and for products and services related to electricity generation, transmission and distribution and/or to lower investment in the nuclear power sector. Additionally, nuclear power is competing with other energy sources such as oil, natural gas, coal, hydropower and wind energy. Competition from these energy sources could become more attractive and cause the demand for nuclear generated electricity to drop. Such a risk, should it materialize, could have a significant impact on the group's operating income.

Uranium, uranium conversion and uranium enrichment price volatility could have a negative impact on the group's financial performance.

Although AREVA operates mostly as a provider of uranium transformation services for uranium that is usually owned by its customers, it remains exposed to price risk for uranium in its mining operations and to price risk for UF6 conversion and enrichment services.

The group's mining and uranium processing businesses (conversion and enrichment) could be negatively impacted if natural uranium, conversion and enrichment prices were to decline and remain below production costs for extended periods of time. In the past, natural uranium and conversion and enrichment prices have fluctuated. Price levels depend on factors that are beyond the group's control, including demand for nuclear power, economic and political conditions in uranium producing and purchasing countries (such as Canada, the United States, Russia and other CIS Republics), spent fuel treatment, sales of surplus civilian and military inventories (including materials from surplus nuclear weapons), and production cost levels in countries or regions such as Russia and other CIS republics, Africa and Australia.

Uranium reserves indicated by the group are just estimates. There is no guarantee that mining operations will yield the same results.

The uranium reserves [1] reported by the group – some 150,240 metric tons or twenty years of sales at current levels, according to group evaluations – are just an estimate. There is no guarantee that mining operations will yield the same results. Moreover, uranium and gold price fluctuations, production cost increases, and declining extraction rates and plant yields could impact the profitability of the reserves and require reserve adjustments.

The McArthur River mine, held jointly by COGEMA and Cameco, the McClean mine, the Somair mine and the Cominak mine are the group's main sources of uranium concentrate. There is no guarantee that other resources will be found. It is not possible to guarantee that expected quantities of gold and uranium will actually be produced or that the group will receive the expected price for these metals.

4.11.3.3. Risks related to the Connectors division

The Connectors division's operations and financial performance depend primarily on the telecommunications, and automotive sectors.

The division is highly dependent on the telecommunications and automotive industries, which represent 17% of 42% of sales respectively.

Any economic downturn, particularly in the telecommunications and automotive sectors, could have a significant negative impact on connector sales and, consequently, on the group's operating income.

Due to the rapid pace of change in the electronics industry, the group's growth in this sector depends on the success of its technological inventions.

The Connectors division is highly dependent on the group's ability to anticipate technology trends and to develop and market products that meet customer needs in an environment characterized by increasingly short product life cycles.

(1) Reserves correspond to the part of the resources most accurately estimated or resulting from a feasibility or pre-feasibility study based on calculated or estimated costs. The other part corresponds to an evaluation of ore and/or metal quantities contained in a deposit that has not yet been evaluated with a mining feasibility study or that does not meet current technical and economic mining criteria (see definition in paragraph 4.4.1 on resources and production sites).

Although the division develops new products constantly to anticipate market demand, it is conceivable that those products will no longer meet customer expectations. This would have a negative impact on the group's financial position.

4.11.4. Risk coverage and insurance

Coverage concerning ongoing disputes is described in paragraph 4.11.3.1.

No provisions have been recorded to cover other risk factors. They are subject to thorough review as provided by group risk management procedures and are examined during the "risk mapping" process carried out each year (see paragraph 4.11.1). However, some of these risk factors, if they materialized, could be covered by one or several of the insurance policies listed below.

Indeed, to mitigate the consequences of potential events on its financial performance, AREVA has transferred risk to insurance and reinsurance companies worldwide. These insurers are world-class entities and are well regarded on international markets. AREVA has thus acquired insurance coverage relating to operating risk, civil liability and other risks and liabilities concerning its operations, with ceilings consistent with the operations involved.

AREVA's Department of Risk Management and Insurance is in charge of insurance for the entire group. This department:

- Submits solutions to the Executive Board to either retain the risk and finance it internally or to transfer the risk to the insurance market;
- Negotiates, establishes and manages global insurance programs for the group worldwide and reports to the Executive Board on actions carried out and costs incurred.
- Settles claims in cooperation with the subsidiaries involved.

4.11.4.1. Insurance for non-nuclear operations

Civil liability

The group is covered by an “entire world” civil liability program with limits appropriate to its size and operations. This program covers the monetary consequences of any liability incurred by operating entities for bodily harm and direct as well as consequential damages suffered by third parties, excluding nuclear operator liability. Civil liability coverage limits reflect, firstly, reasonable risk exposure estimates for the entire group, as identified by the business units and the Department of Risk Management and Insurance, notably during the risk mapping process, and, secondly, underwriting capacity available on the market.

Property and business interruption insurance

The group's facilities are covered by property insurance and business interruption policies covering related operating losses. The limits of coverage are based on estimated replacement value or on maximum possible loss (MPL) estimates. Business interruption insurance covers operating losses for periods varying from 12 to 24 months.

4.11.4.2. Specific coverage relating to nuclear facility operations

Nuclear liability insurance

Legal framework

International nuclear liability law is based on a series of principles that override the mechanisms of general liability law. The operator of the nuclear facility that caused the damage is solely responsible. This is known as the liability channeling principle. Liability is objective, i.e. no-fault, with few exemptions. The operator is therefore required to compensate the victims for the bodily harm and property damage they have suffered. The operator is required to maintain a form of financial guarantee, generally insurance, to cover its liability. This liability channeling principle to the operator includes, as a counterpart, a certain limitation of liability. On the other hand, the liability channeling principle guarantees rapid compensation to the victims, who do not have to prove that the operator or his sub-contractors were at fault, since this rule overrides general law.

This rule of exception is established in international treaties incorporated in domestic legislation, including the Paris Convention, the Brussels Supplementary Convention, and the Price Anderson Act in the United States.

Every country in which AREVA operates nuclear facilities is subject to one or another of these legal constructions.

As an example, the European countries in which AREVA operates nuclear facilities apply the Paris and Brussels conventions described hereunder.

I - The Paris Convention and the Brussels Supplementary Convention

Fundamental principles established in the Paris Convention

- Nature of liability – the strict and exclusive liability lies solely with the operator of the nuclear facility where the materials causing the damage are held or originated.
- Responsible party – the nuclear facility operator is the party designated or recognized as the facility operator by the public authority with jurisdiction. If the accident occurs during transport, the responsible party is the operator and shipper, rather than the carrier, until the receiving operator assumes

responsibility for the transport under the terms of a written contract or has taken delivery of the radioactive materials.

- Exemptions – the operator is not liable for damages caused by a nuclear accident if the accident is directly due to acts of armed conflict, hostilities, civil war, insurrection or a natural calamity of exceptional nature.
- Limitations of liability – the operator's liability is limited both in total amount and in duration. For purposes of information, France has set a maximum liability limit of €91.5 million per nuclear accident in any given facility and €22.9 million per accident during transport. The statute of limitations to submit a claim is ten years from the date of the accident, since insurance is usually not available for a longer period.
- Financial guarantee – to ensure that funds will be available to compensate the victims, the Convention stipulates that the operator is bound to have and maintain an insurance policy or other financial security approved by the government of the country in which the facility is located and representing the amount of its liability as fixed by the Convention. Currently, insurance is the most commonly used form of financial guarantee. For example, article 7 of the French law of 1968 on civil liability in the field of nuclear energy requires each operator to have and maintain insurance or another financial security up to the limit of the amount of the operator's liability per accident. The minister of the Economy and Finance must approve this financial security.

The Brussels Supplementary Convention

- This Convention fixes the amount of liability assumed by the contracting States when the damages exceed the nuclear operator's liability limits. Additional compensation from public funds must first come from the country in which the facility is located, and then from the community of all contracting States bound by the Supplementary Convention.
- For example, should an accident occur in a licensed French facility, the French government would assume liability beyond €91.5 million and up to a limit of €228.6 million. Thereafter, the community of contracting States bound by the Brussels Supplementary Convention would assume liability for the amount in excess of €228.6 million, up to €381.1 million.

Revision of the Paris and Brussels Conventions

The Protocols to amend the Paris Convention and the Brussels Supplementary Convention were signed on February 12, 2004 by representatives of the contracting States. The amended Conventions are not yet in force, as the Protocols must first be ratified by the contracting States (Belgium, France, Germany, United Kingdom, etc.) and then transposed into national law in each contracting State.

The main amendments increase all three tiers of indemnity. Thus, the nuclear operator's liability would increase from €91.5 million to €700 million per nuclear accident in any given facility. The limit of liability during transport would increase from €22.9 million to €80 million per accident.

The State in which the nuclear facility responsible for the damage is located would cover the €700 million to €1.2 billion tier. The other contracting States would cover the €1.2 billion to €1.5 billion tier. A procedure to increase these limits would apply as new States ratify the Conventions.

The statute of limitations for claims would increase from 10 years to 30 years as of the date of the accident.

II – Price Anderson Act

In the United States, the Price Anderson Act (PAA) channels claims for indemnification to the nuclear operators. Only facilities regulated by the Nuclear Regulatory Commission (NRC) and facilities owned by the Department of Energy (DOE) are covered by the PAA. All other facilities are subject to ordinary law.

Under the PAA, the nuclear operator bears all financial consequences with regard to the victims, no matter who the responsible party might be. For accidents during transport of materials belonging to the DOE, only the DOE will indemnify the victims, even if the carrier is at fault and could be considered liable (economic channeling principle).

Accordingly, two different types of situations may arise, depending on whether the party (1) operates a facility regulated by the NRC or (2) operates as a DOE contractor:

(1) Only nuclear power plants with a nominal capacity of 100 MWe or more and certain research and test reactors must provide financial protection. The Price Anderson Act indemnification process provides access to up to $9.7 billion in protection under a two-tier system:
   - The first tier corresponds to insurance (or similar financial protection) acquired on the private nuclear insurance market by the nuclear power plant operator for $300 million in coverage;

- The second tier corresponds to an NRC-managed fund financed by premiums paid by nuclear operators. This fund provides secondary coverage of $95.8 million per nuclear reactor on the operator's site and is activated when the first line ($300 million as indicated above) is insufficient. The fund stands at $9.4 billion today.
- If the first two lines prove insufficient to cover third party damages, the US Congress would have to provide for any additional indemnification.
- For example, the operator of a 4-reactor nuclear plant must acquire $300 million in primary insurance protection, which is supplemented by 4 x $95.8 million in NRC secondary coverage. The total protection covering the plant would then represent $683.2 million.
- Fuel fabrication plants and used fuel treatment facilities are not subject to the Price Anderson Act system and have no legal obligation to acquire insurance. However, these facilities procure insurance on the market for the maximum amount granted by underwriters.

(2) When Department of Energy contractors are responsible for a nuclear accident, the DOE indemnifies the victims up to the maximum legal limit per civilian nuclear plant accident in the United States, or $9.7 billion, without calling on the private insurance market. If a nuclear accident occurs outside the United States, in particular during transportation, indemnification is limited to $100 million and only covers accidents involving materials belonging to the US government.

Description of insurance acquired by the group

The group's potential liability for its licensed nuclear facilities in France and abroad, and for its transportation operations, is covered by specific insurance policies defined under the laws of the countries in which the facilities are located and under international conventions (Paris Convention, Brussels Convention, etc.). Insurance policies specific to nuclear operators comply with these requirements and conventions, including their liability limits. These policies are reinsured by the nuclear insurance pool of the country involved, such as Assuratome in France, DKV in Germany, Syban in Belgium or ANI in the United States.

Property insurance for nuclear facilities

Due to the nature of the potential damage to the facilities, this type of insurance is available only through pools or specialized mutual insurance companies dedicated to providing this type of coverage. The limits of coverage for this type of insurance are based on the estimated replacement value or on a maximum possible loss (MPL) estimate. The underwriters' commitment may exceed €1 billion for certain complex facilities.

4.11.4.3. Other insurance

The group is eligible for insurance provided by Coface (French export insurance company) for some large export contracts from France, such as the construction of a nuclear power plant. In addition, the group has acquired insurance for automobile liability and workers' compensation policies that comply with the legal requirements of the particular country in which any given AREVA subsidiary might be located.

4.11.4.4. Changes in 2004 and outlook

The safety measures and risk mapping programs implemented by AREVA have enabled the group to limit premium increases applied by underwriters in the aftermath of the September 11 terrorist attacks in the United States.

Policy renewals for 2004 were concluded without premium increases and even, in some cases, with small premium decreases. The total anticipated cost for nuclear and non-nuclear insurance in 2004 is one half of one percent of the group's 2003 sales revenue.

To prepare for new requirements specified in the amended international conventions regarding nuclear liability, AREVA has joined with other European operators to create a mutual insurance company called ELINI (European Liability Insurance for the Nuclear Industry) to provide the insurance market with the underwriting resources it may lack.

On January 9, 2004, AREVA acquired Alstom's "Transmission and Distribution" division. On January 1, 2004, Alstom's insurance policies for this division were renewed, without change in coverage, under the name of AREVA T&D. Some limit increases were subsequently implemented. This program is separate from other AREVA group policies.

Chapter 5

Assets - Financial position - Financial performance

≫ 5.1. Financial report

5.1.1. Five-year consolidated financial highlights

(in millions of euros)	2003	2002	2001	2000	1999
Income statement					
Sales:	**8,255***	**8,265**	**8,902**	**9,041**	**9,517**
- Energy	*6,830*	*6,576*	*6,825*	*5,532*	*7,375*
- Connectors	*1,338*	*1,560*	*1,966*	*2,644*	*1,951*
- Other	*87*	*129*	*111*	*866*	*191*
% of sales outside France	*63.3*	*60.8*	*52.9*	*56.2*	*47.6*
Operating income	342	180	122	605	502
Net financial income	334	587	199	111	(4)
Exceptional items	135	289	319	78	24
Goodwill amortization	(174)	(593)	(989)	(154)	(146)
Share in net income of equity affiliates	20	83	102	443	929
Net income before minority interests	473	326	(367)	785	1 212
Consolidated net income	389	240	(587)	463	500
Cash flow statement					
Cash flow from operations	839	1,011	1,361	1,818	n.c.
Cash flow from operating activities	1,218	907	1,204	1,452	n.c.
Cash from (used for) investing activities	(329)	(484)	(1,306)	(1,453)	n.c.
Cash from (used for) financing activities	(1,967)	(190)	(813)	(301)	n.c.
Increase (decrease) in net cash	(645)	1,250	(903)	(289)	n.c.
Balance sheet - Assets					
Net intangible assets (excluding goodwill)	482	510	534	498	502
Net goodwill	1,265	1,537	2,195	2,113	2,157
Decommissioning assets	9,109	9,223	-	-	-
Net tangible assets	3,447	4,647	5,321	5,411	5,922
Long-term notes and investments	4,791	4,232	4,880	5,115	4,465
Working capital requirement	(1,051)	(958)	(1,210)	(1,627)	(2,584)
Cash and marketable securities	2,036	3,302	1,715	2,949	3,126
Balance sheet - Shareholders' equity and liabilities					
Shareholders' equity	4,113	4,020	4,187	4,170	3,914
Minority interests in subsidiaries' earnings	959	988	1,004	2,434	2,019
Perpetual subordinated debt	215	215	216	216	216
Provisions for risk and liabilities	13,992	15,053	5,583	5,040	4,800
Debt	800	2,217	2,444	2,596	2,375
Data per share					
Outstanding shares at year-end	34,013,593	34,013,593	34,013,593	27,985,200	27,985,200
Outstanding investment certificates at year-end	1,429,108	1,429,108	1,429,108	1,429,108	1,429,108
Average number of outstanding shares and investment certificates in circulation	35,442,701	35,442,701	31,423,772	29,414,308	29,414,308
Earnings per share	10.97	6.77	(18.65)	15.73	16.98
Dividend paid out per share	6.20**	6.20	6.20	22.85	10.23
Workforce					
Workforce at year-end	48,011	50,147	49,860	51,811	53,694

** After reallocation of overheads as discussed in 5.1.3.1.*
*** Dividend proposed to the Annual General Meeting of Shareholders of May 4, 2004.*

5.1.2. Highlights of the year

5.1.2.1. Market and economic environment

Energy: world economic environment and impact on AREVA activities

At year-end 2003, 436 nuclear reactors were connected to the grid [(1)] in 31 countries, representing a total installed generating capacity of 381 GW of electric power (GWe). Two new reactors were connected to the grid in 2003: Temelin in the Czech Republic and Ling Ao 2 in China, which was built by the AREVA group. Currently, 27 nuclear reactors are under construction and 32 additional units are planned worldwide, with two-thirds of them in Asia.

Worldwide nuclear power generation totaled 2,597 TWh in 2003, a 2.6% decrease from 2002, reflecting the outage of some Japanese reactors. Outside Japan, nuclear power generation rose by 0.7%. Nuclear power's contribution to world power generation remained near 17% in 2003.

Markets for nuclear power generation materials tightened significantly in 2003. So-called secondary sources of supply for natural as well as enriched uranium dried up, triggering a noticeable increase in natural uranium contract prices and spot price indices. This trend is significant in that it tends to signal the end of commercial inventory sell-offs - utilities built up their inventories in the seventies and eighties in the aftermath of the oil crises - and of sales of diluted Russian-origin highly enriched uranium (HEU), which became available as a result of disarmament agreements concluded between the United States and Russia in the early nineties. This market-tightening trend, should it continue, will have a significant impact on the production of new materials and on enrichment capacities in 2004 and 2005.

Europe and the CIS

In Europe and the Commonwealth of Independent States (CIS), 208 nuclear reactors are connected to the grid, representing 183 GWe of generating capacity. These reactors produced 1,254 TWh of electricity in 2003, a 1.9% increase over the previous year. Germany and Belgium have announced their decision to phase out nuclear power, which would mean shutting down their last reactors from 2021 to 2025.

Many countries are still assessing strategies for their future energy mix, and recent trends confirm the favorable outlook for nuclear power:

- a fifth reactor will be built in Finland, which has chosen the EPR proposed by AREVA;
- the people of Switzerland have affirmed their support for nuclear power by defeating two anti-nuclear initiatives (referenda rejected with a 58% and 63% majority respectively), and new nuclear legislation has been enacted;
- draft legislation has been proposed in France following the national energy debate conducted throughout 2003;
- Italy's nationalized power companies have been authorized to invest in foreign nuclear power generation capabilities; and
- nuclear power generation is expected to double in Russia by 2020 (+140 TWh).

As regards electricity transmission and distribution, the European Union recommends construction of additional grid interconnection capacities between member countries.

North America

In North America, 125 nuclear reactors are in service, representing 120 GWe of generating capacity. These reactors generated 873 TWh of electricity in 2003, a 1.7% decrease from 2002. The drop is specific to the U.S., where scheduled outages and major repairs have reduced North American reactor load factors by two percentage points in 2003, to 87.2%.

The United States has reaffirmed its intention of reducing its reliance on energy imports. The productivity of U.S. nuclear power generating facilities is a strong incentive for utilities to invest in reactor performance enhancements and modernization, while also securing license extensions to increase plant service life from 40 to 60 years. Solving the issue of electric grid reliability will also need substantial capital expenditure. The federal government is drafting energy legislation to spark renewal of domestic power generation, particularly in the nuclear sector, and to amend provisions regulating transmission networks.

Supported by the U.S. Department of Energy (DOE), three utilities have launched preliminary design studies for new reactor construction. The DOE is also funding studies on advanced used fuel treatment and programs for nuclear site decommissioning and cleanup as well as Russian weapons reduction, under agreements between Russia and the United States.

Asia

In Asia, 95 nuclear power reactors are connected to the grid, representing 72 GWe of generating capacity. These reactors generated 431 TWh of electricity in 2003, a 14.8% decrease from 2002. This drop was largely due to the fact that nine reactors were undergoing safety inspections in Japan and did

(1) Source: Nucleonics Week, February 12, 2004.

not generate electricity in 2003. Outside Japan, Asian power generation rose by 6%. Asian countries are continuing to ramp up their nuclear power generating capacity, with 18 reactors under construction and 25 more on order. The transmission and distribution market is also relatively active, particularly in China and India.

Connectors [1]

Worldwide connector sales reached an estimated $25.5 billion in 2003, a 3.6% jump. This is the first sign of a recovery in the connectors business following the market upheaval that so severely affected 2001 and 2002. The market is still below its 2000 level, when sales peaked at $31.6 billion.

While European sales posted a 0.5% decline, all other major connector markets grew in 2003, though with large regional differences. The North American market grew by only 0.5%, whereas China continued to be the leading growth engine, with a 23.1% growth rate as production capabilities transferred there from other regions. With production moving to lower cost regions, prices dropped significantly in 2003. Commodity product lines were most affected by this price erosion trend.

Automotive, medical electronics and consumer electronics were again the fastest growing end markets in 2003.

The telecommunications segment was persistently depressed, while information technology and data transfer markets recovered volume but were affected by a sharp downturn in prices.

Signs of recovery in the telecommunications segment include the first announcements of renewed capital expenditure programs, including deployment of GSM mobile telephony networks in the United States and increased capital spending to meet demand for ADSL. Meanwhile, new mobile telephone technology and replacement demand for digital consumer products such as cameras, video recorders and DVD players fueled the consumer electronics markets.

5.1.2.2. Acquisitions, asset sales and capital transactions

Group

Acquisition of Alstom's Transmission & Distribution division

The AREVA group's strategy centers on the needs of our major customers: electric utilities. Our review of sectors important to their business led us to the conclusion that electricity transmission and distribution is essential to their success. This prompted our July 1, 2003 bid to acquire Alstom's Transmission and Distribution division (T&D), which had been on the market since early 2003. Since then, a series of blackouts in several major countries and the confirmation of the demand for renovation of electric grid equipment have validated this decision. The T&D acquisition agreement was signed with Alstom on September 25, 2003, and the transaction closed on January 9, 2004.

FCI recapitalization

On November 21, 2003, AREVA contributed €1.3 billion in new capital to FCI, the subsidiary constituting the group's connectors business.

This capital contribution was used entirely to repay FCI debt to financial institutions, which represented €1.8 billion as at December 31, 2002. The combination of this capital contribution and the sale of non-strategic assets was sufficient to repay FCI's debt in full without affecting the AREVA group's net equity.

Sale of Packinox

Consistent with our policy of disposing of non-strategic assets, AREVA sold Packinox to its management team on December 17, 2003. Packinox owns a proprietary heat exchange process used in the petrochemical industry. Based in Chalon-sur-Saône, France, the company employs 130 people and posted €36 million in 2003 sales up to the date of its divestment.

Energy

Agreement to acquire 50% of Enrichment Technology Company (ETC)

On November 24, 2003, AREVA signed an agreement with Urenco's shareholders to acquire 50% of Enrichment Technology Company (ETC). The joint venture is the culmination of AREVA and Urenco negotiations undertaken upon execution of a Memorandum of Understanding in October 2002.

ETC controls all of Urenco's operations related to the design and construction of facilities and equipment for uranium enrichment, including related R&D. The acquisition is still subject to approval by antitrust authorities and to the conclusion of a multilateral agreement between the governments of Germany, the Netherlands, the United Kingdom and France.

Acquisition of an equity interest in Chinese company Shenzhen Nuclear Engineering (SNE)

On July 23, 2003, Framatome ANP, a joint AREVA and Siemens company, announced that it had acquired a 35% participating interest in Shenzhen Nuclear Engineering (SNE), a Chinese company providing specialized nuclear services to the Chinese market.

(1) Source: 2003 Bishop report.

Framatome ANP and China Nuclear Industry (CNI 23), a subsidiary of China Nuclear Engineering Group Corporation (CNEC), will each own 35% of Shenzhen Nuclear Engineering (SNE).

SNE's mission is to supply services to China's eight nuclear power reactors based on Framatome ANP technologies and know-how. The eight reactors are currently connected to the electric grid and represent 6,500 MWe of generating capacity. Three more reactors are under construction and will provide 2,600 MWe in additional generating capacity.

Connectors

Sale of the Military/Aerospace and Industrial (MAI) Business Unit

FCI sold its Military/Aerospace and Industrial business unit (MAI) on April 30, 2003. The sale reflects AREVA's strategy of focusing on markets where the group enjoys a leadership position. The MAI business unit reported €149 million in consolidated sales and employed 1,204 people as at December 31, 2002. Sales through April 30, 2003 totaled €40 million.

Sale of the Communication Data Consumer business unit's "Cable & Assembly" operations

On May 8, 2003, FCI performed an agreement to sell its "Cable & Assembly" production assets to Sanmina-SCI. The products involved are not related to the group's core business, are not considered sufficiently profitable, and may compete with products offered by some of the group's customers.

This entity contributed about €70 million to sales annually.

5.1.2.3. Key contracts, commercial agreements and other significant events

Front End division

- February 26: The Fuel business unit and the Yibin fuel fabrication plant in the People's Republic of China signed a new cooperation agreement to fabricate fuel and inspect and repair fuel at Chinese reactor sites. The 5-year agreement provides for greater cooperation among experts of the Yibin plant in Sichuan province and the Fuel business unit. The Yibin plant, owned by the China National Nuclear Corporation (CNNC), and the Fuel business unit have been working in partnership for several years. The first technology transfer agreements between the two organizations date back to 1991. Through that original partnership agreement, which ended in 1994, the Yibin plant supplied the fuel reloads for the two Daya Bay reactors as well as the initial cores for Phase II of the Qinshan program.
- April 8 to July 4: Mining operations were suspended at the McArthur River uranium mine in Canada due to flooding on April 6, 2003. Production restarted on July 4, 2003, after all of the necessary authorizations had been secured from the Canadian safety authorities.
- June 18: The Fuel business unit signed a contract worth more than €20 million with E.On Kernkraft GmbH, operator of the Isar 1 nuclear station, to supply Atrium 10 and Atrium 10 XP fuel assemblies starting in 2006.
- June 24: The Chemistry business unit signed two natural uranium conversion contracts with EDF (France) and Enusa (Spain) for a combined total of around €240 million. The EDF contract represents around €230 million of that amount. The Enusa contract – for procurement, uranium management and fuel fabrication services to Spanish nuclear utilities – represents about €10 million, with deliveries scheduled through 2008.
- November 4: RWE Power AG awarded a long-term contract to the Fuel business unit to supply fuel reloads to three nuclear plants. The contract covers the supply of several uranium fuel reloads to the Biblis A (1,167 MWe), Biblis B (1,240 MWe) and Emsland (1,329 MWe) pressurized water reactors (PWR), and to the Gundremmingen B (1,284 MWe) boiling water reactor (BWR). Fuel will be delivered over the 2004 to 2007 period.
- December 12: German utility E.On Kernkraft GmbH awarded a contract to the Fuel business unit to supply fuel to four nuclear reactors. The contract, valued in excess of €60 million contract, covers the Brokdorf (1,370 MWe), Grafenrheinfeld (1,275 MWe), Grohn (1,360 MW) and Unterweser (1,345 MWe) PWRs.

Reactors and Services division

- January 24: The Equipment business unit was chosen to supply two additional reactor vessel heads to North Anna, a reactor operated by Dominion in the United States.
- February 24: The Reactors business unit brought the second Ling Ao unit on line in China, two months ahead of schedule. Framatome ANP supplied the nuclear island.
- March 31: The Reactors business unit submited a bid to Teollisuuden Voima Oy (TVO) to build Finland's fifth reactor.
- April 4: The Services business unit won a contract to upgrade emergency power supply systems at the Comanche Peak reactor in the United States.
- May 15: Electricité de France (EDF) awarded a contract valued at around €30 million to the Services business unit to inspect 29 reactor vessels over the 2005-2010 period. Inspections of the operating EDF PWRs will take place during scheduled

10-year maintenance outages.

- June 30: The Equipment business unit signed a contract with Florida Power & Light (FPL) to supply and install replacement reactor vessel heads at the utility's four nuclear reactors: Turkey Point 3 and 4, and St. Lucie 1 and 2.
- August 19: The Reactors business unit won the call for bids to supply and install a new digital control system for units 3 and 4 of the Bohunice nuclear power plant in the Slovak Republic. The contract, valued at €25 million, was awarded by state-owned utility Slovenské Elektrárne AS.
- December 18: Finnish power company Teollisuuden Voima Oy (TVO) signed a contract with the AREVA/Siemens team to build a European Pressurized Water Reactor (EPR) at Olkiluoto (Finland). Framatome ANP, an AREVA company, will supply the nuclear island, while Siemens will supply the balance of plant. TVO estimates the total turnkey value of the project at €3 billion. The reactor is scheduled to come on line in 2009.
- October 20: The Equipment business unit supplied two reactor vessel heads to the Three Mile Island 1 (Pennsylvania) and Crystal River 3 (Florida) nuclear power stations in the United States operated by Exelon and Progress Energy respectively. The two contracts, which also cover ancillary equipment and installation services, represent about €30 million in total combined revenue.
- November 10: Framatome ANP, an AREVA subsidiary, Siemens and Washington Group International announced the award of a contract to their joint venture, SGT Ltd, to supply equipment and engineering services to replace steam generators and a reactor vessel head at Entergy's unit 1 in Arkansas.
- December 3: The Equipment business unit won a contract to supply two steam generators to the St. Lucie 2 nuclear power plant operated by Florida Power & Light (FPL). The new steam generators, to be manufactured in Chalon Saint-Marcel, France, will be delivered in July 2007 and installed during a scheduled outage in the fall.

Back End division

- May 21: The Engineering business unit signed an important contract to design handling systems for the U.S. Department of Energy's Yucca Mountain Project in Nevada, United States. The $29.7 million contract was awarded by Bechtel SAIC, L.L.C., the management and operations contractor for the Yucca Mountain Project.
- September 4: A September 3 order published in the September 4 issue of the *Journal Officiel* of the French Republic authorized COGEMA to increase the capacity of the Melox plant from 101 metric tons to 145 metric tons of heavy metal. Consultations were held with the residents of the eleven towns closest to the site concerning the license application during a public inquiry that took place from January 8 through March 8, 2003.
- September 5: In 2002, the United States selected AREVA technology to recycle its entire inventory of surplus weapons-grade plutonium by converting it into Mox fuel in the framework of international nuclear disarmament agreements. The United States is building a Mox fuel fabrication facility in South Carolina for this purpose. AREVA is participating in the project via the Duke-COGEMA-Stone&Webster team (DCS). The U.S. Department of Energy (DOE) entered into a contract with AREVA in September 2003 to manufacture four lead test assemblies of MOX fuel for qualification in Duke Power reactors.
- October 23: U.S. utility Progress Energy awarded a contract to the Logistics business unit to supply used fuel storage systems to three nuclear power plants. Including options, AREVA subsidiary COGEMA, Inc. could deliver over 40 dry storage systems through its subsidiary Transnuclear, Inc.
- In 2003, the Back End division delivered its 2,000th Mox fuel assembly to EDF and started up a used fuel and vitrified waste storage facility in the Netherlands.

Connectors division

- To bolster its competitive position, the Communication Data Consumer business unit continued to restructure its product portfolio and optimize production resources. In 2003, more than 50% of the business unit's operations were conducted in Asia, compared with less than 20% in 2000. The business unit also entered into alliances with some of its competitors to develop new technologies.
- The Automotive business unit entered a new market with the launch of its ABS system connectors business in North America. In Japan, the strategic partnership initiated in 2002 with connectors manufacturer Mitsubishi Cable Industries was activated with an initial joint development project.
- In the United States, GE Industrial Systems selected the Electrical Power Interconnect business unit to supply its connectors.

5.1.3. Change in reporting format

5.1.3.1. Changes affecting the income statement

AREVA allocated certain general and administrative expenses that were formerly recorded under the heading "holding and other activities" to the Energy business in 2003. Financial data for 2002 has been restated to allow comparison with 2003.

The impact on 2002 sales from corporate overheads was -€5 million, which was allocated (in rounded figures) to sales of the Front End division (+€2 million), the Reactors and Services division (+€2 million) and the Back End division (+€1 million).

The impact on 2002 operating income from corporate overheads was +€29 million, which was allocated (in rounded figures) to the Front End division (-€14 million), the Reactors and Services division (-€17 million) and the Back End division (+€2 million).

These allocations had no impact on consolidated sales or operating income reported for 2002.

5.1.3.2. Changes affecting the balance sheet

Three changes were made to the format of the balance sheet in 2003, described in more detail in note 1.1 of the Notes to the consolidated financial statements (see paragraph 5.5):

- The "provision for charges to be incurred" was recaptured in full. It totaled €962 million as at December 31, 2002. Conversely, an allowance for the same amount was recorded under "Depreciation of tangible assets".
- The portfolio of financial assets earmarked for facility decommissioning includes €576 million in liquid assets [(1)] as of December 31, 2003, including €398 million in interest rate mutual funds and €178 million in cash equivalents. For greater transparency in the financial statements, all assets earmarked for decommissioning, including the mutual funds mentioned above, were combined under a single heading included in "Other financial assets".
- Interest-bearing advances from customers were reclassified as financial debt. These advances totaled €382 million as at December 31, 2002 and €416 million as at December 31, 2003.

These reclassifications had no impact on consolidated net income or consolidated equity.

5.1.4. Income Statement for 2003

5.1.4.1. Sales

The AREVA group posted 2003 sales of €8.255 billion, up 6% from 2002 on a like-for-like basis (in terms of both consolidation and exchange rates). Reported sales were flat, at -0.1%, due to the negative impact of the dollar exchange rate.

Sales

(in millions of euros)	2003	2002	% change reported	% change like-for-like*
Energy	**6,830**	**6,581**	**+3.8**	**+6.9**
Connectors	**1,338**	**1,560**	**-14.2**	**+2.3**
Corporate and other	87	124	-29.8	-5.7
Total	**8,255**	**8,265**	**-0.1**	**+6.0**

** Like-for-like:*
(i) the effect of exchange rate variations from 2002 to 2003 is -€376 million.
(ii) the effect of changes in the consolidated group relate to the acquisition of Duke Engineering & Services in April 2002 (Energy sector), the sale of the Military/Aerospace and Industrial business unit (MAI) in April 2003, and the sale of the Communication Data Consumer business unit's Cable & Assembly operations in October 2003 (Connectors division), with a total impact of -€103 million.

Energy

Energy operations were up 6.9% like-for-like (+3.8% over reported data) to €6.83 billion, compared with €6.581 billion in 2002. Growth was particularly strong in North America (+16% over reported data) and Europe (+4% over reported data). The Front End and Reactors and Services divisions experienced strong growth, with sales up 10.3% and 13.2% respectively on a like-for-like basis (+4.7% and +9.9% for reported data).

Connectors

The Connectors business recorded growth of 2.3% in 2003 on a like-for-like basis, reflecting strong fourth quarter performance (+8.1% like-for-like over the third quarter 2003 and +3.1% like-for-like over the fourth quarter 2002). For reported data, Connectors division sales were down 14.2% to €1.338 billion, compared with €1.560 billion in 2002, reflecting the change in consolidated operations (sale of the Military/Aerospace and Industrial and Cable & Assembly units) and the negative impact of the dollar exchange rate, for €120 million.

Corporate and other

Sales reported under the "Corporate" heading for 2003 consist of Packinox sales recorded before the company was sold and non-strategic operations of Duke Engineering & Services, which was acquired in 2002.

The reported change from 2002 is primarily due to the cessation of the group's real estate operations, which were sold at the end of 2002.

(1) This sum was allocated from cash to offset a transfer of Sagem shares from the portfolio of assets earmarked for decommissioning (see paragraph 5.1.6).

5.1.4.2. Research and development

(in millions of euros)	2003	2002	Variation
Energy	**199**	**212**	**-5.7%**
% of sales	*2.9*	*3.2*	
Patent applications filed	74	99	
Connectors	**86**	**120**	**-28.3%**
% of sales	*6.4*	*7.7*	
Patent applications filed	78	93	
Total	**285**	**332**	**-13.9%**
% of sales	***3.5***	***4***	

The group's Research and Development expenses decreased from €332 million in 2002 to €285 million in 2003, or approximately 4% of 2003 sales.

In the Energy business, resources dedicated to R&D remained relatively stable at €199 million, or approximately 3% of sales. R&D programs focus primarily on enhancing fuel performance and reactor economic performance through work on control system aging and digitalization. In the Back End division, resources were devoted to optimizing technical and economic solutions for used fuel. Longer term, AREVA is actively working on a new generation of reactors, the high and very-high temperature gas-cooled reactors that are among the solutions contemplated in the international "Generation IV" R&D initiative.

Despite difficult market conditions, the Connectors division maintained R&D expenditure at more than 6% of total sales, or €86 million. Significant development work was devoted to boosting productivity, mainly by optimizing manufacturing processes. Research of a more fundamental nature involved large-scale, narrowly targeted technology development to increase data transmission speeds, including research on new coating materials, expanded bandwidths and multi-point contacts. These efforts have paid off with innovative solutions for our customers, particularly in the automotive sector, where onboard electronics occupy an increasingly important place.

5.1.4.3. Operating income

Operating income for the group was up 90% in 2003, at €342 million, compared with €180 million in 2002. Operating margin represented 4.1% of sales, compared with 2.2% in 2002.

Operating income

(in millions of euros)	2003*	2002 adjusted*	2002 reported	% change 2003/2002 R
Energy	523	619	649	-15.5
Including restructuring costs	*(83)*	*(76)*	*(68)*	
Connectors	(114)	(406)	(406)	Loss divided by 3.5
Including restructuring costs	*(135)*	*(269)*	*(269)*	
Corporate and other	(67)	(34)	(63)	n.s
Total	**342**	**180**	**180**	**+90**

** For 2003, the group allocated certain general and administrative expenses formerly recorded under "Corporate and other activities" to the Energy business. For 2003, the "Corporate and other activities" heading is limited to AREVA SA corporate expenses and operating income related to non-strategic activities. 2002 figures were restated to allow comparison with 2003.*

Energy

In the Energy business, operating income settled at €523 million, down from a record €619 million in 2002. Operating margin represented 7.7% of sales, compared with 9.4% in 2002.

On average, reported operating income grew 15% annually over the 2000-2003 period.

Connectors

The Connectors business reported an operating loss of -€114 for 2003, compared with the -€406 million loss in 2002. Restructuring costs were €135 million, compared with €270 million in 2002. Excluding restructuring costs, the Connectors business was back in the black in 2003 at €21 million, versus a loss of -€136 million in 2002.

Break-even was achieved at the end of the second quarter of 2003, ahead of the target announced in April 2002. Positive operating income before restructuring expenses was recorded for the third and fourth quarters, with quarter-on-quarter [1] growth throughout the year.

Corporate

The 2003 operating loss for corporate operations was -€67 million, versus the 2002 loss of -€34 million. For the most part, the difference relates to the loss of rental income following the sale of the AREVA tower in 2002.

(1) i.e. calculated from one consecutive quarter to the next.

5.1.4.4. Financial income

AREVA recorded a 2003 financial income of €334 million, compared with €587 million in 2002.

Financial income

(in millions of euros)	2003	2002
Share unrelated to decommissioning portfolio	**358**	**621**
Investment income	99	97
Interest expense	(55)	(87)
Foreign exchange gain (loss)	(10)	1
Net gain (loss) on sales of securities	288	689
Dividends received	32	57
Write-down of securities	39	(47)
Other income (loss) from financial activities	(35)	(89)
Share related to decommissioning portfolio	**(24)**	**(34)**
Gain (loss) from decommissioning portfolio	15	(4)
Decommissioning provision inflation adjustment	(39)	(30)
Total	**334**	**587**

Excluding income generated by the portfolio of assets earmarked for decommissioning, the group's financial income was down, from €621 million in 2002 to €358 million in 2003, primarily due to fewer gains from sales of securities. In 2002, the group sold 7 million Total shares to reduce its exposure to equities. That transaction generated a €689 million before-tax gain. The strategy was again followed in 2003, with the group selling 3.2 million Total shares for a €288 million before-tax gain. After income tax and amortization of goodwill recognized when AREVA was established, these gains came to €398 million and €160 million for 2002 and 2003 respectively. As at December 31, 2003, the group still owned 2.2 million shares of Total, which were acquired at a price of €74 per share, representing an unrealized gain of €73 per share.

With the recovery of security markets in 2003, the group also recaptured €39 million from a provision for the write-down of securities, compared with a €47 million provision increase in 2002.

Financial income generated by the portfolio of securities earmarked for decommissioning was relatively flat, at -€24 million versus -€34 million in 2002. That figure includes the impact of inflation on the decommissioning provision, which went from -€30 million in 2002 to -€39 million in 2003. It also includes a portfolio income of €15 million in 2003, up from -€4 million in 2002.

5.1.4.5. Exceptional items

Exceptional items represented €135 million in 2003, compared with €289 million in 2002.

This heading primarily includes:

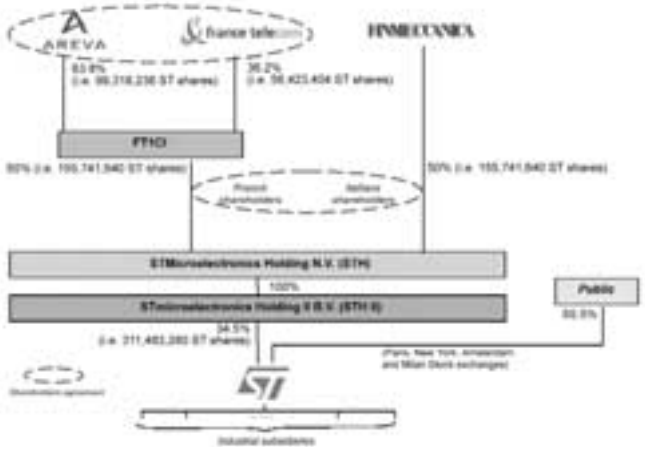
- A €65 million gain on the sale of the Military/Aerospace and Industrial (MAI) Business Unit by the Connectors division, and
- A €47 million gain on Assystem shares tendered for exchange to Brime Technologie, based on the exchange ratio specified in the share exchange bid.

Significant non-strategic assets were sold in 2002, including Sovakle (the group's real estate subsidiary) and the AREVA Tower (formerly known as the Framatome Tower).

5.1.4.6. Other income statement items

- The group's income tax decreased from €220 million in 2002 to €184 million in 2003. This drop reflects a reduction in AREVA's taxable income [1], from €1,056 billion in 2002 to €811 million in 2003, and group income tax optimization, allowed under consolidated taxable income rules *("Bénéfice Fiscal Consolidé")*.
- The group's share in net income of equity affiliates dropped significantly, to €20 million in 2003 versus €83 million in 2002. In particular, AREVA's share in the Eramet group's [2] net income deteriorated from -€6 million in 2002 to -€25 million in 2003, while AREVA's share in STMicroelectronics' net income dropped from €75 million in 2002 to €34 million in 2003. AREVA has an 11% participating interest in STMicroelectronics. As at December 31, 2003, that participating interest was held through the following shareholding arrangement:

STMicroelectronics shareholding structure as at December 31, 2003



(1) Operating income + Financial income + Exceptional items.
(2) The Eramet group includes the following companies: Eramet, Comilog and Eramet Manganèse Alliages.

This structure is reflected in the group's accounts as follows:

- 17.3% equity interest in STMicroelectronics,
- France Telecom recognized as a minority shareholder in FT1CI for the equivalent of 6.25% of STMicroelectronics.

AREVA's gross share of STMicroelectronics' net income therefore includes 17.3% of that affiliate's net income, restated in accordance with group accounting policies and converted into euros.

- Goodwill amortization for 2003 was only €174 million, compared with €593 million in 2002. As Total shares were sold, exceptional amortization of €70 million was recorded in 2003 and €153 million in 2002 against goodwill recognized when AREVA was established. In 2002, €275 million in exceptional amortization of goodwill, reflecting the Connectors division's 1998 acquisition of Berg, was also recorded. In 2004, goodwill amortization should stabilize at a normal level, estimated at €100 million per year, before amortization of future goodwill arising from the acquisition of the Transmission and Distribution division.
- Minority interests in AREVA's 2003 earnings were comparable to those of 2002, at €84 million versus €86 million. The minority interests include Siemens' stake in Framatome ANP (34%), minority shareholders in Eurodif (40%), and France Telecom's interest in FT1CI, corresponding to 6.25% of STMicroelectronics.

Minority interests

(in millions of euros)	2003	2002
Siemens' interest in Framatome ANP (34%)	37	56
France Telecom's interest in FT1CI (36.2%)	16	11
Minority interests in Eurodif (40%)	24	18
Other	7	1
Total	**84**	**86**

5.1.4.7. Net income and dividend recommendation

The group recorded consolidate net income after minority interests of €389 million in 2003, up 62% from the €240 million recorded in 2002.

Net earnings per share stood at €10.97, compared with €6.77 in 2002.

A resolution approving a €6.20 dividend per share and per investment certificate will be submitted to the General Meeting of Shareholders to be held on May 4, 2004. This dividend, which is the same as the dividend paid from AREVA's 2002 net income, equals 57% of the group's consolidated net income after minority interests.

5.1.5. Analysis of data by business division and region

5.1.5.1. Key data

Key data by division and region is provided in the consolidated financial statements presented in section 5.4.

5.1.5.2. Front End division

(in millions of euros)	2003	2002*	% change 2003/2002	% change like-for-like
Sales	**2,683**	**2,562**	**+4.7**	**+10.3**
Operating income	316	319	-0,9	n.c.
% of sales	*11.8*	*12.4*	*-0.6 pt*	

** In 2003, the group allocated certain general and administrative expenses formerly recorded under "Corporate and other activities" to the Energy business. In 2003, the "Corporate and other activities" heading was limited to AREVA SA corporate expenses and operating income related to non-strategic activities. 2002 figures were restated to allow comparison with 2003.*

Front End division sales rose by 4.7% in 2003 to €2,683 billion (€2,562 billion in 2002). Sales were up 10.3% on a like-for-like basis.

Mining sales dropped by 17.4% on a reported basis, or 8.1% excluding exchange rates variations. Uranium delivery volumes were up, but the average sales price was lower than in 2002. Trading operations declined, reflecting supply scarcities. Though the dollar-denominated uranium spot price gained 40% in 2003 (+20% when converted into euros), this had no impact on division sales, as deliveries were made under long-term contracts.

Sales of enrichment services rose by 9.9% on a reported basis and 20.2% before exchange rate variations, reflecting brisk business and high volumes (up 27%) in France, Asia and North America.

Fuel sales increased by 8% on a reported basis and by 9.7% on a like-for-like basis. In 2003, fuel sales reached an all-time high. Lower volumes of uranium fuel, notably in France and the United States, were offset by Mox fuel deliveries.

Operating income for the Front End division remained stable in 2003, at €316 million compared with €319 million in 2002.

That stability was the net effect of a significant increase in operating income for the Enrichment business unit offset by lower income from the Fuel business unit. The latter had a very

strong year in 2002 with the delivery of the first core to the Ling Ao2 reactor in China and significant deliveries of uranium fuel to EDF. In 2003, the temporary shutdown of the McArthur uranium mine in Canada had minimal impact on operating income for the Mining business unit, which was slightly higher than in 2002.

5.1.5.3. Reactors and Services division

(in millions of euros)	2003	2002*	% change 2003/2002	% change like-for-like
Sales	**2,124**	**1,932**	**+9.9**	**+13.2**
Operating income	52	64	-18.7	n.c.
% of sales	*2.4*	*3.3*	*-0.9 pt*	

** In 2003, the group allocated certain general and administrative expenses formerly recorded under "Corporate and other activities" to the Energy business. In 2003, the "Corporate and other activities" heading was limited to AREVA SA corporate expenses and operating income related to non-strategic activities. 2002 figures were restated to allow comparison with 2003.*

Sales for the Reactors and Services division were €2,124 billion in 2003, up 9.9% over 2002 (€1,933 billion). Sales were up 13.2% on a like-for-like basis.

In the Reactors business unit, sales were up 11.4% on a reported basis (+9.3% like-for-like). Half of this increase came from final acceptance bonuses for recently delivered reactors in France (Civaux2) and Brazil (Angra2). Business relating to existing operating reactors remained strong, especially in Bulgaria, France and Germany. The contract award by the Finnish utility TVO at the end of 2003 to build a fifth reactor in Finland did not affect 2003 sales. Revenue will be recognized on a percentage of completion basis over the period 2004 through 2009, when the reactor is scheduled to come on line. China is expected to issue call for bids for new reactors in 2004.

Equipment business unit operations were stable on a like-for-like basis (-3,2% on a reported basis), while sales for the Nuclear Services business unit jumped 14.9% (+22.4% on a like-for-like basis). Both business units rely heavily on the U.S. market, where major inspection and maintenance programs generate a substantial business in reactor repair and heavy component replacement (Sainte-Lucie, Prairie Island, Calaway, Salem, Arkansas, North Anna, Calvert Cliffs and Davis Besse). In Europe, however, business sagged as the number of scheduled outages and heavy component replacement programs declined. Sales for the Nuclear Measurement business unit suffered from unfavorable exchange rates and were down 8.9%. Revenue was up 3% on a like-for-like basis.

For the Technicatome business unit, nuclear propulsion revenue was up 27.6% as work began on significant contracts awarded in late 2002. The RJH research reactor for the French atomic energy commission (CEA) and next-generation submarine equipment boosted sales. Marine maintenance operations also recorded year-on-year growth.

The Consulting and Information Systems business unit headed by Euriware posted 9% growth from commercial contracts, particularly on the MIS outsourcing market.

Operating income for the Reactors and Services division was €52 million, down 18.7% from 2002 (€64 million).

Most of the decrease is attributable to unforeseen expenses on certain service projects in the Ukraine. The group has strengthened its pricing procedures and performance tracking methods for major service contracts. These temporary difficulties were partially offset by contract bonuses awarded when the Angra 2 and Civaux 2 reactors achieved their performance objectives.

Operating income performance would have been more in line with sales growth for the Reactors and Services division had it not been for these exceptional events.

5.1.5.4. Back End division

(in millions of euros)	2003	2002*	% change 2003/2002	% change like-for-like
Sales	**2,023**	**2,088**	**-3.1**	**-2.8**
Operating incomel	155	236	-34.3	n.c.
% of sales	*7.7*	*11.3*	*-3.6 pts*	

** In 2003, the group allocated certain general and administrative expenses formerly recorded under "Corporate and other activities" to the Energy business. In 2003, the "Corporate and other activities" heading was limited to AREVA SA corporate expenses and operating income related to non-strategic activities. 2002 figures were restated to allow comparison with 2003.*

Back End division sales were down 3.1% to €2,023 billion, compared with €2,087 billion in 2002. Like-for-like, excluding changes in the consolidated group and exchange rate fluctuations, sales decreased by 2.8%.

Revenue from the Treatment and Recycling business units, which account for 80% of the division's sales, were down 5.3% from 2002. The Treatment business experienced modest volume growth in used fuel processed (1,093 metric tons in 2003), but with a less favorable price mix than in 2002. The La Hague plant performed well throughout the year. The partnership with JNFL to support startup of the Rokkasho Mura plant in Japan was active and strong throughout the year.

Sales for the cleanup business unit were up 11.8% thanks to a strong French market, particularly due to our customer EDF.

The Logistics business grew by 21.8% (25.6% excluding variations in exchange rates) as used fuel shipments increased significantly in Europe and Mox fuel shipping casks were delivered in Asia.

Operating income in the Back End division was €155 million in 2003, down 34.3% from €236 million in 2002.

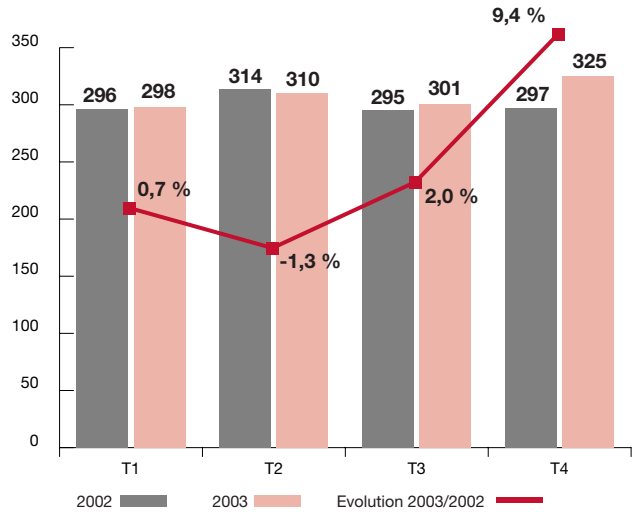
The decrease is mainly due to transitional, non-recurring events in the recycling business. First, as planned, commercial Mox fuel fabrication operations were discontinued in Cadarache, France, and transferred to the Melox plant. Non-recurring provisions were made to cover shutdown of the Cadarache plant. Also, Mox fuel fabrication operations were suspended in 2002 due to difficulties encountered by Japanese utilities, generating non-recurrent revenue that was recorded in that year.

5.1.5.5. Connectors division

(in millions of euros)	2003	2002*	% change 2003/2002	% change like-for-like
Sales	**1,338**	**1,560**	**-14.2**	**+2.5**
Operating income (before restructuring expenses)	21	(136)	n.s.	n.c.
% of sales	*1.6*	*(8.7)*	*+10.3 pt*	
Operating income	**(114)**	**(406)**	**n.s.**	**n.c.**

Sales for the Connectors division totaled €1,338 billion in 2003, compared with €1,560 billion in 2002. Like-for-like, considering changes in consolidation and exchange rates, sales were up for the first time since 2000 (+2.5%), reflecting strong fourth quarter growth (+8.0% like-for-like compared with the third quarter of 2003). On a reported basis, the division's sales were down 14.2%. Quarter-on-quarter, 2002 and 2003 sales were as follows (on a like-for-like basis):

Like-for-sales (in millions of euros)



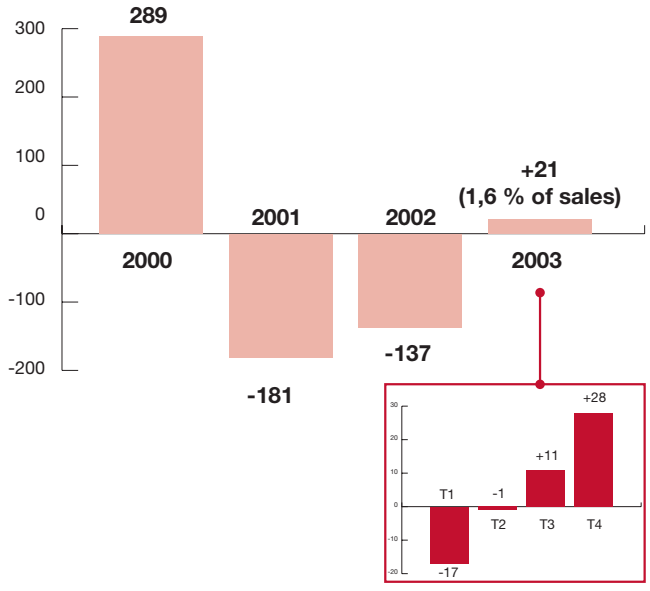
Communication Data Consumer sales edged up 2.6% on a like-for-like basis while dropping 13.5% on a reported basis, reflecting the impact of dollar-denominated sales and the sale of the Cable & Assembly business. The like-for-like sales trend for the business unit is a sign of fourth quarter recovery in the telecommunication market. On a like-for-like basis, sales for the fourth quarter of 2003 were up 10.7% over the third quarter of 2003 for the business unit in this particular market segment.

Sales for the Automotive business unit were up 2.1% in 2003 (+6.7% on a like-for-like basis). Sales for the fourth quarter of 2003 sales progressed 9.3% over the previous quarter, like-for-like. The business unit has marketed its services aggressively, reflected by rising market shares with its key customers, especially PSA and Daimler Chrysler.

The Electrical Power Interconnect business unit, on the other hand, sagged 17.6% over the year (-6.9% on a like-for-like basis). The decrease is due to weak European and American electrical power transmission markets in particular.

Despite significantly lower sales, operating income before restructuring costs for the Connectors division was back in the black in 2003, at €21million, compared with a €136 million loss in 2002. The division also slashed its restructuring costs from €270 million in 2002 to €135 million in 2003. The operating loss, including restructuring costs, was divided by 3.5, from -€406 million in 2002 to -€114 million in 2003.

Operating income before restructuring costs (millions of euros)



The improvement in operating income before restructuring costs is explained by a combination of factors:

- cost reductions and productivity gains, contributing €209 million to the bottom line;
- economies of scale due to higher volumes, contributing €35 million;
- €80 million negative price effect impacting the division's operating income;
- €6 million negative impact from changes in consolidated operations and exchange rate variations.

5.1.6. Cash flow

5.1.6.1. Summary cash flow data

(in millions of euros)	2003	2002*	% Change 2003/2002
EBITDA	937	1,150	-213
% of sales	*11.3*	*13.9*	*-2.6pts*
Change in operating working capital requirement	289	(73)	+362
Net operating CAPEX	(336)	(483)	+147
Gains (losses) on disposals	12	24	-12
Operating cash flow	**902**	**618**	**+284**
Net investment in long-term financial assets	7	(213)	+228
Dividend distributions	(297)	(262)	-35
Net reclassifications (Assystem, FCP, etc.)	(496)	0	-496
Other (taxes, non-operating WCR, etc.)	390	930	-540
Increase (decrease) in net cash	**505**	**1,073**	**-568**
Net cash position	**1,237**	**731**	**+505**

** 2002 data was reclassified to calculate the change in net debt: interest-bearing advances from customers have been reclassified under "debt" for net debt calculation purposes.*
Note: the net cash position definition used in this table is different from the definition used in the consolidated cash flow statement. The consolidated cash flow statement only takes into account cash flow available within less then 3 months, whereas the table above presents the total change in the net cash position (1).

5.1.6.2. Operating cash flow

AREVA's 2003 EBITDA (2) was down to €937 million from €1,150 billion in 2002. This amount represents 11.3% of the group's sales, a 2.6-point margin drop from 2002, reflecting ongoing completion of older Back End division treatment contracts, priced to include the cost of fixed assets acquired to perform the contracts. These contracts are gradually being replaced by "post 2000" contracts priced on a flat fee basis per unit treated.

With the exception of this change in contract mix, AREVA's EBITDA remained stable.

Changes in the operating working capital requirement (WCR) had a positive cash impact of €289 million, compared with a -€73 million negative impact in 2002. This performance reflects ongoing efforts to control working capital requirements, and a decrease in trade accounts receivable from year-end 2002 to year-end 2003.

Taking into account asset disposals, net operating CAPEX were held at €336 million in 2003, compared with €412 million in 2002 (3), reflecting an anticipated decrease in Back End division capital expenditures. Net CAPEX was relatively stable in all other divisions.

Under these circumstances, AREVA's operating cash flow was €902 million in 2003, compared with €618 million in 2002, including €958 million from Energy operations and -€24 million from Connectors operations.

Operating cash flow by business

(in millions of euros)	**Energy**	**Connectors**	Other	Group
EBITDA	**970**	**24**	**(57)**	**937**
% of sales	*14.2*	*1.8*	*n.s.*	*11.4*
Change in operating working capital requirement	247	11	31	289
Net operating CAPEX	(268)	(62)	(6)	(336)
Gains (losses) on disposals	**9**	**3**	-	12
Operating cash flow	**958**	**(24)**	**(32)**	**902**

Energy operations generated very strong operating cash flow in 2003 of €958 million. This performance reflects a reduction in working capital requirements of €247 million due to a sharp drop in services in-process combined with a return to typical trade accounts receivable levels. Net CAPEX decreased in 2003, now that major Back End investment programs at La Hague have been completed (ACC and R4 facilities). Capital expenditures are expected to increase again in the future, particularly when construction of the George Besse II centrifuge enrichment plant begins.

The Connectors business went back to positive operating cash flow generating mode, contributing €67 million before restructuring costs. The Connectors business EBITDA, before payments for restructuring costs, was €118 million (10.7% of sales), a clear indication of the progress made in operating profitability. In light of weak demand, net investment in fixed assets was held

(1) Net cash position = Marketable securities + Cash and cash equivalents + Current account assets – Debt including interest-bearing advances from customers.
(2) Operating income before depreciation, depletion, amortization and provisions (except when concerning working capital items).
(3) Reported capital expenditure for 2002 was €483 million, including €71 million for customer prepayments, which have now been reclassified.

at €62 million, down from 2002 levels. Payments related to restructuring represented €91 million for the year. Accordingly, operating cash flow net of payments for restructuring was -€24 million.

5.1.6.3. Net reallocations

Two main accounting reclassifications were made in 2003:

- a €79 million reclassification of Assystem shares, previously accounted for under the equity method, to cash (marketable securities), this participating interest now being considered as “liquid”;
- €576 million were transferred from AREVA's cash holdings to the group's portfolio of decommissioning assets in order to offset, for the most part and at market value (€522 million), the removal of the Sagem shares from the portfolio. These shares were transferred to the portfolio of financial assets not earmarked for decommissioning. This decision was made to simplify management of the portfolio of assets earmarked for decommissioning.

The first transaction described above acknowledges that the group's participation in Assystem Brime is now considered a liquid asset. The second transaction was driven by several factors. Considering the merger premium earned on the Sagem shares and the weight of this investment line in the portfolio of assets earmarked for decommissioning (approximately 24%), AREVA decided to reduce the portfolio's exposure while improving its structure and liquidity. However, AREVA is bound by a shareholders' agreement signed at the end of 2003 between Club Sagem, COGEMA and BNP Paribas in which the parties have agreed not to act in concert, while still committing not to sell their shares for a 20-month period. Accordingly, AREVA has decided to transfer these shares, at market value, to the portfolio of securities not earmarked for decommissioning expenses, and to compensate the earmarked portfolio for the same amount. AREVA has informed the financial market authority (AMF) that it has “no intention of taking control of Sagem in the current situation and no intention of increasing its participating interest in Sagem beyond its current position”.

5.1.6.4. Other cash flow

- Net financial investments represented -€7 million in 2003, i.e. a net divestment, compared with -€213 million in 2002. In 2003, as indicated in the “significant events” section of this report, the group signed an agreement to acquire a 50% participating interest in the Enrichment Technology Company (ETC), giving AREVA access to centrifuge technology. An initial down payment (€150 million) has been made. The balance due will be paid in coming years, once the various authorities have approved the transaction. Other significant 2003 transactions include the sale of the Connectors division's MAI business (€137 million), collection of the second installment due on the 2002 sale of Sovaklé, and sales of securities from the portfolio of assets earmarked for decommissioning, which contributed €70 million.
  Also, €87 million were deposited with the U.S. Customs Service as a guarantee in connection with a dispute between COGEMA, Urenco and USEC, as explained in note 31 of the Notes to the Consolidated Financial Statements.
- Dividends paid in 2003 out of 2002 net income totaled €297 million. This amount includes for the most part €220 million paid to AREVA shareholders and €50 million paid to Siemens, a 24% shareholder in Framatome ANP
- Items recorded under "Other" in the 2003 cash flow statement are primarily:
  - €382 million from financial income,
  - -€200 million for income taxes,
  - €183 million corresponding to changes in non-operating working capital requirements and exchange rate variations impacting cash.

In 2002, this heading included, notably, proceeds from the sale of Total shares.

5.1.7. Balance sheet items

5.1.7.1. Summary consolidated balance sheet

Assets

(in millions of euros)	31/12/2003	31/12/2002
Fixed assets	**19,094**	**20,149**
Goodwill	1,265	1,537
Tangible and intangible assets	3,929	5,157
Equity in net assets of affiliates	1,492	1,652
Other long-term investments	1,065	453
Decommissioning assets	9,109	9,223
Earmarked assets	2,234	2,127
Working capital requirement	(1,051)	(604)
Net cash position	**1,236**	**731**
Total assets	**19,279**	**20,276**

Liabilities

(in millions of euros)	31/12/2003	31/12/2002
Shareholders' equity	**4,113**	**4,020**
Perpetual subordinated bonds	215	215
Minority interests	959	988
Decommissioning provision	12,316	12,283
Other provisions	**1,676**	**2,770**
Total liabilities and equity	**19,279**	**20,276**

Note: as of 2003, interest-bearing advances from customers (€382 million at 12/31/2002) have been reclassified to "debt" and current account assets have been reclassified to "cash" (€28 million at 12/31/2002). Accordingly, these items are not included in the working capital requirement.

5.1.7.2. Tangible and intangible fixed assets

Net goodwill totaled €1,265 billion as at December 31, 2003, compared with €1,537 billion as at December 31, 2002.

Net intangible fixed assets remained essentially unchanged over the period. Net tangible fixed assets decreased by €1,200 million from December 31, 2002. This drop reflects the reclassification to "Depreciation of tangible fixed assets" of the "Provision for liabilities", representing €962 million as at December 31, 2002. This provision covered future depreciation expenses.

Depreciation of tangible fixed assets is on a downward trend, reflecting completion of the group's main capital projects.

5.1.7.3. Other long-term notes and investments

In 2003, as explained in paragraph 5.1.6.3, AREVA decided to reclassify Sagem shares held in the "Portfolio of assets earmarked for decommissioning expenses" to "Securities not earmarked for decommissioning expenses" and to compensate the portfolio in cash for the market value of the shares in question (€522 million). Conversely, the amount recorded under the heading "Other financial assets" increased by €380 million, corresponding to the book value of the Sagem shares (representing 16.9% of that company's capital).

The group also made a €150 million down payment towards acquisition of a 50% interest in the Enrichment Technology Company (ETC), which specializes in the design and fabrication of uranium enrichment centrifuges. The group has already established a project team in charge of the future George Besse II plant, which will use ETC technology. The new plant will gradually replace the current Eurodif facility, beginning in 2007.

Lastly, €87 million were deposited with the U.S. Customs Service to serve as a guarantee in connection with a dispute between COGEMA and Urenco, on the one hand, and USEC on the other (see note 31 of the Notes to the Consolidated Financial Statements).

5.1.7.4. Aspects relating to nuclear facility decommissioning (decommissioning assets, earmarked assets, provision)

General principles [1]

As a nuclear operator, the AREVA group has a legal obligation to secure and decommission its facilities when they are shut down permanently. AREVA must also sort and package the waste and scrap from past operations.

In accordance with current accounting standards, AREVA has set up provisions to cover the total cost of end-of-life-cycle operations for all facilities in service. Cost estimates are used to establish this cost and are periodically updated.

In certain businesses, some customers have agreed to finance part of the cost associated with end-of-life-cycle operations. Such agreements transfer the financial commitment from the group to the customers in question.

(1) Information on the type of commitment and the calculation of the provision is presented in note 22 of the notes to the consolidated financial statements.

Accordingly, the provision recognized as a liability on AREVA's balance sheet includes an amount to be funded by customers (representing the majority of the provision) and an amount to be funded by the group (representing the smaller part of the provision). A Decommissioning Assets account offsets this provision. The part of the Decommissioning Assets account corresponding to the group's share in end-of-life-cycle commitments is amortized over the life of the corresponding sales contracts. A portfolio of financial assets earmarked for decommissioning expenses backs the share of decommissioning expenses borne by the group.

Balance sheet situation

The current value of all decommissioning [1] costs reflected in the provision was €12,316 billion at December 31, 2003, compared with €12,283 billion as at December 31, 2002. The share of the cost to be funded by third parties (customers) was €7,991billion as at December 31, 2003, while the share to be funded by AREVA was €4,325 billion.

For further information, the following table summarizes the various AREVA balance sheet accounts involved in the recording of end-of-life-cycle operations:

Assets

(in millions of euros)	31/12/2003	31/12/2002
Decommissioning assets	9,109	9,223
- AREVA share*	1,118	1,194
- third party share**	7,991	8,029
Net portfolio of financial assets***	2,234	2,127

Liabilities and shareholders' equity

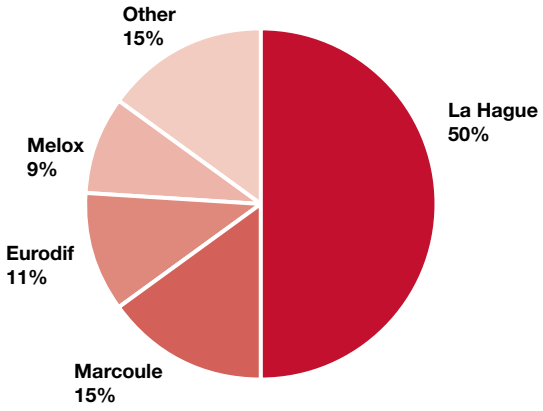
(in millions of euros)	31/12/2003	31/12/2002
Decommissioning provisions	12,316	12,283
- funded by AREVA	4,325	4,263
- funded by third parties [2]	7,991	8,029

* *Amount of total provision to be funded by AREVA (€4,325 billion) still subject to amortization,*
** *Amount of the total provision to be funded by third parties,*
*** *Book value of the portfolio of financial assets earmarked to fund AREVA's share of the total provision (€4,325 billion).*

Changes in provisions in 2003

Share of the various sites in the provisions funded by AREVA

Decommissioning provision by site as at December 31, 2003*



** AREVA's share: €4,325 million at December 31, 2003.*

La Hague facilities

During the first half of 2003, the group revised its decommissioning cost estimate for the La Hague plant, which represents the majority of the group's total decommissioning budget. The estimate was prepared by SGN, an engineering subsidiary of the group that designed and managed the construction of the facilities. Bureau Veritas, an independent organization, certified the cost estimating tools, related resources and the estimating process. This new estimate did not significantly diverge from the previous estimate.

- EDF and COGEMA embarked on framework negotiations to establish:
  - the legal and financial terms for transferring EDF's current financial obligations for the dismantling of La Hague facilities to COGEMA (conceivably including a lump sum payment to settle EDF's long-term commitment) and for EDF's financial participation in the retrieval and packaging of La Hague waste;
  - the financial terms of the future used fuel treatment contract for the 2008-2020 period.

(1) The spending schedule corresponding to these commitments is mostly post 2015 and continues beyond 2040.
(2) Whereas others paid for decommissioning in the price for services provided by the group.

The parties made progress on both of these issues in 2003, though a final agreement had not been reached by December 31, 2003.

Data concerning updates to the base estimate for decommissioning costs and the share of those costs to be borne by each party were documented in a statement of joint conclusions accepted by both parties at the end of July 2003.

- In addition, negotiations are under way between COGEMA and the CEA concerning CEA's participation in waste retrieval and packaging at the La Hague site.

Marcoule facilities

In parallel, CEA, COGEMA and EDF held discussions in 2003 to outline organizational and management processes for end-of-life-cycle operations at the Marcoule site and to outline their respective roles and responsibilities in this area. At the request of the government, this work is being carried out by a steering committee consisting of representatives of the operators, the CEA and government agencies. The committee will report on its work in the near future.

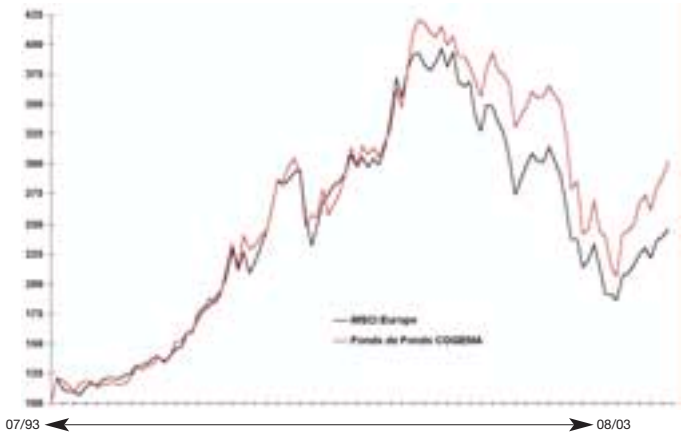
Other facilities

End-of-life-cycle budgets for the Melox, Eurodif and Cadarache facilities will be updated in the near future. Pending such updates, 2003 provision adjustments were limited to inflation.

Change in earmarked financial portfolio in 2003

The net after-tax value of the decommissioning assets was €2,221 billion as at December 31, 2003, compared with €1,889 billion as at December 31, 2002. Given its current value, the portfolio must yield an after-tax return, net of inflation, of 3.6% per year to cover all future costs to be borne by the group when the time comes. Over the 1993-2003 period, the portfolio's average annualized return was +11.1%, including 23% in 2003. Accordingly, AREVA decided that no additional contribution to the portfolio was required in 2003.

Performance base 100 since initiation (July 23, 1993)



5.1.7.5. Provision for pensions and retirement benefits

(in millions of euros)	2003	2002	% Change 2003/2002
Actuarial debt	1,773	1,474	+299
Retirement assets, at fair market value	(851)	(813)	-38
Non-accrued actuarial variances	(214)	(46)	-168
Non-accrued cost of past services	(159)	(99)	-60
Provisions recorded	**549**	**516**	**+33**

Provisions for retirement and similar benefits increased from €516 million as at December 31, 2002 to €549 million as at December 31, 2003.

Total retirement obligations increased from €1,474 billion to €1,773 billion as at year-end 2003. This increase is largely a reflection of a change in inflation assumption for the Euro zone (from 1.5% to 2%), a reduction in the discount rate used to calculate U.S. retirement obligations, and the impact of the so-called Fillon Law in France on certain types of existing retirement plans.

The total value of assets in outside trusts covering these commitments is €851 million. Funding shortfalls resulting from changes in actuarial assumptions and regulatory requirements [(1)] may be amortized in accordance with International Financial Reporting Standards (IFRS). Accordingly, the provision as at December 31, 2003 was €549 million.

(1) i.e. differences between the expected return and the effective return on assets and differences between projected populations and actual populations (turnover, salary increases), differences linked to changes in economic assumptions (discount rate, inflation rate), and changes in plans (past services costs associated with the Fillon law), for €373 million.

5.1.7.6. Return on average capital employed

The return on average capital employed more than doubled in 2003 due to a combination of factors, including a significant increase in group operating income and a reduction in capital employed. This second factor reflects a -€240 million reduction in working capital requirements and a significant reduction in tangible fixed assets used in the Connectors business. The group's ROACE [1] jumped from 2.2% in 2002 to 4.6% in 2003. In the Energy sector, the ROACE declined from 11.6% to 10.4%.

(in millions of euros)	2003	2002
Average capital employed***:		
- energy	3,497	3,796
- connectors	1,369	1,979
Other	520	559
Total group	**5,386**	**6,333**
Net operating income*:		
- energy	365	440
- connectors	<0	<0
Other	<0	<0
Total group	**248**	**138**
ROACE*:		
- energy	10.4%	11.6%
- connectors	n.s	n.s
Other	n.s	n.s
Total group	**4.6%**	**2.2%**

* *Return On Average Capital Employed (ROACE).*

** *Net operating income — pro forma tax (average rate for all units except those benefiting from a specific rate such as Eurodif).*

*** *Average capital employed reported in 2002 (€6,640 million) included a clerical error. The data has been corrected in the present document. Average capital employed in 2002 was €6,333 million.*

Capital employed is determined as follows:

(in millions of euros)	2003	2002
Net intangible assets	482	510
Original goodwill as per the notes to the consolidated financial statements	3,520	3,816
Goodwill on assets not used in operations (STM, Eramet and other equity affiliates)	249	242
Exceptional depreciation	1,005	978
Goodwill used in ROACE calculation	2,266	2,596
Net tangible assets	3,444	3,686
Prepayments invested in fixed assets	(1,167)	(1,206)
Operating working capital requirement [2]	(40)	201
Total capital employed	**4,984**	**5,787***
Average capital employed over the period	**5,386**	**6,333**

* *Total capital employed reported in 2002 (€5,731 billion) included a clerical error. The data has been corrected in this document. Total capital employed as at 12/31/2002 was €5,787 billion.*

5.1.7.7. Net cash position[3]

The group's net debt was reduced from €2,217 million at year-end 2002 to €384 million as at year-end 2003. In addition, the group owes €416 million on interest-bearing advances from customers, now recorded under the "Debt" heading. The debt reduction reflects FCI's debt repayment (Connectors division), which represented €1.8 billion as at December 31, 2002. The repayment was funded with a €1.3 billion capital contribution received on November 21, 2003 and with proceeds from the sales of the Military, Aerospace and Industrial and Cable & Assembly businesses.

(1) Return on average capital employed (ROACE) represents the after-tax return on capital employed by the company for its operating requirements. ROACE is the ratio of net operating income to average capital employed. Net operating income is operating income less the corresponding pro forma income tax derived based on the applicable tax rate for each fiscal year. Average capital employed is the average of capital employed at the beginning and the end of the fiscal year. Capital employed is the sum of the following items:
- *net fixed assets,*
- *gross goodwill (excluding goodwill relating to companies carried at equity), after deduction of exceptional amortization resulting from depreciation tests,*
- *working capital requirement,*
- *less customer prepayments invested in fixed assets.*

(2) Operating working capital requirement (Operating WCR) represents the combination of working capital items and debt directly related to operations. It includes the following items:
- *inventories and in-process,*
- *trade accounts receivable and related accounts,*
- *prepayments made,*
- *other operating receivables, accrued income, prepaid expenses,*
- *less trade accounts payable, prepayments received (excluding interest-bearing prepayments), other operating liabilities, accrued expenses, unearned income.*

N.B.: it does not include non-operating receivables and liabilities such as, in particular, corporate tax debt, receivables for asset disposals, or debt on asset acquisitions.

(3) Net cash position = marketable securities plus cash plus asset current accounts less debt, including interest-bearing prepayments.

However, FCI's debt repayment had no impact on the group's net equity.

The net cash position reported on the balance sheet totaled €1,237 billion as at December 31, 2003, up from €731 million (on a like-for-like basis [1]) on December 31, 2002.

This increase reflects significant operating cash flow generated this year (€902 million). The magnitude of this change in cash position is exceptional, however, as it includes a very favorable change in working capital requirement.

The cash position presented on the balance sheet doesnot reflect unrealized post-tax gains on securities. Theseunrealized after-tax gains represented €151 million as at December 31, 2003, down from €320 million as at December 31, 2002, following the 2003 partial sale AREVA's Total shares.

The acquisition of the Transmission & Distribution business closed on January 9, 2004, and the purchase price was paid in that year.

5.1.8. Integration of the Transmission & Distribution division

On January 9, 2004, having obtained all of the required European Commission and national antitrust authorizations, the AREVA group executed the final documentation implementing its acquisition of Alstom's Transmission and Distribution operations.

The acquisition price of €920 million will be finalized in May 2004, after an audit. The corresponding payment was made upon closing on January 9, 2004. The group financed this acquisition with its own funds.

5.1.8.1. The T&D business

The T&D [2] business represents a major link in the value chain for electricity generation. It connects electricity producers with their product's final users, comprised of small and large businesses as well as individual consumers. The T&D market begins at the electric plant exit point and ends where the final industrial or individual users are connected to the grid. T&D supplies this market with transformers and connection equipment including circuit breakers and switches, often combined in a sub-station. These major pieces of equipment are supplemented with measurement equipment, measurement transformers, relays and automated network operating systems and network protection equipment such as lightning arresters. T&D does not provide low value-added equipment such as wires and electric towers. It does offer, however, network monitoring and management systems that add value to an electric operator's business.

5.1.8.2. The T&D market

The global T&D market is estimated at €36 billion. It includes four segments:

- high voltage electricity transmission (52 kV to 800 kV),
- medium and low voltage electricity distribution (0.3 kV to 52 kV) for local and industrial grids,
- new emerging markets: sub-station automated management systems and network management and monitoring systems, for a market undergoing drastic changes,
- the services market (“Value-added services”), including maintenance and consulting services to electric operators. T&D is also present on this market.

These markets and business segments are detailed in chapter 4.7 of this annual report, together with a presentation of AREVA's T&D competitive position.

5.1.8.3. Organization of T&D

At the time of its acquisition, T&D was organized by business, with each business corresponding to a profit center combining product lines (high voltage, medium voltage, control systems) and specific offerings (equipment, systems, services).

The overall structure is comprised of six businesses:

- Two “product” businesses: High Voltage business and Medium Voltage business.
- Two “systems” businesses: Transmission Projects business, Electrical Distribution Systems.
- A “products-systems-services” business: Energy Automation & Information Systems business
- A “services” business: Transmission & Distribution Services business.

These businesses are supported by an international marketing organization (ISCO) in charge of customer contacts for all businesses. This cross-cutting unit spans all of the countries in which T&D operates.

The integration process described in paragraph 5.1.8.5 of this annual report includes a review giving rise to a new T&D organization comprised of three business lines: products, systems and services.

(1) Starting in 2003, interest-bearing customer prepayments (€416 million at December 31, 2003) are classified as debt rather than as WCR.
(2) A detailed description of the T&D business, including markets and production capacities, is presented in chapter 4.7 of this annual report.

5.1.8.4. Quantitative information

The information provided below consists of unaudited reconstituted data. The periods, business volumes [1], and accounting methods used to report this data involve restatements (including financial data restatements using AREVA's accounting methods).

Based on the above, the simplified income statement and selected balance sheet items for the 12-month period closed as at December 31, 2003 are as follows:

Simplified income statement

(in millions of euros)	2003
Sales	2,859
Cost of sales	(2,121)
Gross margin	738
Research, sales/marketing and administrative expenses	(572)
Other operating income and expenses	(32)
Operating income before restructuring costs	134
Restructuring costs	(151)
Operating income	(17)
Exceptional items	3
Financial income	(35)
Minority interests in subsidiaries' earnings	(1)
Net income before tax	(32)
Balance sheet items	At 12/31/2003
Net tangible assets	291
Working capital requirement	295
Provisions for risk and liabilities	339
Other information	At 12/31/2003
Employees	21,805

AREVA is unable to provide similar income statement and balance sheet data for the 12-month period ending on December 31, 2002.

5.1.8.5. Integration process

The Transmission & Distribution operations acquired from Alstom draw on a heritage dating back to 1928, when the Alsthom company was first established, growing through a series of mergers and acquisitions. The main events of the last twenty years include:

- acquisition of Swiss company Sprecher und Schuh in 1986,
- merger with British company GEC in 1988 to form the GEC Alsthom group,
- acquisition of German company AEG in 1996,
- acquisition of French company Cegelec – T&D in 1998.

Built over the years, this group is among three global leaders on world markets and has one of the largest installed bases. T&D's remarkable product and services technology allowed the group to develop a strong customer portfolio based on long-term relationships.

However, the fast-paced growth of the last twenty years has made it difficult to take advantage of all the synergies and benefits that could be had through optimal integration.

Therefore, as early as January 2004, AREVA launched a broad strategic review of operations with the following objectives:

- strategic focus through:
  - customer base and market reviews,
  - product and project reviews,
  - evaluation of production capacities and industrial strengths;
- increased operating performance through:
  - a cost reduction plan,
  - optimization of procurement resources and procedures, in synergy with the AREVA Group's procurement department,
  - increased productivity;
- organizational optimization through:
  - appointment of a new CEO,
  - structural adaptation to changing customer needs. Organization and reporting are now focused along three lines: products, systems and services,
  - implementation of synergies within the AREVA Group,
  - transition towards integrated industrial group processes.

The conclusions of this overall evaluation and the various action plans to be implemented will be disclosed in 2004.

5.1.9. Transition to International Financial Reporting Standards

As provided by European regulations on international standards and by the IFRS1 standard (1st IFRS version), AREVA's financial statements for the year ending December 31, 2005 will be established in accordance with international accounting standards, including a comparison with pro-forma 2004 statements prepared under these same standards.

To allow for comparison, AREVA will prepare an opening balance sheet as of January 1, 2004, the initial IFRS implementation date by which time the impact from the transition will be recorded in the group's equity.

(1) Some activities, currently being transferred out, are not included in the data (Indian, Chinese and miscellaneous activities).

5.1.9.1. Organization established by the group

To carry out the process mentioned above, a project committee was established in May 2003 to prepare for the 2005 transition to IFRS.

The committee has already completed a review of all of the differences between the IFRS standards and the group's accounting methods. It has also identified the main impacts of accounting standard changes on AREVA's consolidated financial statements, except for standards concerning financial instruments. This aspect will be assessed based on the final versions of the IS 32 and IAS 39 standards.

An evaluation of the impact of the change in accounting standards on AREVA's financial information systems has also been undertaken. Necessary tasks have been identified for implementation in 2004.

AREVA's T&D acquisition in January 2004 represents a major change in the consolidated group with an impact on the IFRS project. An IFRS diagnostic review of the T&D business is currently being carried out.

5.1.9.2. Main impacts of IFRS standards on the consolidated financial statements of the AREVA Group

Over the past few years, the group implemented accounting approaches in anticipation of these new standards in areas such as pension obligations and accounting for long-term contracts under the percentage of completion method.

At this point in the review, AREVA has concluded that group accounting methods are not in line with IAS / IFRS accounting, evaluation and reporting methods and principles in one major respect, namely provisions for facility dismantling, waste retrieval and waste packaging.

These provisions, and the corresponding decommissioning assets, will be discounted based on scheduled dismantling and waste retrieval dates. This adjustment will trigger a significant reduction in the amounts recorded.

A significant impact on the income statement is expected as a result of these adjustments, including:

- lower amortization of decommissioning assets reflecting a lower amortization basis, with an impact on operating income;
- recording of a financial expense for reversal of the discounts made on the provisions.

As authorized under IFRS1 standards, AREVA is not planning to restate the mergers and acquisitions completed before January 1, 2004 in line with IFRS. Also, the group is planning to deduct any provision increase addressing known actuarial differences in pensions and similar benefits directly from equity.

It is important to note that this information is based on AREVA's current understanding of this issue based on the recent status of the proposed standards, which may become effective in 2005, as they stand today.

Indeed, IASB has not yet published in their final form a number of major standards that may come into effect in 2005. Such standards concern mergers and acquisitions and asset depreciation as well as other standards that are still subject to European Commission approval (IAS 32 and IAS 39 standards regarding accounting for financial instruments).

Subject to the validation of the final new standards regarding mergers and acquisitions and asset depreciation, and subject to European Commission approval, goodwill would not be subject to depreciation but would be subject to impairment tests performed at least once a year or whenever there is a sign of possible impairment. Currently, goodwill is amortized on a straight line basis over a period which must not exceed 20 years, depending on the activity.

It will remain difficult to assess the new provisions fully until the European Commission approves IAS 32 and IAS 39 standards regarding accounting for financial instruments. At present, AREVA is contemplating the possibility of not implementing IAS 32 and IAS 39 in the comparative 2004 data that will be appended to the 2005 financial statements.

AREVA expects that it will able to show the impact of the transition to IFRS by the time it publishes its 2004 financial statements, prepared in accordance with French accounting standards, if not before.

5.1.10. Recent events and outlook for 2004

These elements are discussed in chapter 7 of this annual report.

≫ 5.2. Human resources report

5.2.1. Changes in group workforce and key labor and health data

WORKFORCE	2003	2002
By business division*		
Front End	9,719	9,536
Reactors and Services	13,251	13,549
Back End	10,542	10,719
Connectors	12,211	14,015
Other operations and Corporate	2,288	2,328
Total	**48,011**	**50,147**
By region		
France*	29,198	30,314
Germany	3,744	3,799
Rest of Europe	2,129	2,566
United States	6,401	7,061
North & South America (excluding the U.S.)	2,097	2,617
Africa	867	915
Asia-Pacific	3,575	2,875
Total	**48,011**	**50,147**
By category*		
Engineers and management staff	13,045	13,677
Support personnel	21,194	21,603
Craft personnel	13,772	14,867
Total	**48,011**	**50,147**
LABOR DATA		
Women executives	4.48%	n.d**
Women managers	17.58%	15.21%
Women in non-management positions	22.33%	21.15%
Proportion of employees who have been received training at least once during the year	66.68%	53.31%
Handicapped employees (excluding the U.S.)	1.68%	1.04%
Absenteeism rate	0.04	0.01
HEALTH DATA		
Average employee dose from radiation exposure (mSv)	1.27	1.56
Average subcontractor dose from radiation exposure (mSv)	0.45	0.44
Accident frequency rate with lost time (excluding commuting accidents)	8.01	9.47
Accident frequency rate with lost time (excluding commuting accidents)	0.28	0.33
Number of incidents in nuclear facilities:	69	75
- including level 0 incidents on the INES scale	51	57
- including level 1 incidents on the INES scale	17	18
- including incidents greater than level 1 on the INES scale	1	0

** Registered employees, i.e. managed by the group's human resources department. Group personnel are employed under private law employment agreements.*

*** The figure reported for 2002 corresponded to a different definition than that used in 2003.*

The AREVA Group had 48,011 employees as at December 31, 2003, 2,136 fewer or 4.26% less than at the end of 2002.

The difference is mainly due to restructuring in the Connectors business to adjust the workforce to a very significant drop in workload. The countries most affected by these adjustments were the United Kingdom, particularly Scotland (-182 people), Belgium (-271 people), the Netherlands (-160 people), Mexico (-402 people) and the U.S. (-660 people).

Other factors affecting the workforce include:

- changes in the scope of consolidation with the sale of FCI's MAI division (-1,200 people), of Framatome ANP's Hydro & Natural Resources business (-120 people), and of Packinox (-138 people);
- conversely, FCI's workforce grew in Hungary (+110 people), China (+747 people) and Malaysia (+96 people). These changes significantly continue to affect the split of the group's workforce between western and emerging countries.

5.2.1.1. Changes by socio-professional category

Despite these fundamental changes, the socio-professional breakdown of the workforce remained unchanged from one year to the next: as of year-end 2003, engineers and management personnel (13,045 people) represented 27% of the total workforce, technical and administrative personnel (21,194 people) represented 44%, and craft personnel (13,772) represented 29%.

5.2.1.2. Changes by region

As of year-end 2003, the group had 29,198 employees in France, versus 30,314 at the end of 2002. The downturn (-1,116 people) is mainly due to the sale of MAI and Packinox mentioned above. However, decreases in the workforce associated with restructuring and retirement programs in various units were offset by hirings within the same sectors or in other sectors to renew the age structure. For example, the COGEMA subsidiary STMI [1] hired more than 200 people to serve new markets.

Workforce losses recorded elsewhere in Europe (-492 people), the United States (-660 people, including 116 following the sale of the Hydro & Natural Resources business), and North and South America outside the U.S. (-520 people) are primarily due to FCI restructuring activities.

Asia-Pacific, on the other hand, was once again the region of the world where the group's workforce increased the most (+700 people), mainly for FCI.

5.2.1.3. Changes by business division

Within the business divisions, Connectors was the only business that saw a sharp downturn (-1,734 people, a drop of more than 12%) – due to restructuring activities. For the other divisions, changes were moderate, with workforce losses in COGEMA's Mechanical Systems and Engineering businesses offset by hirings in other sectors.

5.2.1.4. Incoming / outgoing workforce

Some 4,860 people were hired in 2003, with almost 4,000 of them under open-ended employment agreements at all of the group's subsidiaries: 551 at COGEMA, 747 at Framatome ANP (including 200 in France, 112 in Germany and 435 in the U.S.), 2,506 at FCI, and 67 at Technicatome.

At the same time, 5,500 people left the group, mostly due to expired fixed-term employment agreements (800), job termination (1,100), economic layoffs (1,100), resignations (2,100), and other reasons largely relating to retirement (350) in France, especially at COGEMA and FCI.

5.2.2. Key aspects of the group's Human resources programs

5.2.2.1. Maintaining and developing skills throughout the group

Against a backdrop of energy deregulation and globalization and strong pressures on the connectors business, AREVA is determined to maintain its technological excellence and ensure growth by capitalizing on its employees' high level of skills.

Preparing our leaders

We continued to develop several leadership management tools in 2003. The Executive Board validated the weighting of executive positions in January 2003, and it was expanded to the subsidiaries during the year.

Building and supporting career development programs for executives and their successors is also necessary for our cohesiveness as a group and for establishing a shared culture. At our 2003 Development Center seminars, more than a hundred promising future leaders crafted individual career development plans. We have conducted three seminars to date, in France, the United States and Germany. The seminars are designed to result in personalized management development plans.

(1) Business Unit Assainissement.

The FCI group completed its assessment of management positions in 2003 and established wage schedules for all countries of Europe and North and South America. A strong financial background is considered a must for FCI managers if the ambitious strategic goals set by FCI's executive management are to be met. Accordingly, the FCI Academy launched a "financial training for non-financiers" series for managers in partnership with Price Waterhouse Coopers to improve the financial culture of FCI. The training program was held in Asia-Pacific, the U.S. and Europe. In the latter, 100 managers were trained in less than three months. This successful program will continue through 2004.

Meanwhile, the COGEMA group's mining business unit embarked on a skills maintenance plan based on two key goals:

- streamline the organization to redistribute responsibilities while ensuring sustainable skills;
- acquire new skills through an influx of young employees with management potential and maintain skill levels of older and experienced employees who can provide training and pass on knowledge.

Knowledge management

For AREVA, as for any advanced technology company, developing the technical skills of our experts is fundamental to our performance.

We launched a technical and scientific knowledge management program in 2003 to maintain our high technical standards as the age structure changes. The program defines areas of expertise, identifies our experts, and establishes processes to develop and take advantage of our skills.

Three levels of expertise have been defined, and scientific fields essential to our existence have been identified:

- expertise at the subsidiary level, involved in technical decision-making and validation of performance and costs;
- expertise relied on by the entire group, involved in formulating recommendations on product strategies and related technical criteria;
- expertise recognized by the international scientific and technical community and accepted as scientific and technical authority.

FCI participated in a major scientific expertise leadership and development project developed by AREVA. In particular, the FCI research center contributed to scientific demonstrations by experts in the connectors field.

FCI also took an innovative approach to knowledge leadership with the creation of a "Manufacturing Experts Group" in January 2003. Made up of experts from every operating division, the group's mission is to find and enhance innovative and competitive solutions for key manufacturing sectors by identifying and sharing "best practices", standardizing value-adding processes, and spearheading activities to improve quality and schedule and to reduce costs.

Each manufacturing expert heads up a "Process Club" spanning all divisions and a network of international experts to establish programs, priorities and schedules reflecting FCI's strategic objectives.

Developing professional mobility

Mobility is a driver for improvement with multiple benefits: knowledge sharing and replenishment, diversification of career opportunities, development of an international culture… It also offers attractive career opportunities to employees threatened with workload reductions and technological change.

In 2003, a total of 618 employees took advantage of mobility opportunities within the group: 398 of them within the subsidiaries (263 at COGEMA, 56 at Framatome ANP, 70 at FCI and 9 at Technicatome), and 220 of them between group subsidiaries, with half of them going from Framatome ANP to COGEMA.

In France, a mobility committee composed of the group's key human resources managers meets once a month to review and facilitate employee mobility within the group. All employees receive a quarterly journal on mobility opportunities.

To expand group mobility, both quantitatively and qualitatively, our HR teams are sharing their career management practices and mobility management tools, especially overseas. COGEMA's mining business unit, spurred by the changing business, reinforced its international mobility efforts in 2003, especially in Niger, Canada, Kazakhstan and Australia, where the potential for developing mining skills is strong.

Our human resources specialists are working with our information systems teams to unify subsidiary Intranet systems and put mobility-related information online for all of the group's employees.

Strengthening technical and professional training

Our businesses require special training programs.

In France, AREVA supported the creation of the *Ecole Nationale du Démantèlement* (national dismantling school) in

association with the *Institut National des Sciences et des Techniques du Nucléaire* (national institute of nuclear sciences and technologies), where 2,100 trainees will acquire expertise in cleanup, dismantling, deconstruction and related waste management activities by 2005.

In the United States, we gave a $1 million grant to Central Virginia Community College to develop specialized nuclear industry training. Twenty-eight students were trained in 2002 and 60 in 2003.

More than 200 people have been trained via FCI's "Vita" program, which was launched in 2001 and is still active. The program helps create synergies among divisions, encourages sharing of best practices and increases understanding of FCI's vision and strategy through practical case studies and talks by the company's senior executives.

COGEMA followed yet another path for practical field training at its La Hague site: a "buddy system" was used to train new operators and retrain others for new positions. Three hundred employees helped design a hundred training booklets for the program, which alternated between classroom theory and hands-on sessions. Trainers pass on crucial information and knowledge using a standard format and a common set of performance benchmarks. Created in 2001 and launched in 2002, the program reaped its first lessons learned in 2003.

To sum up, AREVA attaches special importance to skills development. More than 65% of our employees received training in 2003. Our subsidiaries' investment in training is shown by indicators such as the percentage of payroll or total number of hours. For example, COGEMA spends more than 6% of payroll on training.

5.2.2.2. Strengthening dialogue with labor throughout the group

The development of dynamic and constructive labor relations is a constant concern for AREVA, as Anne Lauvergeon has clearly indicated ever since AREVA was formed in late 2001.

We encourage dialogue with all employees and their representatives, and have established frameworks to facilitate such dialogue.

Every one of the group's companies in France and abroad has such bodies – works councils, central works councils, labor representatives, or their foreign equivalents – and they continue to play an important role.

Senior management has also indicated that it intends to exceed the minimum legal requirement by working with representative labor organizations to create a framework for dialogue specific to AREVA.

In Europe

Creation of the AREVA European Works Council

We signed an agreement creating the European Works Council with employee representatives on December 3, 2003. The council offers a framework for information and dialogue made up of employee representatives from each AREVA company with at least 100 employees and based in countries whose membership and date of entry into the European Union have been approved. Other European countries, such as Switzerland and Turkey, will be included as observers. The Council will meet twice a year to deal with transnational subjects within its purview relating to the group's economic, commercial, industrial and social activity. It is expected to have 35 members from 12 countries. The first meeting of the Council will be held in the first half of 2004.

In France

Group-level works councils at COGEMA and FCI

The COGEMA group works council was made official with the signature of an agreement by all of the group's labor organizations in May 2003.

The FCI France group works council was established by a July 10, 2003 agreement and held its first meeting in February 2004.

Continuing the dialogue with labor via the negotiating group and signature of a mobility agreement covering the French companies of the AREVA Group

The collective bargaining agreement applicable to companies based in France, signed on February 11, 2002, was turned into action through continued dialogue via the "negotiating group", resulting in an agreement on mobility guidelines for France, signed on January 28, 2004.

Rooted in the concept of mobility as a key group value, the agreement establishes conditions supporting its implementation, particularly as regards employment agreements, training, remuneration and compensation for mobility-related expenses.

It applies to all of our companies in France, but does not preclude more favorable practices or regulations.

Dialogue with labor at subsidiary level

Following the many collective bargaining agreements signed in 2002 at COGEMA – incentives, early retirement (CATS/GPE programs), travel – 2003 was a year for consolidation.

The calendar of central works council meetings at COGEMA was also particularly full in 2003, with eight meetings, including five specific to the creation of the job retention plan at Cadarache.

At Comurhex [1], a COGEMA subsidiary, the year was punctuated by numerous ongoing labor negotiations, including establishment of a mechanism for early termination of employment for certain shift workers, negotiation of a company agreement on career planning, renegotiation of the ARTT agreement, which expired on December 31, 2003, and negotiation of an agreement creating central labor stewards at Comurhex.

To cope with the restructuring made necessary by the profound change in the commercial landscape for connectors, FCI established a set of ground rules for negotiation and dialogue with its local and domestic labor partners, described below:

A national framework

- Agreement creating an "equal labor/management discussion and negotiation group" to define terms and conditions for dialogue with employee representatives, which was signed by the CFDT, CFE-CGC, CFTC and FO trade unions on November 18, 2002.
- "Mobility Agreement", which was signed on February 7, 2003 by all five national trade unions. This agreement meets three objectives: 1) to offer employees attractive opportunities for professional advancement within FCI and AREVA, 2) to make a significant contribution to job retention, and 3) to give the company the necessary operating flexibility and skills for long-term viability.
- "Agreement on management of industrial change", signed by the CFDT, CFE-CGC, CFTC and FO trade unions on April 11, 2003. This agreement is a response to the crisis in the connectors industry, which requires rapid and major adjustments in FCI's businesses and units. The agreement's key principles are social responsibility, planning, solidarity, dialogue, local support and communications.

Effective corollaries at local level

To apply the national-level agreements, FCI's French subsidiaries have negotiated collective bargaining agreements and associated employment measures in connection with the proposed restructuring.

- At Pontarlier, a collective bargaining agreement concerning FCI's proposed withdrawal and site redevelopment was signed on June 11, 2003 with the CFDT and CGT. The CFDT also signed the associated employment measures on October 17, 2003.
- In France's Sarthe department, a collective bargaining agreement was signed with the CFE-CGC, CGT and FO on June 12, 2003 concerning the proposed restructuring of the CDC business unit [2] in Sarthe and closure of the Le Mans site. The CFE-CGC and FO signed the associated employment measures on November 6, 2003.
- At Besançon, a collective bargaining agreement was signed with all of the labor organizations represented at the site on July 11, 2003. The CFDT, CGT and FO ratified the associated employment measures pertaining to restructuring on December 1, 2003.

The FCI Electrique France division signed a collective bargaining agreement with the CFE-CGC, FO and CGT on November 3, 2003. The associated employment measures were also signed by all of the trade unions represented there.

(1) Chemistry business unit.
(2) Communication Data Consumer.

5.2.2.3. Strengthening the group's culture and team spirit

Sharing experience and developing a sense of belonging to the group are key objectives for the group's human resources departments.

Several programs are under development in this regard under the sponsorship of the AREVA University, which was created shortly after the group was officially established in September 2001. Several aspects are worthing mention and are described below:

Preparing our managers for the globalization challenge

Seven traveling seminars brought together 120 managers to familiarize them with the group's culture and global business environment. The traveling seminar concept won a prize in the innovative product category at an international conference in the United States.

Creating and nurturing networks for sharing experience among key groups

Several activities have been developed at local and regional level that address our diversity, including the site directors circle, expertise network, and networking of major account managers.

Encouraging collective ownership of our values and objectives

The AREVA University offers sessions centered on:

- applying the group's values and business ethics,
- raising financial and stock market awareness,

- raising awareness of internal controls,
- regular spokesmen sessions pertaining to nuclear power acceptance.

Winning the race for talent by offering engineers and managers with strong potential a career development plan and individualized training based on the leadership model defined by the group in early 2003

The AREVA University training sessions cover a wide range of executive career development paths, most notably:

- an integration session explaining the AREVA Group,
- a program for young managers,
- a human resources development center for high-potential managers,
- advanced individualized courses for the group's future leaders.

Raising management awareness of sustainable development and the continuous improvement initiative

Sustainable development is a unifying principle, especially for younger people, that can and should affect the performance of management duties every day.

It was in this spirit that more than 100 young managers from throughout the group met in France, Asia and the United States to analyze the 2002 sustainable development report, improve its content and take the initiative even further. The interest they showed went beyond their particular training or background. They expressed a desire to participate in the operational deployment of sustainable development and indicated their expectation of strong management involvement at every level of the organization.

In France, several events were held within the group during Sustainable Development week in June 2003. At La Hague, more than 900 employees of the group and its subcontractors attended the daily presentations and demonstrations by experts from the group and elsewhere on AREVA's occupational safety, environmental, quality and nuclear safety communication programs and policies.

5.2.2.4. Ensuring the health and safety of group and subcontractor personnel

For AREVA, protecting our employees and those of our subcontractors who come to our sites is clearly a top priority. We use all of the means necessary to ensure occupational health and safety and to raise personnel awareness on preventing risky behavior.

Occupational safety

The AREVA occupational safety policy issued in late 2003 is designed to strengthen and harmonize our occupational safety practices at every level of the group. "Zero accident" is our goal, and we have set our sights high to achieve it. In particular, we are aiming for an average accident frequency rate of less than 5 and an average accident severity rate of less than 0.2 by 2006.

Occupational safety activities at the operating level include comprehensive risk analyses and dosimetry forecasts for each jobsite, participatory safety visits, and widespread use of accident and near-accidents analyses.

We were not entirely satisfied with our occupational safety performance in 2003, which is one of the reasons we launched a targeted action plan for 2004:

	2003	2002
Accident frequency rate	8.01	9.47
Accident severity rate	0.28	0.33

Radiation protection

Our goal is to minimize the number of people exposed to radiation and to reduce our maximum dose limits to 20 mSv/man/year in all of our facilities, in line with the new European directive, including facilities in countries with less stringent legislation. AREVA also plans to comply with this limit when providing nuclear services in its customers' facilities. We are working on procedural requirements with these customers.

At the Niger mines, our activities focus on improving mine ventilation and lowering dust levels, managing exposure time better, and raising worker awareness. These efforts helped us achieve our goal early, in November 2003.

5.2.2.5. Planning for and facilitating restructuring

Our markets may change, requiring us to restructure. When this involves adjustments of production resources affecting employment, specific actions must be taken, including solidarity and reindustrialization measures, and ongoing and expanded dialogue with local partners. In 2003, as in 2002, the AREVA group made every effort to plan for this change and to minimize its social consequences.

Employee support and group solidarity programs

Productivity gains in all of the group's business units and significant drops in the workloads at some of our sites have prompted a variety of staff cutback measures in France and abroad.

For example, in 2003 FCI methodically and firmly pursued the restructuring program made necessary by the profound and irreversible change in its markets.

The plan has yielded cost reductions of €420 million in the last two years. Several operational measures have been taken, in particular:

- purchasing cost reductions,
- workforce adjustments,
- streamlining of the product portfolio,
- sale of non-strategic businesses.

In terms of manpower planning, FCI has conducted its restructuring plans completely in line with local and transnational regulations and ensuring total transparency with respect to the AREVA European Works Council. The restructuring activities were conducted with due regard to the ongoing dialogue with employees and their representatives and the utmost respect for the employees and stakeholders, affected especially the local communities.

FCI's goal was to find a solution for each individual situation. The measures taken in Europe in 2003 have yielded the following results:

- in Glasgow, Scotland, 80% of the 180 employees found employment within three months;
- at the Malines site in Mechelen, Belgium, 80% of the 450 employees have found work;
- in the United States and Den Bosch, Netherlands, FCI has done everything in its power to support its employees;
- in France – FCI Besançon, FCI Pontarlier, FCI CDC [1] La Sarthe, FCI Electrique – agreements connected with the restructuring provide for employment measures, particularly personnel placement inside and outside the company, and, in the case of Pontarlier, site reindustrialization for long-term local employment.

2003 was therefore a crucial year for FCI in France in terms of solidarity and reclassification. AREVA group affiliates constantly sought opportunities for the employees affected by the restructuring and made numerous job offers.

As a result, the group supported more than 130 relocations and reassignments in 2003. Some 55 FCI employees were able to find employment in units outside the Connectors division in fields new to them, and training was provided when necessary.

AREVA's employment policy for France thus relies on a few key principles: planning, negotiation and solidarity programs.

As soon as a problem is identified, preventive measures to adjust manpower to workloads are implemented through:

- mobility programs,
- manpower loans between group business units,
- flexible working hours, and
- early retirement and pre-retirement programs.

If these voluntary measures are not enough, we will set up job retention/manpower adjustment plans, after first informing and engaging in dialogue with our social partners.

In 2003, COGEMA set up a job retention plan in connection with the commercial shutdown of its Cadarache plant and the transfer of operations to Melox.

From the start of 2001 to the end of 2003, 138 employees of that plant were by and large placed within the group or took advantage of early retirement and retirement solutions.

This outcome was only possible through planned and negotiated management of manpower reductions, beginning with the 2001 signature of various collective bargaining agreements and the creation of an effective solidarity program at group level.

Also at COGEMA, the job retention plan initiated in 2002 at the SICN plant in Veurey, France, was successfully completed in 2003, with all 127 employees being placed in internal or external jobs.

Several measures were taken at COGEMA's subsidiary SGN from year-end 2001 to year-end 2003 to adjust the workforce downward now that COGEMA's major construction projects have been completed. With the exception of a few cases, practically all of the 198 employees affected by the Pagec [2] program launched in April 2002 were able to find a satisfactory solution for their job concerns.

Also, employment was found for 25 AT-Nutech employees from the Voisins-le-Bretonneux site in France, which had to be closed due to a downturn in the specialty equipment business with the automotive and aeronautic markets.

(1) Communication Data Consumer.
(2) Plan of adaptation and management of jobs and skills.

Site reindustrialization and local economic development

AREVADelfi

AREVADelfi financed six enterprise creation projects expected to create 190 jobs for a total of €170,000.

AREVA has been conducting a nationwide search for sources of projects and working to attract them to these areas. Since starting in 2003, 200-250 contacts have been made, and 15 projects have resulted in a decision to expand or relocate new manufacturing, services and technological operations.

AREVADelfi has approved 60 projects since 1998 representing 1,700 jobs, 1,200 of which were newly created, for a total commitment of €3.9 million.

The projects now cover six of the group's employment regions.

ALIZE program (local inter-company activities in employment areas)

We continued our enterprise village projects in France in 2003 under an agreement signed in 2002 with the *Caisse des Dépôts et Consignations*:

- Near Le Creusot, France, the first village is now completely occupied with the 2003 arrival of a German manufacturer of wind towers, which is expected to provide 120 jobs. A second village established to respond to local demand has already been 50% occupied.
- A third village is planned in Pontarlier, where we had to cease operations due to the deterioration of the worldwide telecom market. Our goal is to create 150 jobs at the site. Six companies are already prepared to locate there.
- In Chalon sur Saône, we are providing support for a project to create a corporate real estate development firm at an abandoned industrial site in partnership with EDF and the *Caisse des Dépôts et Consignations*. The firm will help finance picture and sound technology projects.
- We also have a memorandum of understanding with the town of Pierrelatte and the *Caisse des Dépôts et Consignations* concerning economic development projects on land owned by the French atomic energy commission (CEA). Preliminary studies will be kicked off in 2004.

In the Pierrelatte area, the ALIZE program begun in 1997 continued to make progress, with a total of 310 new jobs created through 60 enterprise support projects. An ALIZE program was set up in Cherbourg at the end of 2003 and will be supported by AREVA.

A similar project is still planned for the Chalon region, but is not yet operational.

Maintaining stakeholder relations based on trust

AREVA maintains a neighborly relationship with every community in which it does business, recognizing that potential job creation is always a closely watched subject for local stakeholders.

AREVA seeks to establish relationships built on trust with all of its stakeholders through dialogue based on openness and transparency. This desire is substantiated by our many activities and programs to inform local communities, associations, the general public, the media, the government and stakeholders in general.

The group also helps develop and disseminate scientific knowledge by working with scientific institutions such as the *Palais de la Découverte*, the *Cité des Sciences et de l'Industrie* and the French Association for the Advancement of Science, and by participating in educational programs for students in French universities and *grandes écoles*.

At the same time, the AREVA group offers two drivers for local economic development:

- a base for economic development in the communities in which its sites and businesses are located;
- support for the redevelopment of group sites when technological change or shifting markets make it necessary to restructure our operations.

At AREVA, we are conscious of our responsibilities towards the local community and wish to show our solidarity by contributing to local economic and social development and by labor supporting industrial redeployment when shifting markets force us to cease certain operations. Solidarity can also take the shape of sponsorship and partnership programs.

Forced to combine production resources for some markets, AREVA has committed itself to the redeployment of the Pontarlier site, which was devoted to telecommunications and electronic connectors. This is a major undertaking that began in June 2003 and consists of redeploying the plant's 18,000 m^2 by attracting technology enterprises active in the areas of expertise of the personnel and facilities already there.

All of these programs are conducted cooperatively with local communities and more often than not with financial and industrial partners concerned with local sustainable development. Ultimately, the objective is to create sustainable and economically attractive business conditions for AREVA that build on renewed skills by reviving or "fertilizing" the local economies of our industrial areas.

Labor statistics

- Jobs actually created in 2003: 110.
- Estimated number of jobs to be created over the next three years: 550.
- AREVADelfi projects approved: four, for 144 jobs.

5.2.2.6. Increasing the use of internal opinion surveys

COGEMA conducted an internal opinion survey in 2003 patterned after the Framatome ANP survey performed in 2002. Of the 20,551 questionnaires sent out, 6,507 responses came back, with a response rate of 32%. Though this low rate does not cast doubts on the representativeness of the survey, it does constitute a lesson that will be taken into account in new surveys. The key conclusions to be drawn from the survey are that employees:

- enjoy their work and their unit, but wish to be more involved in making the decisions that affect them and to participate more actively in performance improvement;
- have a positive image of their company, but want better communications among affiliates and greater attention to individual career goals.

FCI also conducted an in-house survey on image among its Asian managers in November 2003. The survey gave FCI Asia a better understanding of how employees perceive the company and enabled it to implement more targeted managerial programs. According to the survey, 80% of FCI's employees believe that they understand FCI's objectives and business, and the majority of them consider the company's strengths to be its customer orientation, modern management and encouragement for human resources development.

5.2.2.7. Employee incentives and profit sharing

Incentives and profit sharing

The companies of the AREVA Group have a variety of incentive and profit sharing agreements in place.

The incentive agreements in force are generally based on performance criteria linked to:

- quantitative results, such as sales or operating income;
- productivity improvements;
- costs reductions;
- qualitative results, such as performance improvement objectives specific to each company.

Employee/Company savings plans and investment vehicles

AREVA's Group savings plan has been in effect since May 17, 2002. The plan consists of three Corporate mutual funds: a money market fund, a diversified fund, and a fund invested in company stock. Framatome ANP and FCI companies both subscribe to it.

In addition, the companies of the COGEMA, Technicatome and FCI groups had their own employee savings programs prior to the establishment of AREVA. For example, the COGEMA Group set up some fifteen savings plans comprising a total of forty mutual funds over the years, based on subsidiary requirements.

Employee shareowners

AREVA shares held by group employees via employee shareholding programs offered by Framatome since 1986 are currently invested in the "Framépargne" fund of the AREVA Group savings plan.

The Framépargne fund held 375,858 AREVA shares as at December 31, 2003, that is €88,326,630 invested in company securities that are not publicly traded. The fund currently benefits from a guarantee of liquidity that takes effect whenever liquidity dips below a minimum threshold of 15%. The bank providing the guarantee held 184,717 AREVA shares as at year-end 2003.

When AREVA was created in September 2001, the group immediately indicated that it wanted to increase employee shareownership in France and overseas. Since we are planning to open our share capital to financial markets, this would be the time to offer the opportunity of subscribing to AREVA shares to as many employees as possible.

Stock options

AREVA does not presently have a stock option plan at group level.

5.2.2.8. Other social programs led by the group

Employing and integrating handicapped workers

AREVA employed 789 handicapped people as at year-end 2003, that is an average of 1.7% of our workforce [1].

Each subsidiary regularly develops its own programs for integrating handicapped employees:

- fitting out work stations,
- providing for transportation and accessibility,
- installing special alarm systems in our facilities.

(1) Outside the USA.

≫ 5.3. Environmental report

Our environmental programs are carried out in the framework of the AREVA Way continuous improvement initiative and are based on the principles of dialogue and consensus building, respect for the environment, risk management and prevention, and community involvement.

Key data

	AREVA 2003*		AREVA 2002*	
	Data	Scope	Data	Scope
Consumption				
Quantity of energy consumed (MWh), excluding Eurodif	2,766,551	100%	2,683,226	99.89%
Quantity of water consumed (m^3), excluding Eurodif and Marcoule cooling water	28,014,287	100%	29,712,390	99.89%
Consumption of plastics (MT)	15,766	100%	16,401	99.89%
Consumption of copper and copper alloys (MT)	16,581	100%	8,954	99.89%
Consumption of hazardous chemicals				
Nitric acid (MT)	17,012	100%	15,790	99.89%
Tributyl phosphate (MT)	49	98.04%	82	99.89%
Sulfuric acid (MT)	78,364	100%	81,415	99.89%
Hydrofluoric acid (MT)	7,407	100%	6,816	99.89%
Ammonia (MT)	4,852	100%	4,217	99.89%
Chlorine (MT)	7,533	100%	7,886	99.89%
Chlorinated solvents (MT)	4,087	98.64%	85	99.89%
Waste				
Quantity of special industrial waste (SIW) (MT)	15,208	100%	20,063	94.32%
Quantity of common industrial waste (CIW) (MT)	28,065	100%	22,864	94.32%
Quantity of household waste (MT)	-	-	910	94.32%
CIW + SIW + Household waste: portion recycled / disposed of	45%	94.55%	38 %	93.90%
Volume of radioactive waste from operations sent to a licensed disposal facility (m^3)	5,636	100%	4,520	99.89%
Releases				
Total nitrogen releases into aquatic environments (MT)	1,163	98.09%	854	99.89%
Aqueous releases of copper (kg)	320	100%	561	99.89%
Aqueous releases of chromium (kg)	83	100%	398	99.89%
Aqueous releases of lead (kg)	62	100%	102	99.89%
Aqueous releases of uranium (kg)	2,364	100%	2,262	91.14%
Direct greenhouse gases (MTe CO_2)	582,828	100%	430,421	99.89%
Toxic gas releases: volatile organic contaminants (kg VOC)	246,898	100%	36,523	99.89%
Releases of acidifying gases (MTe SO_2)	2,093	99.52%	2,115	99.89%
Releases of gases that deplete the ozone layer (kilograms equivalent CFC 11)	1,781	98.54%	5,390	99.89%

** The scope applies only to the production sites, with the coverage rate measured in relation to the number of employees.*

Source: AREVA

5.3.1. Strengthening relations with outside stakeholders

We want to understand what our stakeholders want, to answer questions about our operations in a spirit of dialogue and consensus building, and to make such exchanges of ideas a wellspring for improvement.

5.3.1.1. Promoting dialogue at national and international level

Out of a concern for openness and transparency, AREVA actively participates in debates on subjects relevant to our operations, notably energy, the environment and development. We put considerable effort into France's national energy debate in 2003.

We also support the work of several national and international organizations:

- In France, AREVA has been a member since 2003 of Comité 21, an association formed in 1994 to help implement French commitments made at the Earth Summit in Rio. We participate in the "Entreprises 21" program, which deals with subjects such as employee training in sustainable development, sharing best practices among companies, and integrating the procurement function into sustainable development programs.
- Internationally, our CEO, Anne Lauvergeon, is a member of the Commission on the Private Sector and Development of the United Nations Development Programme (UNDP). She also supports the work of the World Business Council for Sustainable Development (WBCSD) as co-chair of the Energy and Climate program, where we have assigned one of our colleagues as program director.
- At the International Chamber of Commerce, AREVA works with the Energy and Environment task force on global warming issues and with the Enterprise in Society task force on the practices of socially responsible companies.

To seek new avenues for dialogue and exchanging of ideas, AREVA is a partner to the Science, Environment and Society Program of the *Fondation Nationale des Sciences Politiques* in France. In April 2003, during France's national energy debate, we participated in a symposium similar in approach to "citizen conferences". A panel of student judges listened to presentations by four experts – Bernard Laponche, consultant; Frédéric Marillier, Greenpeace France; Georges Charpak, Nobel Prize winner in physics; and Bertrand Barré, director of the scientific communication at AREVA – on the theme of civilian nuclear power. The panel worked out a consensus opinion behind closed doors, then debated it with the participants and the public.

5.3.1.2. Communicating about our operations and the challenges we face

We have developed educational communication tools to help people gain a greater understanding of our operations and the challenges that go with them. In 2003, a group of experts led by Bertrand Barré, our director of the scientific communication, published a book entitled "All about Nuclear Power, from Atom to Zirconium" (*Tout sur l'énergie nucléaire, d'Atome à Zirconium*, available in French). This 160-page book was widely disseminated inside and outside the AREVA group. In the same spirit, our *Alternatives* magazine (in English) is offered free of charge to anyone who wishes to learn about energy in all its forms. Both of these publications may be ordered from our website, www.areva.com.

We also conduct public opinion surveys to respond more fully to society's expectations in the area of energy. In addition, the AREVA website offers a venue for continued discussion via our forum and interactive tools.

5.3.1.3. Stimulating local dialogue

Where AREVA has a site, it has a communications program. The goal is to inform the community about our operations, build relationships and be a good neighbor.

In Germany, the Lingen nuclear site distributes a monthly information report about its activities to the public. Most of our plant sites in France, Niger and Canada publish an annual environmental report. This initiative is being extended to every one of our plant sites.

Pursuant to the objective set in 2002, three pilot sites – La Hague and Bessines in France and Lingen in Germany – mapped their stakeholder relations in 2003. Under this approach, a list of external stakeholders and the site's economic, social and environmental objectives is drawn up. By comparing our employees' perceptions of these objectives with those of our local partners, areas needing improvement and priority topics for dialogue can be identified. The intent is for this initiative to become part of the AREVA Way continuous improvement process.

5.3.2. Implementing environmental programs

We have begun the process of harmonizing our affiliates' specific practices within our environmental programs. In 2004, we will examine ways of extending the program to the newly acquired Transmission and Distribution division. The data hereunder relates to the consolidated group as it was in 2003.

The environmental inventory we took in 2002 showed that AREVA's environmental impact is minimal, partly because our sites use only small quantities of materials, but also because they are properly managed. Nevertheless, under our continuous improvement program, we have set ambitious improvement objectives, described in the sustainable development report. The memorandum of agreement on sustainable development reporting contains some thirty environmental indicators, so that the group's environmental performance can be tracked quantitatively.

5.3.2.1. Management

Environmental management system

Our goal is to implement environmental management systems (EMS) at all of our sites and to secure ISO 14001 or equivalent certification for AREVA's 63 sites with significant environmental aspects no later than the end of 2005. In 2003, the COGEMA-Pierrelatte, COGEMA-Marcoule and Jeumont sites in France and the FCI sites in Barcelona (Spain), Markham (Canada) and Kuongju (South Korea) were certified.

Example:

FCI's Dong Guan site in China won renewal of its ISO 14001 certification in August 2003, confirming the quality of its environmental management system. It was also officially recognized by its customers Intel and Sony.

Training and awareness raising

AREVA wishes to strengthen its affiliates' personnel training and awareness programs regarding their environmental responsibilities, especially for the challenges of energy conservation and reducing greenhouse gas emissions [(1)].

The Corporate Department of the Environment held an environmental meeting on July 9, 2003, attended by 70 people where AREVA's environmental program objectives were presented and the Seveso risks were discussed with a representative of the regional department of research, industry and the environment (DRIRE). Meeting attendees exchanged ideas in three thematic workshops on eco attitude, conventional waste, and energy conservation.

Targeted one-day workshops address crosscutting issues pertaining to the group's priority challenges, such as health hazards (including Legionnaire's disease), eco-design and environmental management.

(1) Gaz à Effet de Serre.

5.3.2.2. Risk prevention

Monitoring releases and the environment

Against a backdrop of major regulatory change brought about by the establishment of the European Pollution Registry, Water Framework Directive, and Greenhouse Gas Directive, and in parallel with the monitoring performed by the regulatory authorities, AREVA has assigned considerable resources to its own environmental monitoring efforts, particularly with respect to releases.

At each site, skilled workers regularly take samples and measurements in the various receptor environments (air, water, soil, wildlife and vegetation). Six of the group's laboratories have been licensed to perform environmental analyses by Cofrac, the French licensing board.

Maintaining a high level of safety and controlling technological risks

In the field of nuclear safety, the General Inspectorate set up at COGEMA in 2001 continued its mission of inspection and experience sharing. The Inspectorate provides management control for nuclear safety and helps ensure that the group remains above reproach in this field. The General Inspectorate broadened its scope in 2002 to include all of the nuclear facilities of the AREVA Group, beginning with FBFC's uranium fuel fabrication facilities. This initiative will continue in 2004.

Above and beyond a mere review of facility compliance with applicable requirements, the General Inspectorate analyzes work processes at our operating units and existing safety systems and their mode of operation. The analysis identifies potential deficiencies, but also recognizes best practices that should be implemented elsewhere. The lessons learned help build a shared culture among the group's industrial operators and facilitate assessment of the safety culture of our operating teams.

In 2003, the General Inspectorate carried out 17 inspections centered on the following:

- review of the contractor selection and approval process;
- management method for sealed and unsealed radioactive sources;
- review of emergency management measures; and
- assessment of the safety culture of the operating affiliates.

In each case, inspections performed in 2003 indicated that the entities involved had organizations and practices in place to ensure that appropriate procedures are followed, which is a strength.

Of the areas for improvement identified, the most important were:
- handling of anomalies and corrective actions,
- strict adherence to a unique and shared set of operating documents, and
- prioritization and effectiveness in the handling of performance improvements.

Of the 69 events reported in 2003, 51 were level 0 events on the International Nuclear Event Scale (INES [1]), 17 were level 1, and one was level 2.

An analysis of the complete list of events reveals that a significant proportion of them involved the risk of temporary failure in the primary materials' containment barrier. The analysis confirms the importance of close attention to handling and transportation operations and of fire prevention vigilance. The preciseness required for maintenance, monitoring and modifications management continue to demand the operator's fullest attention.

The analysis of the level 2 event prompted an in-depth review and redefinition of nuclear safety processes at the entity in question.

Although generally speaking the General Inspectorate did not observe any major malfunctions in any of the group's facilities, our nuclear safety culture must be carefully maintained, as it is our guarantee for achieving the level of performance required for the sustainable development of our operations.

Radiological impact of the sites

Our objective is to:
- standardize radiological impact assessment models for our leading nuclear sites by 2004, and
- limit external exposure at the site boundary to 1 mSv/year, even under the most extreme exposure scenarios.

Work to reconfigure storage areas and site fences to this end was undertaken in late 2003 and will continue as necessary in 2004 at COGEMA-Pierrelatte, COGEMA-Miramas, Eurodif and Comurhex-Malvési. At COGEMA-Marcoule, waste is being removed from the north area to achieve compliance with the site boundary limit.

An exposure indicator – the "effective additional dose", expressed in millisieverts per year (mSv/yr) – is used to measure the impact of radioactive releases on the most exposed members of the neighboring population, the reference group. Radiological impact assessments are performed at each of our nuclear sites.

For example, the radiological impact assessment model for La Hague was the focus of joint work by French and international experts and associations under the umbrella of the Nord-Cotentin radio-ecological group. This highly sophisticated assessment model factors in various types of radiation (alpha, beta/gamma and neutron), the three possible exposure paths (external, ingestion and inhalation), and the specific behavior of each radionuclide in the human body. To supplement the model, outside experts are conducting epidemiological studies to assess the health effects of radioactive releases on exposed populations directly. All of the studies conducted over the past 20 years have concluded that the site has very little impact.

AREVA provides regular and completely transparent data on the results of environmental sampling and analysis conducted under the supervision of the nuclear safety authorities via monthly publications and on our various websites. In France, the Local Information Commissions set up by the government near major energy facilities, including nuclear sites, facilitate our direct interaction with the local community. AREVA provides them with any information they may require.

Through concerted effort, radioactive releases have dropped sharply in the last thirty years. For example, La Hague's radiological impact has been divided by five despite a substantial increase in the tons of fuel treated, and the site committed back in 1995 to limit its radiological impacts to less than 0.03 mSv/yr. This move helped ready the site for tighter European Union regulatory standards, which now limit the maximum impact on members of the public from a nuclear facility to 1 mSv per year. This is less than the average background radiation for all of France (2.4 mSv/yr). To illustrate, the radiological impact of the COGEMA-La Hague site in 2003, as in each year of the preceding decade, was less than 0.01 mSv. That is less than 1% of the European regulatory limit. This figure roughly corresponds to one day of exposure to background radiation in the region around the site. Pleased though we are with this performance, we are nonetheless continuing research on the feasibility of reducing radioactive releases from La Hague even further.

(1) International Nuclear Event Scale, graduated from 1 to 7 (see Glossary).

Controlling risks linked to the use of hazardous chemicals

Group facilities subject to the Seveso "high threshold" rules (article 23 of the Law 2003-699 of July 30, 2003, on the prevention of technological and natural risks and compensation for damages): Cezus-Jarrie, COGEMA-Pierrelatte, Comurhex-Malvési and Comurhex-Pierrelatte. Four Cezus sites are subject to Seveso "low threshold" rules: Paimboeuf, Montreuil, Juigné, Rugles and Ugine.

As part of our risk management policy, applicable to all of our affiliates, AREVA has taken the necessary measures to fulfill our Seveso responsibilities. In accordance with regulatory requirements, technical documentation on these facilities – major accident prevention program, occupational safety management system, hazard studies – is submitted to the competent authorities, which may call for revisions, additional studies or outside appraisals.

With respect to insurance, the civil liability program taken out by the AREVA Group covers COGEMA and Comurhex. The level of coverage is based on the quantification of reasonably expected risks and guarantees available in the insurance market.

With respect to accident compensation in the event of an industrial accident for which the company may be held liable, a management procedure is being developed with the underwriters of AREVA's civil liability program.

In 2003, safety improvements at our Seveso-regulated facilities pertained to:

- ongoing updates of hazard studies,
- finalization of studies to optimize safety perimeters, and
- integration of requirements under the Law of July 30, 2003, on technological and natural risks.

The processes we use may involve significant quantities of hazardous chemicals such as nitric acid (17,012 MT), sulfuric acid (78,364 MT, mainly for mining operations), hydrofluoric acid (7,407 MT), ammonia (4,852 MT), chlorine (7,533 MT), lead (6,146 MT) or others. Every necessary precaution is being taken for the storage and handling of these chemicals. Most of the sites using these materials are regulated under the Seveso directive. Our approach is directed at reducing the quantities used whenever possible, or finding suitable substitutes. FCI is a case in point: it undertook a program to eliminate the use of lead by 2006.

PCBs and PCTs are toxic chemicals used to manufacture electrical distribution equipment, among other things. AREVA's subsidiaries began to eradicate them several years before the European directive set a 2010 date for their destruction, and AREVA has made a commitment to phasing out the remaining equipment under a plan approved by the Ministry of Ecology and Sustainable Development and included in the national plan approved by a decree on February 26, 2003. In 2003, 105 pieces of equipment were destroyed.

Preventing eco-health risks

Our focus on public and personnel health have led to an eco-health risk culture that we hope to extend beyond our regulatory obligations and beyond the area of radiological exposure, for which considerable efforts have already been made, to the chemical and biological fields.

The objective is to supplement environmental analyses for sites with significant environmental aspects with a health hazards assessment section updating their risk reduction objectives for releases and environmental hazards, and to do so before the end of 2006. At year-end 2003, 27% of this objective had been met.

The use of new tools to assess chemical health hazards quantitatively, such as health hazards assessments (HHA), which follow methodology handbooks from the *Institut National de Veille Sanitaire* (INVS, the national health surveillance institute) and the *Institut National de l'Environnement Industriel et des Risques* (INERIS, the national industrial environment and risks institute), will help bolster our understanding of our potential impact.

In late 2002, we developed an in-house Procedural Handbook for the prevention and management of legionnaire's disease. Also, some our sites are unique in that they produce their own drinking water. A Procedural Handbook on drinking water was developed to ensure rapid action in the event of an incident. Both of these handbooks were distributed throughout the group in 2003.

5.3.3. Innovation and R&D

In the area of energy efficiency, the group plans to develop a method to assess building energy efficiency and will apply it to all service locations with a surface area greater than 1,000 m^2 before the end of 2005.

Streamlining our water and energy consumption is part of a wider review of eco-designs for products and services that manage product and material flows more efficiently. We organized a day of training on this subject in 2003 with the *Université de technologie* in Troyes, France, and the center for interdisciplinary research and studies on sustainable development (*Centre de recherches et d'études interdisciplinaires sur le développement durable*). The program attracted 35 participants from various AREVA subsidiaries, thus laying the foundations for an AREVA eco-design network. New projects in the field of nuclear materials transportation and fuel fabrication have also been launched.

5.3.4. Improving environmental performance

We are seeking improvements in three areas: process optimization, behavior modification, and alternative technologies and equipment.

We conducted studies in 2002 and 2003 to pinpoint our primary sources of water and power consumption and identify the most important opportunities for potential savings. Feasibility studies aimed at reducing consumption were performed at two pilot sites: Marcoule for water and La Hague for power. Similar continuous improvement initiatives are in progress with regard to radioactive and conventional waste management and releases.

5.3.4.1. Energy

The power consumption of Eurodif's Georges Besse uranium enrichment plant, which uses the gaseous diffusion process, represents about 90% of our energy consumption as a group. We are preparing to phase in the centrifuge process to replace plant capacity in the medium term, as this technology consumes 20 times less electricity than gaseous diffusion.

The COGEMA-La Hague plant is the next biggest consumer of energy. The plant has made a commitment to a 10% reduction in power consumption by the end of 2006, generating energy savings of 40 GWh over a four-year period. The related feasibility study pointed to two major areas for improvement:

- behavioral change by raising awareness (posting instructions such as "switch off lights when exiting", best practices guide, etc.); and
- industrial consumption optimization by mapping energy consumption and the unit cost per type of energy used so as to move towards more efficient technologies.

The experience acquired through this pilot study will also benefit our other sites.

Example:

FCI's Huntingdon site in the U.S. reduced its power consumption by 1.1 GWh per year by optimizing its compressed air supply system.

5.3.4.2. Water consumption

Of the 161 cubic meters of water tapped by AREVA, roughly 133 million cubic meters is taken from the Rhône River to cool facilities at the Marcoule and Tricastin sites.

We are taking steps to improve our water management, particularly at the production sites, so that we tap less water from the natural environment. These steps require a detailed knowledge of water consumption patterns and the actual costs associated with water management, as well as a great deal of work from site personnel and subcontractors. They translate into improved process and system management, equipment and facility modifications, new water recycling and reusing technologies.

Examples:

- *Our analysis of water consumption patterns at the COGEMA-Marcoule site found very significant opportunities for improvement and served to validate the methodology, which has potential for application to the Tricastin site:*
  - *quantitative and qualitative analysis of water usage and comparison with documented requirements to identify opportunities for improvement;*
  - *leak identification program; and*
  - *design of cooling processes using lost water and opportunities for transition to a closed cycle.*

  In 2003, water usage at the COGEMA-Marcoule pilot site dropped by 16% compared with 2002, a savings of 1.3 million cubic meters.
- *Changing water nozzles on FCI's panel plating line in Singapore reduced water consumption by more than 60%, with total annual savings of 25,602 m^3.*

5.3.4.3. Material consumption

At AREVA, we are continuing to reduce our consumption of chemicals that have a major direct or indirect impact and were identified by our environmental analysis tools (life cycle analysis, health hazards assessment), primarily by recycling internally. We are also reducing our consumption of key materials (copper: 16,581 metric tons; plastics: 15,766 metric tons; lignocellulose materials) identified through our environmental accounting program.

5.3.4.4. Waste

Conventional waste

AREVA's objective is to reduce final conventional waste disposal volumes by 30% by the end of 2006.

In 2003, in this category of waste, we generated:
- 15,208 metric tons of special industrial waste (SIW), and
- 28,065 metric tons of common industrial waste (CIW).

A total of 45% of this waste was recycled.

Programs are in progress in all of the group's facilities to:
- minimize and control waste generation at source;
- promote waste sorting, recycling and reuse; and
- improve the processing and packaging of non-reusable waste.

Example:

FCI's Ishioka site in Japan increased its industrial waste recycling rate from 87% to 93% from 2002 to 2003 by significantly improving its recovery of manufacturing scrap, and specifically by identifying opportunities to reuse plastic waste.

Radioactive waste

AREVA's fuel treatment business offers utility customers a commercially proven solution for separating recyclable materials (some 96% of the used fuel) from final waste, which is volume-reduced (five times less than without fuel treatment) into a form safe for storage pending final disposal.

Our business generates waste from facility operations (technological waste, ion exchange resins, sludges) and sometimes from facility dismantling. Every year, we endeavor to reduce our operating waste volume.

In 2003, we shipped 5,636 m^3 of radioactive waste from operations to a licensed disposal facility.

Example:

The Lingen site in Germany has a program to reduce radioactive waste from operations.

5.3.4.5. Releases in water

The nuclear fuel cycle typically processes small quantities of materials. The result is small total quantities of reagents for uranium mining and chemistry and for used fuel treatment. Nonetheless, the Chemistry and Treatment business units release certain chemicals, particularly nitrogen (a total of 1,163 metric tons in 2003), in amounts significant enough to warrant improvement programs.

Our French plant sites release a total of 2.4 metric tons of uranium into aquatic environments each year. By way of comparison, the Rhône River alone moves 80 metric tons of naturally occurring uranium.

The Connectors business releases heavy metals, primarily from the surface treatment of metal connector components. A total of 320 kilograms of copper and 62 kilograms of lead have been released. In addition to treating these releases, the Connectors division has launched a far-reaching "lead-free" project to eliminate its use of lead entirely.

Important investments have been undertaken at some sites to improve the treatment of aqueous releases:
- the Cezus-Jarrie site in France built two purification stations, to the tune of €2 million, to reduce liquid releases to one-tenth of their current volume within three years;
- the Cezus-Paimbœuf site installed a recycling station for spent fluoronitric acid, and investment in "clean" technologies has already been budgeted; combined, these measures will cost €1.25 million over three years, and will pay off with 70% acid recovery.

Examples:
- *FCI's Ishioka site in Japan succeeded in completely eliminating methylene chloride (14.3 metric tons in 2003) by substituting less harmful solvents for this chemical.*
- *By improving the treatment of aqueous releases, the FCI site in Dong Guan, China, reduced release volumes by 58% and galvanization sludges by 34%.*
- *The FCI site in Scarborough, Canada, reduced its ammonium bifluoride, nitric acid and sulfuric acid releases by around 75% by eliminating aluminum acid etching.*

5.3.4.6. Air emissions

The primary sources of ozone-depleting chemicals are fire extinguishers and refrigeration and air-conditioning systems. We have set objectives for phasing out these chemicals, in application of the Montreal Protocol that took effect on January 1, 1989 and has been ratified by over 180 countries, including France. These emissions amounted to 1,781 kilograms in 2003.

Our operations cause certain gas emissions that, though limited, contribute to global warming and atmospheric pollution. These are primarily:
- direct emissions of greenhouse gases (GHG) associated with the burning of fossil fuels and certain gaseous emissions (SF6) from chemical operations: the group released 582,828 metric tons of CO_2 equivalent in 2003;

- indirect emissions associated with power consumption: the group released 393,103 metric tons of CO_2 equivalent in 2003; and
- volatile organic contaminants: the group released 246,898 kilograms in 2003.

AREVA continued its inventory of Greenhouse Gas emissions in 2003 to identify opportunities for reducing them and to harmonize our accounting practices in this area. Facilitating data comparisons will make it easier to allocate impact reduction resources.

Priority investments undertaken in 2003 include a €2.2 million allocation to the treatment of ammonia and uranium air emissions at the Comurhex-Malvési site. The ammonia emissions were brought down from 6,000 mg/m^3 to 30 mg/m^3, a reduction of more than 99% that exceeded the announced objective by 50 mg/m^3.

Example:
Reducing SF_6 emissions at the Comurhex-Pierrelatte site:

The Comurhex-Pierrelatte site's SF_6 emissions represent around one third of AREVA's direct greenhouse gas emissions. These emissions, which come from treatment to destroy traces of fluorine in the off-gas of the fluorination process, amount to 155,111 metric tons of CO_2 equivalent per year. A variety of solutions are under study to reduce site emissions by 95% by minimizing quantities through better fluorine loss control or by changing the destruction process (production of solid calcium fluoride). A decision will be made in 2004.

5.3.4.7. Radioactive releases

The radiological impact of the group's operations on the most exposed members of the public ("reference groups") is assessed at less than 1 mSv/person/year, which is the European regulatory limit. This impact takes liquid and gaseous releases into account as well as the effect of direct radiation.

Since 1997, French nuclear sites have published and publicly distributed annual environmental reports in which radioactive releases and trends are described in great detail.

In connection with the new license for the La Hague plant, research and development to validate the feasibility of further reductions in radioactive and chemical releases from La Hague continued in 2003.

5.3.4.8. Odor and noise pollution

Few of the group's sites generate this type of pollution. Nonetheless, Comurhex invested €2.2 million in 2003 to reduce air emissions of ammonia, thereby eliminating the odor annoyance felt by some members of the community.

5.3.5. Managing land use

After site closure, we reduce the residual environmental impacts of our former operations through rehabilitation and reclamation programs, and by long-term environmental monitoring.

We pursued several mine rehabilitation projects throughout 2003, completing rehabilitation of the Jouac mine and nearing completion of the Bourneix gold mine in France during the year. Projects are also under way in Canada, the United States and Gabon.

Example:
The Bernardan mine site 75 kilometers northwest of Limoges, France's last uranium mine, ceased production in 2001. Reclamation work was completed in 2003:

- *mill tailings were covered with waste rock and a layer of topsoil. This cover forms a radiation barrier, provides mechanical protection against erosion and intrusion, and limits the infiltration of precipitation;*
- *a water treatment facility downstream from the site is in service.*

We have set a target objective of performing simplified risk assessments (SRA) or the equivalent at every site with significant environmental aspects (excluding licensed nuclear facilities) before the end of 2006. At year-end 2003, 40% of this objective had been met.

A special task force was set up in 2003 to develop a handbook on managing polluted sites and soils, which will be distributed within the group in 2004.

5.3.6. Improving local involvement

5.3.6.1. Protecting and restoring ecosystems

Monitoring and preserving biodiversity is a special concern for AREVA. Our study of plant and animal life at the site begins with the design phase and continues throughout facility operations and into site rehabilitation. Special care is devoted to adapting species introduced or reintroduced during reclamation to the local biotope. At the Lodève site in France, for example, we did

a detailed analysis of local flora and studied various options for landscape rehabilitation. We developed an exhaustive herbarium and distributed the information on CD-Rom to local stakeholders, including elected representatives and schools.

Through our subsidiary COGEMA, we have provided support to a group studying cetaceans of the Cotentin Peninsula for more than five years. The group has a network of regional observers of these marine mammals and leads activities to inform and raise awareness among professionals and the general public. The cetacean study group has observed 150 dolphins off the tip of La Hague.

Study on the La Hague biotope

In 2003, to gain more knowledge of how COGEMA-La Hague plant operations affect biodiversity, we commissioned Canadian firm Senes Consultants to assess the impacts of radioactive sea releases from the plant on local flora and fauna. Their report was examined in April 2003 by a council of national and international experts, including the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR), the International Atomic Energy Agency (IAEA), the European FASSET research program, the *Institut de Radioprotection et de Sûreté Nucléaire* (IRSN) and other European research institutes. Their deliberations, which were completely transparent, concluded that “the estimated dose rates to marine flora and fauna attributable to sea releases of radioactivity from the COGEMA-La Hague plant are low and, generally speaking, much lower than the reference values above which, based on current knowledge, harmful and measurable effects on marine flora and fauna populations would be expected”.

5.3.6.2. Corporate sponsorship programs at the local and national level

In 2002, we set up a sponsorship and partnership committee to harmonize our work and allocate resources judiciously. The committee met four times in 2003 and examined 85 projects in detail, 20 of which were chosen for follow-up, particularly those involving aid to developing countries.

As we announced in 2002, AREVA reached out to employees in France and the United States for suggestions on the direction of our solidarity programs. The first phase of this initiative revealed that most employees are in favor of the group's commitment to solidarity and wish to get involved personally when possible. We will expand the dialogue in 2004 to identify areas for employee involvement and ways of getting involved.

5.3.6.3. Opening our sites to the public

As a sign of our commitment to openness, dialogue and transparency towards all of our stakeholders, we hold open houses and offer tours of our sites. In 2001, 26,000 people took advantage of such tours. Following the events of September 11, 2001, tighter national security measures (the *Vigipirate renforcé* plan) have required that we close some of our sites to the public. The group is seeking alternatives until these measures are lifted. For example, at the La Hague plant, the group organized tours of the surrounding area to provide information on the site and its region.

≫ 5.4. Consolidated financial statements

5.4.1. Auditors' report on the consolidated financial statements - Year ended December 31, 2003

This is a free translation into English of the original statutory auditors' report on the consolidated financial statements signed and issued in the French language and is provided solely for the convenience of English speaking readers. The auditors' report includes for the information of the reader, as required under French law in any auditor's report, whether qualified or not, an explanatory paragraph separate from and presented below the audit opinion discussing the auditor's assessments of certain significant accounting and auditing matters. These assessments were considered for the purpose of issuing the audit opinion on the consolidated financial statements taken as a whole and not to provide separate assurance on individual account caption or on information taken outside of the consolidated financial statements. Such report should be read in conjunction and construed in accordance with French law and French auditing professional standards

In accordance with our appointment as auditors by your Annual General Meeting, we have audited the accompanying consolidated financial statements of AREVA for the year ended December 31, 2003.

The consolidated financial statements have been approved by the Executive Board. Our responsibility is to express an opinion on these financial statements, based on our audit.

Opinion on the consolidated financial statements

We conducted our audit in accordance with professional standards applicable in France. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statements presentation. We believe that our audit provides a reasonable basis for our opinion.

In our opinion, the consolidated financial statements give a true and fair view of the financial position and the assets and liabilities of the group as at December 31, 2003 and the results of operations for the year then ended, in accordance with rules and accounting principles generally accepted in France.

Without qualifying the opinion expressed above, we draw your attention to the following two points:

- Note 1.1 of the notes to the financial statements, which describes the changes in presentation of the provisions for expenses to be incurred, the financial assets earmarked for facility decommissioning and the interest-bearing advances from customer.
- Note 22 of the notes that describes the uncertainties over decommissioning and dismantling cost estimates including costs borne by certain customers, in particular EDF.

Justification of our assessments

Pursuant to the provisions of article L. 225-235 of the French Commercial Code (*Code de Commerce*) governing the justification of our assessments, as introduced by the French Financial Security Act (*loi sur la sécurité financière*) of August 1, 2003, which apply for the first time this year, we draw your attention to the following:

- Provisions for the decommissioning of nuclear facilities and waste retrieval, recorded on the balance sheet in the amount of €12,316 million, were measured in accordance with the accounting policies and valuation conditions described in notes 1.16 and 22 of the notes to the financial statements. As the balancing entry to these provisions, the group recognised a decommissioning asset in the amount of €9,109 million. As indicated in note 1.5 in the notes to the financial statements, this asset corresponds to the portion to be partly financed by third parties and partly by the group, which is amortized over the useful life of the relevant installations.

  As part of our procedures, we reviewed the estimates of the decommissioning liabilities and the portion to be financed by third parties by assessing the appropriateness of the assumptions adopted by particularly taking into account changes in the quotes

and the negotiations with EDF and CEA, still ongoing as at December 31, 2003, to determine their portion of the end-of-cycle costs and the economic conditions of the future waste fuel treatment contract conditions. This uncertainty is subject to an observation in this report.

With respect to the accounting principles, the provisions for decommissioning, for which payments occur in the long-term, and the portion to be financed by third parties are not discounted as authorised under French GAAP.

- Your company recognises income on long-term contracts in accordance with the policies and conditions described in note 1.17 of the notes to the financial statements. In accordance with the professional standard applicable to accounting estimates, and based on the accounting information available, our procedures consisted in assessing the data and assumptions made by management, particularly, the level of risk arising from these contracts used as a basis to estimate the profits or losses on contract completion and their changes, reviewing the calculations performed and comparing the accounting estimates in prior periods with actual corresponding figures. We assessed the appropriateness of these estimates.
- The heading "Other long-term notes and investments" comprises the financial assets earmarked for facility decommissioning for an amount of €2,234 million, for which the management objectives are given in note 13 of the notes to the financial statements. These financial assets, which are mainly comprised of directly held securities and shares in mutual investment funds, are subject to regular valuation, for which the principles are described in note 1.7 of the notes to the financial statements according to their classification. As part of our procedures, we assessed the correct and constant application of the valuation methods and their appropriateness in the specific context of this long-term portfolio.

The assessments of these items were performed as part of our audit approach for the consolidated financial statements taken as a whole and contributed to the expression of the unqualified opinion in the first part of this report.

Specific verifications

We have also performed the procedures required by law on the group financial information given in the Executive Board's Management Report.

We have no comment to make as to the fair presentation of this information or its consistency with the consolidated financial statements.

Paris, March 17, 2004

The Statutory Auditors

Deloitte Touche Tohmatsu		**Mazars & Guerard**		**RSM Salustro Reydel**	
Pascal Colin	Jean-Paul Picard	Thierry Blanchetier	Michel Rosse	Denis Marangé	Hubert Luneau

5.4.2. Consolidated income statement

(in millions of euros)	Notes	2003	2002	2001
Sales		**8,255**	**8,265**	**8,902**
Cost of sales		(6,138)	(6,129)	(6,956)
Gross margin		2,117	2,136	1,946
Research and development expenses		(285)	(332)	(377)
Sales and marketing expenses		(352)	(384)	(471)
General and administrative expenses		(587)	(624)	(571)
Other operating income and expenses	3	(551)	(616)	(405)
Operating income *		342	180	122
Financial income	5	334	587	199
Income before tax and exceptional items		676	767	321
Exceptional items	6	135	289	319
Income tax	7	(184)	(220)	(120)
Net income from consolidated businesses		627	836	520
Share in net income of equity affiliates	12	20	83	102
Net income before goodwill amortization		647	919	622
Goodwill amortization	8	(174)	(593)	(989)
Net income before minority interests		473	326	(367)
Minority interests in subsidiaries' earnings		(84)	(86)	(220)
Consolidated net income		389	240	(587)
Average number of outstanding shares		35,442,701	35 442 701	31,423,772
Net earnings per share (in €)		10.97	6.77	(18.65)
Net earnings per diluted share		10.97	6.77	(18.65)

** Current operating income.*

5.4.3. Consolidated balance sheet

ASSETS

(in millions of euros at December 31)

	Notes	2003	2002	2001
Fixed assets				
Net goodwill	8	1,265	1,537	2,195
Net intangible assets	9	482	510	534
Decommissioning assets	10	9,109	9,223	-
Net tangible assets	11	3,447	4,647	5,321
Equity in net assets of affiliates	12	1,492	1,652	1,674
Other long-term notes and investments	13	3,299	2,580	3,206
Total fixed assets		19,094	20,149	12,930
Working capital				
Inventories and in-process	14	1,619	1,960	2,119
Trade accounts receivable and related accounts	15	2,234	2,552	2,509
Other accounts receivable	16	1,208	1,400	1,286
Cash and marketable securities	17	2,036	3,302	1,715
Total working capital		7,097	9,214	7,629
Total assets		**26,191**	**29,363**	**20,558**

LIABILITIES AND SHAREHOLDERS' EQUITY

(in millions of euros at December 31)

	Notes	2003	2002	2001
Share capital		1,347	1,347	1,347
Consolidated premiums and reserves		2,414	2,333	3,156
Currency translation reserves		(37)	100	271
Consolidated net income - Current year		389	240	(587)
Total shareholders' equity	18	4,113	4,020	4,187
Perpetual subordinated debt	19	**215**	**215**	**216**
Minority interests in equity of subsidiaries and affiliates	20	**959**	**988**	**1,004**
Pension and other obligations	21	609	568	467
Provisions for risk and liabilities	22	13,383	14,485	5,116
Debt	23	800	2,217	2,444
Advances and prepayments	24	3,615	4,066	3,576
Trade accounts payable and related accounts		1,009	1,056	1,163
Other liabilities	25	1,488	1,748	2,385
Total liabilities and shareholders' equity		**26,191**	**29,363**	**20,558**

5.4.4. Consolidated cash flow statement

(in millions of euros)	Notes	2003	2002	2001
Cash flow from operating activities				
Consolidated net income		**389**	**240**	**(587)**
Minority interests in subsidiaries' earnings		84	86	220
Net income before minority interests		473	326	(367)
Share of loss (gain) in net income of equity affiliates, net of dividends		9	(55)	(93)
Net amortization, depreciation and provisions for fixed assets and marketable securities maturing in more than 3 months		721	786	879
Net goodwill amortization		176	594	989
Net provision for risk and liabilities		(65)	331	309
Loss (gain) on disposals of fixed assets and marketable securities		(494)	(977)	(51)
Other non-cash items		19	6	(305)*
Cash flow from operations		**839**	**1,011**	**1361**
Change in working capital requirement **	26	**379**	**(104)**	**(157)**
Cash from operating activities		1,218	907	1,204
Cash flow from investing activities				
Investment in tangible and intangible assets		(365)	(430)	(560)
Investment in long-term notes and investments		(277)	(475)	(678)
Change in customer prepayments financing fixed assets		0	(71)	(515)
Disposals of tangible and intangible assets		29	230	1
Disposals of long-term notes and investments		284	262	446
Cash from (used for) investing activities **		(329)	(484)	(1,306)
Cash flow from financing activities				
Capital contributions received			-	133
Dividends paid		(297)	(262)	(1,225)
Increase (decrease) in debt ***		(1,670)	72	279
Cash from (used for) financing activities		(1,967)	(190)	(813)
Decrease (increase) in marketable securities		621	995	-
Impact of foreign exchange variations		(12)	23	10
Reclassification of cash and cash equivalents		(176)		
Increase (decrease) in net cash		(645)	1,250	(903)
Cash at the beginning of the year		2,045	1,715	2,949
Less: bank credit balances		(116)	(216)	(547)
Less: reclassification of marketable securities			(819)	
Net cash at the beginning of the year	17	1,929	680	2,402
Cash at the end of the year		1,367	2,045	1,715
Reclassification of non-trade current accounts ****		(12)		
Less: bank credit balances		(71)	(116)	(216)
Net cash at the end of the year	17	**1,284**	**1,929**	**1,499**

* *Including -€303 million in dilution gain; see note 6.*

** *The deployment of customer advances on fixed assets, recorded as "increase in fixed assets" in previous years, was recorded as a change in working capital requirement in 2003. Customer advances and prepayments deployed in 2002 represented €71 million.*

*** *Interest-bearing customer advances and prepayments were considered as "Debt" in 2003.*

**** *Non-trade current accounts were included in the cash position in 2003.*

5.4.5. Change in consolidated shareholders' equity

(in millions of euros)	Number of shares and investment certificates outstanding	Share capital	Consolidated premiums and reserves	Currency translation reserves	Total share-holders' equity	Minority interests
December 31, 2000	29,414,308	1,121	2,850	200	4,171	2,434
Capital increase/decrease	6,028,393	226	1,688		1 914	
Net 2001 income			(587)		(587)	220
Dividends paid			(1,197)		(1 197)	(42)
Change in consolidated group						(1,555)
Change in accounting method and other adjustments*			(185)		(185)	52
Currency translation adjustment				71	71	(105)
December 31, 2001	35,442,701	1,347	2,569	271	4,187	1,004
Net 2002 income			240		240	86
Dividends paid			(220)		(220)	(41)
Change in consolidated group						(24)
Change in accounting method and other adjustments			(16)		(16)	
Currency translation adjustment				(171)	(171)	(37)
December 31, 2002	35,442,701	1,347	2,573	100	4,020	988
Net 2003 income			389		389	84
Dividends paid			(220)		(220)	(77)
Change in consolidated group						(2)
Change in accounting method and other adjustments **			61	(9)	52	
Currency translation adjustment				(128)	(128)	(34)
December 31, 2003	35,442,701	1,347	2,803	(37)	4,113	959

* *See note 2.1.*

** *Other adjustments recorded in 2003 correspond to the reclassification of a tax debt (now without purpose) previously recorded under "other operating debt".*

5.4.6. Data by division and region

DATA BY DIVISION

2003

(in millions of euros [except personnel data])	Front End	Reactors and services	Back End	Energy	Connectors	Holding and other operations, and consolidated entries	Total group
Income							
Gross sales	2,707	2,288	2,226	**7,221**	**1,338**	(304)	8,255
Inter-company sales	(24)	(164)	(203)	**(391)**	**0**	391	0
Contribution to consolidated sales	2,683	2,124	2,023	**6,830**	**1,338**	87	8,255
Operating income	316	52	155	**523**	**(114)**	(67)	342
% of sales	*11.8*	*2.4*	*7.7*	***7.7***	***(8.5)***	*n.a.*	*4.1*
Cash							
EBITDA*	416	86	467	**969**	**25**	(57)	937
% of contribution to consolidated sales	*15.5*	*4.0*	*23.1*	***14.2***	***1.9***	*n.a.*	*11.4*
Net cash used in investing activities	(126)	(67)	(75)	**(268)**	**(62)**	(6)	(336)
Gain or loss from sales of tangible and intangible assets		2	7	**9**	**2**		11
Change in operating working capital requirement**	49	123	75	**247**	**11**	31	289
Operating cash flow ***	340	145	473	**958**	**(24)**	(33)	902
Other							
Fixed assets	2,662	693	12,289	**15,644**	**729**	2,721	19,094
Working capital requirement	682	101	(1,975)	**(1,192)**	**(60)**	201	(1,051)
Capital employed	2,000	721	282	**3,003**	**1,127**	854	4,984
Employees	9,719	13,251	10,542	**33,512**	**12,211**	2,288	48,011

* *EBITDA is understood as operating income before depreciation, depletion, amortization and provisions.*

** *Operating working capital requirement includes inventory, receivables and debt that are directly related to operations.*

*** *Operating cash flow is the cash flow generated by operating activities. It includes EBITDA, net investment in tangible and intangible assets, net gain on sales of tangible and intangible assets, and changes in operating working capital requirement.*

Capital employed includes net tangible and intangible assets, and operating working capital requirement.

Note: In 2003, the group allocated to the energy business certain overheads that, in previous years, were recorded under "Holding and other operations" although they pertained to the energy business. Also, the deployment of customer prepayments on assets, recorded as an increase in net fixed assets in previous years, was recorded as a change in working capital requirement in 2003. Finally, in 2002, capital employed, as reported, included goodwill concerning affiliates consolidated under the equity method. This type of goodwill is now excluded from capital employed.

2002 data after reallocation of overheads is shown below.

2002 (after reallocation of energy overheads)

(in millions of euros [except personnel data])	Front End	Reactors and services	Back End	Energy	Connectors	Holding and other operations and consolidated entries	Total group
Income							
Gross sales	2,586	2,075	2,273	**6,934**	**1,560**	(229)	8,265
Inter-company sales	(24)	(143)	(185)	**(352)**	**0**	352	0
Contribution to consolidated sales	2,562	1,932	2,088	**6,581**	**1,560**	124	8,265
Operating income	319	64	236	**619**	**(406)**	(33)	180
% of sales	*12.4*	*3.3*	*11.3*	***9.4***	***(26.0)***	*n/a*	*2.2*

2002 (before reallocation of overheads)

(in millions of euros except personnel data)	Front End	Reactors and services	Back End	Nuclear power	Connectors	Holding and other operations, and consolidation entries	Total group
Income							
Gross sales	2,583	2,074	2,271	**6,928**	**1,560**	(223)	8,265
Inter-company sales	(24)	(143)	(185)	**(352)**	**0**	352	0
Contribution to consolidated sales	2,559	1,931	2,086	**6,576**	**1,560**	129	8,265
Operating income	333	81	235	**649**	**(406)**	(63)	180
% of sales	*13.0*	*4.2*	*11.3*	***9.9***	***(26.0)***	*n/a*	*2.2*
Cash							
EBITDA	425	87	756	**1 268**	**(26)**	(92)	1 150
% of contribution to consolidated sales	*16.6*	*4.5*	*36.2*	***19,3***	***(1,7)***	*n/a*	*13,9*
Net cash used in investing activities	(93)	(49)	(228)	**(370)**	**(88)**	(25)	(483)
Gain or loss from sales of tangible and intangible assets	(1)	(1)	23	**21**	**2**	-	23
Change in operating working capital requirement	113	34	(280)	**(133)**	**86**	(25)	(72)
Operating cash flow	445	71	271	**787**	**(26)**	(143)	618
Other							
Fixed assets	2,076	551	12,057	**14,684**	**944**	4,521	20,149
Working capital requirement	600	277	(2,241)	**(1,364)**	**352**	54	(958)
Capital employed	1,955	906	504	**3,365**	**1,611**	812	5,788
Employees	9,536	13,549	10,719	**33,804**	**14,015**	2,328	50,147

The operations of Duke Engineering and Services, a company acquired in May 2002, were in the process of being allocated among the relevant nuclear divisions at year-end. In the meantime, these operations are recorded under “other operations”.

Sales of the front End division (Eurodif) declined as some customers exercised an option to supply the group with the energy required to enrich their natural uranium. Consequently, the value of the energy component of the enrichment process (€193 million in 2002) is no longer recorded either in sales revenue or in the cost of services we provide to these customers. As this cross-billing practice was margin neutral for AREVA and the customer, its discontinuation has no impact on the company's reported profits.

2001 (before reallocation of overheads)

(in millions of euros except personnel data)	Front End	Reactors and services	Back End	Energy	Connectors	Holding and other operations, and consolidation entries	Total group
Income							
Gross sales	2,761	2,057	2,418	**7,236**	**1,966**	(300)	8,902
Inter-company sales	(28)	(178)	(205)	**0**	**411**	411	0
Contribution to consolidated sales	2,733	1,879	2,213	**1,966**	**111**	111	8,902
Operating income	362	45	10	**417**	**(235)**	(60)	122
% of sales	*13.2*	*2.4*	*0.5*	***6.1***	***(12.0)***	*n/a*	*1.4*
Fixed assets	1,444	394	3,606	**5,444**	**3,015**	4,471	12,930
Employees	9,245	12,622	10,100	**31,967**	**15,293**	2,600	49,860

DATA BY REGION
Net sales by region

(in millions of euros)	Front End	Reactors and services	Back End	Energy	Connectors	Holding and other operations, and consolidation entries	Total group
France							
2003	1,083	849	983	**2,915**	**113**	1	3,029
2002	1,081	817	1,139	**3,033**	**197**	7	3,242
2001	n/a	n/a	n/a	n/a	n/a	n/a	4,194
Europe (excl. France)							
2003	697	469	355	**1,521**	**462**	11	1,994
2002	584	385	259	**1,227**	**414**	5	1,646
2001	n/a	n/a	n/a	n/a	n/a	n/a	1,837
North America							
2003	588	649	118	**1,354**	**305**	53	1,712
2002	592	489	127	**1,208**	**411**	84	1,703
2001	n/a	n/a	n/a	n/a	n/a	n/a	1,383
Asia							
2003	291	93	566	**950**	**378**	20	1,348
2002	281	118	555	**954**	**387**	9	1,350
2001	n/a	n/a	n/a	n/a	n/a	n/a	1,122
Other countries							
2003	24	64	1	**89**	**79**	3	172
2002	24	123	7	**153**	**151**	20	324
2001	n/a	n/a	n/a	n/a	n/a	n/a	366
Total							
2003	**2,683**	**2,124**	**2,023**	**6,830**	**1,338**	**88**	**8,255**
2002	**2,562**	**1,932**	**2,087**	**6,575**	**1,560**	**125**	**8,265**
2001	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**8,902**

n/a = not available.

Tangible assets

(millions of euros)	2003 Front End	2003 Reactors and Services	2003 Back End	2003 Connectors	2003 Other	2003 Total	2002 Energy	2002 Connectors	2002 Other	2002 Total	2001 Total
France	284	95	2,169	52	69	2,669	3,638	**81**	72	3,791	4,175
Europe (excl. France)	84	13	0	111	6	214	100	**96**	6	202	232
North America	269	40	2	111	29	451	314	**150**	28	492	721
Other countries	10	0	0	102	0	113	11	**151**	0	162	193
Total	**648**	**149**	**2,171**	**376**	**103**	**3,447**	**4,063**	**478**	**106**	**4,647**	**5,321**

≫ 5.5. Notes to the consolidated financial statements

All amounts are presented as millions of euros unless otherwise indicated. Because numbers have been rounded off, certain totals may not be exact.

Note 1. Accounting principles

AREVA's consolidated statements have been prepared in accordance with the accounting rules and methods for consolidated accounts approved by the Order of June 22, 1999, approving rule no. 99-02 from the Committee on accounting regulations (*Comité de Réglementation Comptable*, "CRC").

The financial statements of companies consolidated by full consolidation or proportionate consolidation are restated by applying the principles of the group.

1.1. Change in format of financial statements

Fiscal year 2003

The format of the balance sheet underwent three changes in 2003:

Provisions for liabilities

In preparation for the transition towards international accounting standards, the "provision for expenses to be incurred" was recaptured in full. This provision represented €962 million as at December 31, 2002. Conversely, a "depreciation of fixed assets" expense was recorded on January 1, 2003 (see note 11). The recaptured provision had been established in the framework of sales contracts under which the customers would fund fixed assets required for performance over a period expiring before contract completion. The provision corresponds, by and large, to the residual value of customer-funded assets that had not yet been depreciated.

Financial Assets earmarked for facility decommissioning

The AREVA Group has a legal obligation to secure and decommission its facilities when they are shut down permanently. The group has earmarked some of its assets to meet this obligation, converting them into a provision for end-of-life-cycle operations on the balance sheet (see note 22). As at December 31, 2003, the portfolio included €576 million in cash and cash equivalents, with €398 million in mutual funds (interest rate funds) and €178 million liquid assets. For purposes of clarity, AREVA has decided to combine all assets earmarked for facility decommissioning, including rate funds and liquid assets, into a single item in the "Other long-term notes and investments" (see note 13).

Interest-bearing advances from customers

On January 1, 2003, interest-bearing advances from customers representing €382 million were reclassified as "Debt" to reflect more accurately their financial, interest-bearing nature. These advances represented €416 million as at December 31, 2003 (see note 23).

These reclassifications have no impact on the group's net income or equity.

1.2. Consolidation method

The consolidated statements combine the financial statements as at December 31, 2003 for AREVA and for the main subsidiaries, which it holds, and over which it has exclusive control or in which it exercises either joint control or a significant influence on financial policy and management.

The companies controlled exclusively by AREVA are consolidated using the full consolidation method. The companies in which AREVA exercises joint control are consolidated using the proportionate consolidation method. The companies in which AREVA exercises a significant influence on financial policy and management are accounted for using the equity method.

The equity share of minority shareholders in consolidated subsidiaries, if negative, is covered in full by the group, unless there is a specific agreement for such minority shareholders to contribute their share of the deficit, or when collection of such claim cannot reasonably be challenged.

1.3. Mergers, acquisitions and goodwill

The difference, on the acquisition date, between the acquisition cost of a company's stock and the group's share in such company's net equity, as restated when warranted, is recorded under assets as "goodwill" if it is positive or under liabilities as "Provisions for risk and liabilities" if it is negative.

Within a maximum one year from the date control was acquired, the group may revise its evaluation and allocate the difference between the stock's purchase price and the group's equity in the acquired company to goodwill and initial consolidation differences.

Goodwill for the Energy and Connectors businesses is amortized on a straight-line basis, based on the type of business, for periods of 20 years or less. Positive or negative goodwill of less than €1.5 million is recorded in the income statement during the year of the acquisition. Negative goodwill is recognized as income over a period not to exceed five years.

Goodwill is also subject to impairment tests that may result in exceptional amortization in accordance with computation methods explained in note 1.8.

1.4. Intangible assets

Set-up expenses

These costs are fully amortized in the year in which they are incurred.

Research and development expenses

Research and development costs that are not funded by third parties and development projects are recorded as expenses during the fiscal year in which they are incurred.

Research and development costs recorded as expenses and identified specifically on the income statement include payroll expenses, the cost of goods and services, royalties, fees and depreciation of fixed assets directly allocated to research and development activities.

Mineral exploration

Exploration costs, including geological work, are determined in accordance with the rules set forth in the Chart of Accounts. Exploration costs that do not relate to economically recoverable deposits are expensed during the year. Mining pre-development expenses relating to reserves presenting technical and economic characteristics that indicate a strong probability of profitable mining development may be capitalized at year-end. Indirect costs, excluding overhead expenses, are included in the valuation of these costs. Capitalized pre-mining expenses are depreciated in proportion to the number of tons mined from the reserves they helped to identify.

Other intangible assets

Software development expenses are capitalized and depreciated over the software's estimated useful life. Software design expenses are expensed as incurred. Trademarks are not amortized. A provision for depreciation is recorded when a trademark's present value is lower than its book value.

1.5. Decommissioning assets

In accordance with CRC rule nº 2000-06 pertaining to liabilities, the group sets up a provision for end-of-life-cycle operations as described in note 1.16. This is offset with decommissioning assets in two parts: the share funded by the company, and the share to be funded by our customers.

The share to be funded by customers is not amortized. The group's share, however, is amortized on a straight-line over the life of the facilities determined on the basis of firm contracts to be performed by each facility, including reasonable expectations for contract renewals. Using this method, amortization periods were established based on existing or reasonably expected contracts for the main facilities:

- 2010 for the enrichment plant at Tricastin (Eurodif),
- 2015 for the used fuel treatment plant at La Hague (COGEMA),
- 2017 for the Mox recycling plant at Marcoule (Melox).

Amortization periods may be revised if the time-line of the group's backlog changes significantly.

1.6. Tangible assets

Tangible assets appear on the balance sheet at their acquisition cost.

Interest incurred on specific financing of industrial complexes may be capitalized during construction and over the life of the corresponding assets.

Depreciation of tangible assets is calculated under the most appropriate method for the asset category. Mining lands are depreciated over the life of the deposit; site layout and preparation expenses are depreciated over 10 years; construction over 10 to 45 years; production facilities, equipment and tooling over 5 to 10 years; general facilities and miscellaneous fixtures over 10 to 20 years; and transportation equipment, office equipment, computer equipment and furniture over 3 to 10 years. Fixed assets financed under lease arrangements appear on the assets side of the balance sheet when they are significant and are depreciated in the manner described above.

Assets financed by customers are depreciated throughout the term of the corresponding contract (see note 1.1).

1.7. Long-term notes and investments

Equity interests in unconsolidated companies and long-term portfolio securities are subject to depreciation or written down if their value in use or utility value, assessed security by security, becomes lower than their historical cost.

The item "Long-term financial portfolio" includes investments in marketable securities, whether directly held individual securities or mutual funds, with a mid- to long-term purpose. Their end-of-period value is determined using the following methods:

- Directly held individual securities: the inventory value is the higher of:

  (a) the average market price as at the end of the fiscal year,or

  (b) the utility value of the share, which is the average of (1) market values established by a stable panel of outside financial analysts at the close of the fiscal year and (2) the mid-range value, taking into account the growth rate of future earnings, the stock market risk and the risk specific to the company in question. Provision is not booked for depreciation until a depreciation test has been performed based on the stock market value: if the average book value of a security for the

six months preceding the end of the fiscal year is lower by more than 20% (or 30% in the case of high volatility), a provision is booked for depreciation by comparing the utility value as defined above with the book value.

- Securities in the form of mutual funds: the end-of-period value is the higher of:
  (a) the net asset value as at the end of the fiscal year, or
  (b) moving average of its net stock market price for a period not to exceed 24 months preceding the end of the fiscal year.

1.8. Depreciation of fixed assets

In accordance with accounting rule CRC 2002-10, fixed assets (other than assets resulting from employee benefits and long-term notes and investments) are subject to asset depreciation tests.

A provision for depreciation or a write-off is recorded when the book value of an asset is greater than its recoverable value. The recoverable value of an asset is the higher of its net sales value or its utility value. The utility value of an asset is the net present value of the estimated future cash flows expected from the continuous use of the asset plus, if applicable, its residual value at the end of its projected service life.

Provisions for the depreciation or write-off of an asset are assessed based on the recoverable value of the cash-generating unit to which the asset belongs. The cash-generating unit of an asset includes the goodwill allocated to that unit. Any depreciation of the cash-generating unit is first assigned to the goodwill applied to that unit.

A provision for depreciation recorded in previous fiscal years is recaptured as income if, and only if, there has been a favorable change in the estimates used to determine the recoverable value of the asset since the last time a provision for depreciation was recorded. A write-off of goodwill is non-reversible.

1.9. Inventories and in-process

Inventories and work in process are valued at cost in the case of products and at their acquisition cost for goods acquired for consideration, adjusted if necessary by a provision for depreciation when this cost exceeds the probable liquidation value. Financial expenses and research and development costs are not taken into account in the valuation of inventories and goods in process unless they are financed by customers.

1.10. Marketable securities

Marketable securities are valued at their acquisition cost or at their end-of-period value if the latter is lower. In the event that the valuation as of the end of the period shows an overall loss by class of securities, a provision for depreciation is recorded at a matching level. The inventory value of bonds, commercial paper and open-ended rate funds held in connection with the management of advances received on contracts is equal to the deal price on the last day of the fiscal year; the end-of-period value of other marketable securities is equal to the average stock market value for the last month of the fiscal year.

1.11. Other shareholders' equity

The gross amount of the perpetual subordinated bond issue is recorded as "Perpetual subordinated debt" and kept at its historic value.

The amount of the deposit deducted from this issue and paid to an investment firm is posted to the "Other long-term notes and investments" account. An increase in the value of this deposit during the year is recorded as financial income.

1.12. Conversion of financial statements of foreign companies

The financial statements of foreign companies are converted according to the following principles:

- balance sheet items are converted at the rates of the end of the period, with the exception of equity components, which are kept at their historic rates;
- income statement transactions are converted at average annual rates;
- currency translation differences in income and shareholders' equity are recorded directly as equity under the heading "Unrealized foreign exchange gains/(losses)".

1.13. Recording of transactions in foreign currencies and financial instruments

Underlying currency gains and losses are recorded as income. When the foreign currency transactions are accompanied by parallel transactions to hedge the currency exchange rate fluctuation risk, the item hedged and the hedging instrument are recorded symmetrically. Underlying currency gains and losses linked to foreign currency financing of long-term investments by foreign subsidiaries (bank loans or advances considered as shareholders' equity) are recorded in shareholders' equity.

Currency transactions on the financial markets are meant to cover the currency risk generated by the group's businesses. As of the end of the year, all assets, liabilities and off-balance sheet items not subject to hedging and denominated in foreign currencies are valued at the official rate as of December 31. When the currency transactions are intended to hedge long-term advances denomi-

nated in foreign currencies, the underlying income or loss calculated as of the end of the period for the hedge and the item hedged is recorded directly in income. Transactions concluded on the forward market for financial instruments are used to manage the rate risk associated with the group's investments. The variable rate six-month interest on the perpetual subordinated bonds is partially hedged using rate swaps.

1.14. Deferred taxes

AREVA has qualified for tax treatment as a consolidated entity under article 209, paragraph five of the French tax code since January 1, 1983. This tax status was renewed for the 2002 to 2004 period. The resulting tax is recorded under "Income tax", whether it is a tax expense or a tax credit.

Deferred taxes are determined for each tax entity on the basis of differences between consolidated book value and tax value of assets and liabilities according to the liability method of tax allocation.

Temporary net taxable differences generate a deferred tax liability.

Temporary net deductible differences, deferrable losses and unused tax credits generate a deferred tax asset equal to the probable amounts recoverable in the future. Deferred tax assets are analyzed case by case based on mid-range income projections of 3 to 5 years.

1.15. Pensions and retirement obligations

The group books the entire amount of its commitments for pensions, pre-retirement, severance pay, medical insurance, job-related awards, accident and disability insurance and related obligations, whether for active personnel or for retired personnel, in accordance with recommendation nº 2003-R.01 of April 1, 2003 regarding accounting and valuation rules for pension obligations and similar benefits.

For defined contribution plans, payments by the group are recorded as expenses for the period to which they relate.

For defined benefit plans, benefit costs are estimated using the projected credit unit method. Under this method, accrued pension benefits are allocated among service periods based on the plan vesting formula. If service in subsequent years results in accrued benefit levels that are substantially higher than during previous years, the company must allocate the accrued benefits on a straight-line basis.

The amount of future benefit payments to employees is determined based on salary trend assumptions, retirement age and mortality, discounted to present value based on interest rates for long-term bonds from AAA issuers.

The post-January 1, 2001 discount is spread out over the average expected remaining working life of personnel taking part in these plans for the portion exceeding the largest of the following values by more than 10%:

- present value of the commitment on the closing date for benefits determined as at the end-of-period date,
- fair value for plan assets on the end-of-period date.

The costs of plan changes are spread out over the vesting period.

1.16. Provisions

A provision is recorded whenever there is an obligation towards a third party as of the end of the period and a probable reduction of equity without a corresponding increase in equity of at least the same amount after the end of the period. A reasonably reliable estimate of equity reduction must be determined in order to record a provision.

Effective as of January 1, 2002, in compliance with French accounting rule no. CRC 2000-06, the group modified its accounting method to establish decommissioning provisions (covering facility dismantling, decontamination and waste retrieval) for the nuclear facilities it operates. Under the new method, the total estimated decommissioning cost, including any portion of the decommissioning cost financed by third parties, is fully provisioned upon startup of the facility, given that deterioration begins as soon as the facility enters service. The offsetting entry for this provision is recorded on the asset side of the balance sheet under "Decommissioning assets". Under the former accounting method, the decommissioning provision was limited to the portion of the cost to be borne by the group, accrued over the projected life of the facility.

The amount of the provision is determined based on estimates, without discounting future costs. The impact of inflation is recorded on the balance sheet by increasing the provision for end-of-life-cycle operations, with the offsetting entry being recorded:

- under financial income (for group companies having established a portfolio of long-term securities earmarked for decommissioning) or under operating income (for group companies that have not established such a portfolio) for current-year costs; and
- under "Decommissioning assets", which are depreciated using the straight-line method over the remaining service life

of the facilities (for the portion of decommissioning costs ultimately borne by the group), for expenses to be incurred after the end of the fiscal year.

No provision is set up for potential liabilities corresponding to an obligation that is neither probable nor certain as of the closing date. Potentially significant liabilities are disclosed in note 31.

1.17. Recognition of sales

Sales revenue from long-term contracts

In accordance with CNC opinion no. 99.10 and CRC rule no. 99-08, AREVA uses the percentage of completion method to recognize sales from long-term contracts.

Under this method, sales revenue related to contracts performed over a minimum of two separate accounting periods is recognized proportionately to overall contract performance by multiplying the total contract revenue by the percentage of completion at the closing date. The percentage of completion determined for each contract is capped based on actual performance.

When contract terms generate significant cash surpluses during all or part of the contract's performance, the resulting financial income is included in contract revenue.

When a contract is expected to generate a loss upon completion, the total projected loss is recorded immediately, after deduction of any already recognized partial loss, and a provision is set up accordingly.

Sales revenue other than from long-term contracts

Sales revenue from sales of products is recognized upon transfer of product ownership. Sales revenue from services is recognized when the services have been provided to the customer.

1.18. Cash flow data

The group uses the “indirect method” for presenting cash flows from operating activities.

Cash is composed of cash and cash equivalents, available bank balances, short-term investments maturing in less than three months and current accounts.

Acquisitions or (disposals) of marketable securities maturing in more than three months correspond more to cash management decisions than to an investment strategy for the group. They are therefore reflected as an (increase) or decrease in cash and cash equivalents, which determines the net change in cash position, rather than being included in the cash flow from investing activities.

1.19. Investment subsidies

Investment subsidies are included in income using a straight-line method, according to a schedule that is consistent with the depreciation period for each tangible asset subsidized.

Unamortized investment subsidies are recorded under “Other operating liabilities”.

1.20. Pro forma data and reconstituted historical data

To allow comparisons to be drawn and to gain a clearer understanding of changes in financial results, the group establishes pro forma financial statements for the current and prior accounting periods when there are acquisitions or disposals resulting, for all operations, in a change in balance sheet, sales or operating income of more than 15% in a given fiscal year.

The pro forma financial statements are drawn up following three guidelines:

- use of audited historical data,
- restatement of financial (income) and expenses associated with the acquisition or (disposal) and amortization of valuation differences and goodwill,
- use of the group’s normal accounting methods.

When an acquisition is above the threshold indicated above and in the absence of audited historical accounting data, the group reconstitutes historical data after the event.

The pro forma statements and the reconstituted data do not necessarily represent the financial results that would have been recorded in the consolidated financial statements if the transactions had occurred on the indicated date, nor can they be used to forecast future consolidated financial results.

Note 2. Consolidation scope

2.1. Formation of AREVA

The Combined Annual and Extraordinary Shareholders' Meeting ("SM") of September 3, 2001 approved the capital restructuring transactions for CEA-I that had been decided by the French government on November 30, 2000, as well as the name change for the group, which became AREVA. The equity interests of minority shareholders of COGEMA, FCI and Framatome ANP, all of which were subsidiaries of CEA-I, were acquired or swapped for AREVA shares. The table below summarizes the changes in the direct and indirect shareholding structures of the companies:

Before the SM of September 3, 2001	CEA-I	COGEMA	Framatome SA*	Framatome ANP
CEA	95.1%			
Investment certificates	4.9%			
CEA-I (directly and indirectly)		74.7%	48.3%	31.8%
French Republic			19.6%	13%
Erap		7.6%	2.6%	1.7%
Caisse des dépots et consignations		3.2%	1.1%	0.7%
Total		14.5%	4.8%	3.2%
Employee shareholders			6%	4%
EDF			9.1%	6.1%
Alcatel			8.5%	5.5%
Siemens				34%
Total	**100%**	**100%**	**100%**	**100%**

** Including equity interest in FCI (100%)*

After SM of September 3, 2001	AREVA	COGEMA	FCI	Framatome ANP
CEA	78.9%			
French Republic	5.2%			
Investment certificates	4%			
Erap	3.2%			
Caisse des dépots et consignations	1.4%			
Total	1%			
Employee shareholders	1.6%			
EDF	2.5%			
Alcatel	2.2%			
AREVA		100%	100%	66%
Siemens				34%
Total	**100%**	**100%**	**100%**	**100%**

In addition, CEA-I acquired 5/6 of Total's stake in COGEMA.

The minority interests acquired as of September 3 totaled €1,606 billion.

The acquisition price (including the acquisition of 5/6 of the stake) was €2,467 billion.

The fair value of these components acquired on that same date was €2,263 billion.

The €204 million difference between the acquisition price for the assets and liabilities and the fair value of these components was charged against shareholders' equity.

The €657 million difference between the acquisition price for the assets and liabilities and the amount of the minority interests was recorded as goodwill in accordance with paragraph 211 of COB regulation no. 99-02.

2.2. Consolidated companies (French / foreign)

(number of companies)	2003		2002		2001	
Consolidation method	French	Foreign	French	Foreign	French	Foreign
Full consolidation	81	91	91	97	101	92
Equity method	10	8	11	8	9	4
Proportionate consolidation	3	6	2	6	2	5
Sub-total	**94**	**105**	**104**	**111**	**112**	**101**
Total	**199**		**215**		**213**	

Transactions in 2003

AREVA sold FCI's MAI division (Military/Aerospace and Industrial) on April 30, 2003. The gain on the sale before taxes was €65 million. The division had sales of €149 million in 2002 and €40 million in the first quarter of 2003 and up to the date of the sale. The Cable & Assembly business, which was part of FCI's Communication Data Consumer business unit, was sold on May 8, 2003. Sales for the first quarter of 2003 and up to the date of the sale were €43 million.

AREVA sold Packinox on December 17, 2003, which had 2003 sales of €36 million up to the date of its sale.

The participating interest in Assystem was subject to a public exchange offering initiated by Brime and registered with the stock market authorities (AMF) on October 22, 2003. At the same time, the Assystem shareholders agreement was terminated. The participating interest in Assystem Brime is now recorded under "Marketable securities" (see note 12).

The following new companies became part of the consolidated group: AREVA Inc., AREVA Korea and AREVA Japan are directly owned by AREVA and are fully consolidated. Transnuc Ltd TN Tokyo was consolidated as of January 1, 2003. Open Cascade and Uranium Disposition Services, LLC, are consolidated according to the proportional consolidation method. Cortex, RJH and O1db GmbH were fully consolidated as of January 1, 2003. These changes in the consolidated group had no significant impact on the financial statements.

Sytech and Tasys are no longer consolidated, considering their negligible contribution to the group's business. The group divested of SCS.

Changes in corporate structure:

Euriware SA absorbed Euriware PGI and Ifatec, two group subsidiaries that were already consolidated. Framatome absorbed Nuclear Power International, a group subsidiary that was already consolidated. 01db Acoustic et Vibration absorbed its subsidiaries CVI and Stel Diagnostic. Frarea absorbed Secori.

Transactions in 2002

Framatome ANP signed an agreement to acquire Duke Engineering & Services (DE&S), a subsidiary of the U.S. utility Duke Energy, on January 31, 2002. DE&S had 2001 sales of $280 million, primarily in the U.S. nuclear engineering and services sector. In 2002, DE&S accounted for €190 million of AREVA's consolidated sales.

COGEMA Group subsidiaries in the United States were reorganized by moving the equity interests in the subsidiaries to a single structure, COGEMA, Inc. The purpose of the reorganization is to give the COGEMA group greater economic efficiency in the U.S. by creating synergies, both in terms of revenues from subsidiary operations and in terms of related costs. To accomplish this, COGEMA, Inc. took over SGN's shares in COGEMA Services, Inc. (100%), COGEMA's shares in Canberra, Inc. (100%), and COGEMA Logistics' shares in Transnuclear, Inc. (100%).

AREVA sold the real property management company Sovakle in January 2002 for €122 million. Pragodata was sold for a symbolic euro. Atea Industrie S.A. was sold on January 25, 2002.

Euriware Group bought out the 48.96% minority interest in subsidiary Axisse (henceforth Euriware PGI) and the 60% interest in DGI2000, becoming sole shareholder in each case. It bought a 4.26% minority interest in subsidiary PEA Consulting then sold 10.66% to Geraco, becoming 65.32% shareholder (with 34.32% held by Geraco), that is total equity in PEA Consulting of 99.64%. Gads sold its 20% stake in Gamma Assistance to STMILog. COGEMA S.A. bought out the 30.59% minority interest in UG Germany.

Société des Mines d'Ity (SMI) was acquired for €12 million.

Pursuant to transactions involving SGN in 2000 and 2001, all operations were transferred out of Krebs and the real estate investment companies of Euze, Bois Mouton, Mares aux Saules and Place Ovale and the companies were deconsolidated as of January 1, 2002.

Internal restructuring

Rockridge merged with parent company ANP, Inc. CFC merged with parent company FBFC. Icmat merged with parent company Intercontrôle. Euriware Group merged with Antel Services. Conservatome merged with COGEMA Logistics. Gemma was created and acquired via the contribution of a portion of SICN's assets and liabilities. COGEMA sold its transportation operations to COGEMA Logistics by transferring all of its assets and shareholders' equity.

Transactions in 2001

In application of the final agreement signed on July 4, 2000 and after approval by European anti-trust authorities, Siemens AG (Germany) contributed all of its shares in its subsidiary Siemens Nuclear Power GmbH (Germany) of the KWU division to Framatome ANP SAS on January 30, 2001. This contribution was supplemented by a cash contribution giving Siemens AG 34% of Framatome ANP SAS upon completion of the transaction. Under these same agreements, Framatome ANP acquired the U.S. firm SPC, Inc. on March 19, 2001, then merged with it on August 31, 2001.

COGEMA acquired the U.S. firm Canberra Industries and the Belgian firm Canberra Benelux for €189 million from the U.S. company Packard. Both companies were fully consolidated as of February 1, 2001.

SPRG and Clemessy SA and their subsidiaries were sold to Dalkia (Vivendi Environnement, France) in September 2001.

The remaining 40% stake in Oris was sold to the Schering group.

2.3. Impact of changes in consolidation

The impact of the changes in consolidation on sales and operating income for 2001, 2002 and 2003 is as follows:

Deconsolidated companies *(in millions of euros)*	2003	2002	2001
Sales	119	34	334
Operating income	0	0	8

Consolidated companies *(in millions of euros)*	2003	2002	2001
Sales	32	229	916
Operating income	1	11	15

The impact on the sales of the consolidated companies is set out below:

(in millions of euros)	2003	2002	2001
Gemma (France)		7	
SMI (Côte d'Ivoire)		18	
SGT (USA)		14	
DE Canada Services, Inc. (Canada)		16	
DE&S (USA)		174	
ANF GmbH (Germany)			4
ANF GmbH (Germany)			696
NDT GmbH (Germany)			20
Framatome ANP Inc. (USA)			90
Canberra USA (USA)			93
Canberra Benelux (Belgium)			4
Canberra Eurisys (France)			9
AREVA, Inc.	2		
AREVA Korea	0		
AREVA Japan	0		
Transnuclear, Ltd.	8		
Open Cascade	3		
Cortex	1		
RJH	12		
01db GmbH	0		
Uranium Disposal Services	6		
Total	**32**	**229**	**916**

Note 3. Other operating income and expenses

(in millions of euros)	2003	2002	2001
Net gains (losses) on sales of non-financial fixed assets	(13)	(24)	(26)
Restructuring costs and CATS – CASA retirement plans	(217)	(345)	(87)
Other operating income and expenses	(321)	(247)	(292)
Total	**(551)**	**(616)**	**(405)**

Restructuring and CATS – CASA plans represented a €135 million cost for the connectors business in 2003, compared with €269 million in 2002, and a €82 million cost for the nuclear power business, compared with €76 million in 2002.

In 2003, other operating income and expenses primarily include a €120 million increase in depreciation of decommissioning assets, €71 million in pension and retirement benefit costs and net increases in provisions, and €37 million in contingencies on contracts.

In 2002, other operating income and expenses primarily include a €153 million increase in net amortization associated with end-of-life-cycle operations.

In 2001, other operating income and expenses primarily include a €184 million increase in depreciation for the Mox recycling plant at Marcoule and increases in provisions for asset depreciation amounting to €62 million.

Note 4. Other operating income data

(in millions of euros)	2003	2002	2001
Payroll expense	2,504	2,728	2,697
Workforce at year-end	48,011	50,147	49,860

(in millions of euros)	2003	2002
Increases in amortization	660	787
Increases in provisions	(65)	331
(Gains) / losses on disposals of non-financial assets	13	24

Note 5. Financial income

(in millions of euros)	2003	2002	2001
Income (expenses) related to decommissioning portfolio			
Net gain (loss) on sales of securities	83	22	(7)
Dividends received	33	31	34
Write-down of securities	(101)	(57)	-
Decommissioning provision inflation adjustment	(39)	(30)	(16)
Sub-total	**(24)**	**(34)**	**11**
Income (expenses) unrelated to decommissioning portfolio			
Investment income	99	97	141
Interest expense on loans and lines of credit	(55)	(87)	(111)
Net foreign exchange gain or (loss)	(10)	1	(6)
Net gain (loss) on sales of securities	288	689	92
Dividends received	32	57	60
Provisions on securities	39	(46)	28
Other income (loss) from financial activities	(35)	(89)	(16)
Sub-total	**358**	**621**	**188**
Total	**334**	**587**	**199**

In 2003, income from sales of securities earmarked to fund decommissioning included a gain on Sagem's takeover-merger of Coficem in the amount of €79.5 million.

In 2002 and 2003, gains on sales of securities pertained to sales of Total shares.

Note 6. Exceptional items

In 2003, exceptional items mainly include the gain on the sale of the MAI division for €65 million, a €20 million decrease in the provision for late fees resulting from the favorable outcome of litigation between the group and the tax administration concerning a 1999 dividend distribution, and the €47 million gain on the Brime Technologie public exchange offering on Assystem shares.

In 2002, exceptional items were primarily the €77 million gain on the sale of Sovakle and the €216 million gain on the sale of the Framatome Tower in the Paris area.

In 2001, exceptional items primarily reflect the impact of the €303 million dilution gain related to Siemens' acquisition of a stake in Framatome ANP SAS (see note 2). After the write-off of goodwill on Framatome, the net gain on dilution was €284 million.

Note 7. Income tax

Analysis of income tax expense

(in millions of euros)	2003	2002	2001
Current taxes (France)	(121)	(184)	(270)
Current taxes (other countries)	(30)	(50)	(48)
Total current taxes	**(151)**	**(234)**	**(318)**
Deferred taxes	(33)	14	198
Total	**(184)**	**(220)**	**(120)**

Reconciliation of income tax expense and income before taxes

(in millions of euros)	2003	2002	2001
Consolidated net income	389	240	(587)
Minority interests in subsidiaries' earnings	84	86	220
Share in net income of equity affiliates	(20)	(83)	(102)
Tax expense / (income)	184	220	120
Income before tax	637	463	(349)
Theoretical tax profit / (expense)	(226)	(164)	127
Reconciliation			
Effect of income taxed abroad	12	12	34
Transactions taxed at a reduced rate	87	125	5
Permanent differences	(52)	(236)	(347)
Tax credit and other taxes	5	21	60
Change in provision for depreciation of positive deferred taxes	(10)	22	-
Real tax income / (expense)	**(184)**	**(220)**	**(120)**

The tax rates used in France are as follows:

Year	2003	2002	2001
Tax rate	35.43%	35.43%	36.43%

Detail of permanent differences *(in millions of euros)*	2003	2002	2001
Goodwill amortization	(62)	(209)	(357)
Parent / subsidiary tax treatment and intra-group dividends	(12)	(10)	(1)
Non-deductible provisions	(9)	(10)	3
Other permanent differences	30	(7)	8
Total permanent differences	**(52)**	**(236)**	**(347)**

The group's effective tax rate is as follows:

(in millions of euros)	2003	2002	2001
Operating income	342	180	122
Financial income	334	587	199
Items	135	289	319
Total income subject to tax	**811**	**1,056**	**640**
Tax expense	(184)	(220)	(120)
Effective tax rate	22.7%	20.8%	18.8%

Note 8. Goodwill

The table of changes in goodwill as at December 31, 2003 is set below:

(in millions of euros)	Opening 2002	Acquisitions and disposals	Increase in amortization	Currency translation and other	Closing 2002	Acquisitions and disposals	Increase	Currency translation and other	Closing 2003
Gross values	4,069	77		(328)	3,818	2		(299)	3,520
Depreciation, depletion, amortization and provisions	(1,874)		(594)	189	(2,280)	(176)		201	(2,255)
Net book value	**2,195**	**77**	**(594)**	**(141)**	**1,538**	**2**	**(176)**	**(98)**	**1,265**

The breakdown of goodwill, by company, into gross value and amortization as at December 31, 2003 is as follows:

Goodwill *(in millions of euros)*	Gross value	Less amortization	Net book value
Energy	**831**	**(357)**	**474**
ANP GmbH	202	(29)	173
Canberra	100	(15)	85
ANP USA	96	(27)	69
FBFC	111	(64)	47
Cezus	80	(48)	32
ANF GmbH	35	(5)	30
Jeumont SA	66	(48)	18
NDT GmbH	9	(1)	8
Other	131	(119)	12
Connectors	**1,788**	**(1,434)**	**354**
Berg	1,241	(978)	263
STMicroelectronics Holding II BV	183	(114)	69
Other FCI	364	(342)	22
Holding and others	**901**	**(464)**	**438**
AREVA	856	(454)	402
Eramet	44	(9)	35
Cilas	1	(1)	
Total	**3,520**	**(2,255)**	**1,265**

Analysis of net value of goodwill:

Goodwill *(in millions of euros)*	Period	Net value at 12/31/02	Acquisitions and disposals	Increase (decrease) in amortization and provisions	Currency translation differences and other variations	Net value as at 12/31/03
Energy		**540**	**2**	**(43)**	**(25)**	**474**
ANP GmbH	20	183		(10)		173
Canberra	20	106		(6)	(16)	85
ANP USA	15	92	1	(6)	(19)	69
FBFC	15	53		(6)		47
Cezus	12-20	36		(4)		32
ANF GmbH	15	27		(2)	6	30
Jeumont SA	15	22		(5)		18
NDT GmbH	15	9		(1)		8
Other		13	1	(3)	1	12
Connectors		**467**		**(41)**	**(73)**	**354**
Berg	20	352		(21)	(68)	263
STMicroelectronics Holding II BV	10	87		(18)		69
Other FCI		29		(2)	(5)	22
Holding and others		**530**		**(93)**		**438**
AREVA	10	493		(90)		402
Eramet	20	38		(2)		35
Total		**1,538**	**2**	**(176)**	**(98)**	**1,265**

Goodwill *(in millions of euros)*	Period	Net value at 12/31/01	Acquisitions and disposals	Increase (decrease) in amortization and provisions	Currency translation differences and other variations	Net value at 12/31/02
Energy		**575**	**77**	**(50)**	**(62)**	**540**
ANP GmbH	20	212		(9)	(20)	183
Canberra	20	132		(7)	(20)	106
ANP USA	15	48	68	(3)	(21)	92
FBFC	15	59		(7)	1	53
Cezus	12-20	43		(7)		36
ANF GmbH	15	28		(1)		27
Jeumont SA	15	26		(4)		22
NDT GmbH	15	9				9
Other		18	9	(12)	(1)	13
Connectors		**901**		**(338)**	**(95)**	**467**
Berg	20	759		(317)	(90)	352
STMicroelectronics Holding II BV	10	105		(18)		87
Other FCI		37		(2)	(5)	29
Holding and others		**720**		**(205)**	**15**	**530**
AREVA	10	680		(203)	15	493
Eramet	20	40		(2)		38
Total		**2,196**	**77**	**(593)**	**(141)**	**1,538**

The Connectors division has acquired a number of companies in recent years to achieve global stature in interconnection systems in the telecommunications and IT markets, including its 1998 acquisition of Berg in the United States.

With the bursting of the speculative bubble in late 2000 and the resulting upheaval in the telecommunications and media technologies market, which intensified in the second half of 2001 and continued in 2002, the group decided to reassess the utility value of this business line in comparison to its acquisition price.

Since 2001, due to changing conditions in the telecommunications market in which FCI's Communications Data Consumer (CDC) business unit operates, AREVA verified the potential loss in value of all tangible and intangible assets for FCI's CDC business unit.

Based on the methods used in fiscal years 2001 and 2002, AREVA estimated the value in use of the Communication, Data Consumer business unit's assets as at December 31, 2003 and compared this with the net asset value of the business unit. The choice of value in use to make this comparison reflects FCI's circumstances, as the market value could only be used in the event of a decision to sell.

The value in use estimate for the CDC business unit was made by discounting the unit's future cash flows before tax, excluding the effect of financing on the unit and including the effects of the changing economic environment and the business strategy developed for the unit. An average discount rate of 12.85% was used in 2002 and of 14.6% in 2003. Future cash flows were established based on a mid-range plan developed with the support of an independent business consulting firm. The plan assumes business growth of 2.4% for the 2003 to 2006 period, annual growth of around 6.4% during the 2006 to 2013 period, then growth of 1.5% per year. Deployment of this business strategy, accompanied by optimization of production resources, should enable the CDC business unit of FCI to return to margin rates comparable to those of the competition in 2006. It will be important to adhere to the critical path of the business plan, which will be the subject of close and regular supervision throughout its deployment.

As a result, the group wrote off €730 million in goodwill for Berg in 2001 and €275 million in 2002. No additional write-offs were recorded as at December 31, 2003.

The group also wrote off €70 million in goodwill in 2003, €163 million in 2002, and €59 million in 2001 resulting from the creation of AREVA (see note 2.1) due to asset disposals and depreciation during those accounting periods.

Note 9. Intangible assets

Intangible assets primarily consist of pre-mining expenses.

2003

(in millions of euros)	Net values at 12/31/02	Investments	Decrease	Increases in amort. and provisions	Currency translation differences	Changes in consolidation and other variations	Net values at 12/31/03
Pre-mining expenses	273	9		(10)	5	1	278
Other	237	24	(1)	(59)	(10)	15	204
Total	**510**	**33**	**(1)**	**(69)**	**(5)**	**16**	**482**

Capitalized pre-mining expenses

(in millions of euros)	Net values at 12/31/02	Increase	Net depreciation	Currency translation conversion	Other variations	Net values at 12/31/03
Uranium	260	6	(7)	5	1	265
Gold	13	3	(3)			13
Total	**273**	**9**	**(10)**	**5**	**1**	**278**

Exploration expenses (included in pre-mining expenses in the income statement)

(in millions of euros)	2003	2002	2001
Uranium	10	10	10
Gold	2	5	5
Total	**12**	**15**	**15**

Reserves

	12/31/02	Increase	Production	12/31/03
Uranium (metric tons)	**192,850**	**37,070**	**5,540**	**235,460**
Gold (kilograms)	**50,890**	**(9,306)**	**4,726**	**46,310**

As at December 31, 2003, other intangible assets were primarily software (€57 million), licenses and patents (€29 million) and trademarks (€17 million).

Note 10. Decommissioning assets

As provided under CRC accounting rule no. 2000-06 on liabilities (see notes 1 and 22), the group records the deferred decommissioning cost of its nuclear facilities (dismantling and decontamination), including waste retrieval and packaging expenses and including the portion of the cost ultimately charged to certain customers when applicable, under "Tangible assets". Conversely, as soon as a facility starts operating, a provision is established to cover its total estimated end-of-cycle cost, including the cost portion ultimately charged to customers (see note 22).

(in millions of euros)	Group share			Third-party share	Total 2003	2002
	Gross value	Less amortization	Net value			
Dismantling	1,598	(480)	1,118	5,231	6,349	6,492
Waste retrieval and packaging				2,760	2,760	2,731
Total	**1,598**	**(480)**	**1,118**	**7,991**	**9,109**	**9,223**

2003

(in millions of euros)	Net values at 1/1/03	Increase	Decrease	Net depreciation, amortization and provisions	Other changes	Net values at 12/31/03
Group share	1,194	51		(132)	5	1,118
Third-party share	8,029	147	(186)		1	7,991
Total	**9,223**	**198**	**(186)**	**(132)**	**6**	**9,109**

Net decommissioning assets represented €9,109 billion as at December 31, 2003, compared with €9,223 billion as at December 31, 2002. The increase in assets is due to the adjustment for inflation and the decrease is due to amortization and to expenses invoiced to third parties.

The group's share of future dismantling expenses was €1,118 billion as at December 31, 2003 and €1,194 billion as at December 31, 2002. The share ultimately to be funded by certain customers was €7,991 billion as at December 31, 2003, versus €8.029 billion at December 31, 2002.

Note 11. Tangible assets

(in millions of euros)	12/31/2003			12/31/2002		
	Gross value	Depreciation	Net value	Gross value	Depreciation	Net value
Land	195	(86)	109	203	(79)	125
Building	1,840	(1,149)	691	1,852	(1,111)	740
Plant, equipment and tooling	16,773	(14,557)	2,216	16,939	(13,450)	3,489
Other	684	(510)	174	691	(514)	177
Tangible assets in progress	391	(134)	257	236	(120)	116
Total	**19,883**	**(16,436)**	**3,447**	**19,921**	**(15,274)**	**4,647**

The provision for liabilities (see note 22), which totaled €962 million as at December 31, 2002, was reclassified under "Depreciation of tangible assets" (see note 1.1) at January 1, 2003, for reasons indicated in note 1.1.

2003

(in millions of euros)	Net values at 1/1/03	Invest-ments	Disposals	Net depreciation, amortization and provisions	Currency translation difference	Changes in consolidated group	Other changes*	Net values at 12/31/03
Land	125	2	(4)	(7)	(5)	(2)		109
Building	740	11	(8)	(73)	(23)	(9)	53	691
Plant, equipment and tooling	3,489	83	(22)	(308)	(24)	(17)	(986)	2,216
Other	177	26	(4)	(52)	(3)	2	28	174
Tangible assets in progress	116	209	(3)	(14)	(8)	(2)	(41)	257
Total	**4,647**	**331**	**(41)**	**(454)**	**(63)**	**(28)**	**(946)**	**3,447**

** including reclassification of provision for liabilities (€962 million) (see note 1.1.).*

2002

(in millions of euros)	Net values at 1/1/02	Invest-ments	Disposals	Net depreciation, amortization and provisions	Currency translation difference	Changes in consolidated group	Other changes	Net values at 12/31/02
Land	158	1	(8)	(4)	(9)	(11)	(2)	125
Building	863	18	(7)	(90)	(29)	(60)	45	740
Plant, equipment and tooling	3,009	79	(40)	(551)	(60)	1	1,050	3,489
Other	251	29	(15)	(68)	(5)	3	(18)	177
Tangible assets in progress	1,040	272	(13)	9	(10)	(2)	(1,179)	116
Total	**5,321**	**399**	**(83)**	**(704)**	**(113)**	**(69)**	**(104)**	**4,647**

In 2003, the net value of capitalized financial lease contracts was €13 million (€13 million in 2002, €19 million in 2001).

Note 12. Equity affiliates

The group's share in the net equity of affiliates was €1,492 billion as at December 31, 2003, €1,652 billion in 2002 and €1,674 billion in 2001.

(in millions of euros)	% interest	Share of net income	Share of net equity 2003	% interest	Share of net income	Share of net equity 2002
Energy						
Assystem group		1		38.6	5	34
Comilog*	7.7	(12)	15	7.7	1	27
AMC	40	5	19	40	5	19
Timet Savoie	19.8	1	9	19.8	1	10
Cominak Niger	34	2	10	34	1	8
Katco	45	0	(7)	45	(3)	(6)
Socodei	49	3	4	49	4	1
Other		0	11		(1)	9
Connectors						
STMicroelectronics**	17.3	34	1,144	17.3	75	1 230
Other operations and holding companies						
Eramet	26.5	(14)	230	26.3	(1)	264
Eramet *Manganèse Alliages*	30.5	1	57	30.5	(6)	56
Total		**21**	**1,492**		**82**	**1,652**

* *Comilog is an Eramet group company. The participating interests reported above relate to Comilog shares held directly by the AREVA group.*

** *The group's share represented 11% at December 31, 2003 (11.03% as at December 31, 2001, 11.05% as at December 31, 2001). AREVA holds 63.8% of FT1CI, a fully consolidated company that holds 48.6% of STMicroelectronics Holding NV, which is the sole owner of STMicroelectronics Holding II B.V. The latter holds 34.5% of STMicroelectronics.*

Dividends received from equity affiliates in 2003 represented €29.7 million in 2003 (€27.5 million in 2002, €8.7 million in 2001).

In December 2003, AREVA contributed its participating interest in Assystem to Brime Technologies (now called Assystem Brime) as part of an offer to exchange securities made by the latter to AMF on October 22, 2003. The participating interest had been consolidated under the equity method as at December 31, 2002. AREVA received shares in Assystem Brime representing 27.2% of the latter's share capital in exchange for its contribution. However, pursuant to this transaction and the concomitant termination of the shareholders' agreement, AREVA does not plan to exercise significant influence on Assystem Brime, which is not a strategic investment for the group. The Assystem Brime shares held by AREVA are henceforth recorded as marketable securities as at December 31, 2003 (see note 18). The gain on this transaction is recorded in exceptional items (see note 6).

Note 13. Other long-term notes and investments

(in millions of euros)	12/31/03			12/31/02			12/31/01
	Gross	Provisions	Net	Gross	Provisions	Net	Net
Equity securities	145	(99)	45	137	(103)	34	50
Financial assets earmarked for facility decommissioning	2,393	(159)	2,234	2,184	(57)	2,127	2,003
Other long-term investments in securities	380		380				724
Accounts receivable related to equity interests	107	(45)	62	114	(43)	71	93
Loans, deposits and other accounts receivable	641	(64)	576	410	(62)	348	336
Total	**3,666**	**(367)**	**3,299**	**2,845**	**(265)**	**2,580**	**3,206**

13.1. Equity securities

The bulk of this account corresponds to shares held by COGEMA in companies owning mineral deposits.

13.2. Assets earmarked to finance facility decommissioning

	2003	2002	2001
Securities portfolio			
Gross book value	2,215	2,184	2,003
Net book value	**2,056**	**2,127**	**2,003**
Utility value	2,141	2,694	n/a
Market value	2,009	1,809	2,541
Deferred taxes*	34	80	(141)
Cash and cash equivalents	**178**	**0,0**	**106****
Total valeur nette comptable	**2,234**	**2,127**	**2,003**

** 2003 and 2002 tax credit.*

*** Recorded in cash and cash equivalents as at December 31, 2001.*

Portfolio composition	2003	2002	2001
In utility value			
Listed shares	967	1,547	n/a
Unlisted shares		207	n/a
Equity Funds	769	940	n/a
Bond Funds	405		
Total	**2,141**	**2,694**	
Market value at 12/31			
Listed shares	829	954	1,479
Unlisted shares		164	80
Equity Funds	775	691	981
Bond Funds	405		
Total	**2,009**	**1,809**	**2,541**
By location*			
France	1,135	1,118	1,560
Europe (excluding France)	874	691	981
Total	**2,009**	**1,809**	**2541**

** Based on market value.*

Purpose of portfolio earmarked for decommissioning

As a nuclear operator, the AREVA group has a legal obligation to secure and decommission its facilities when they are shut down permanently. AREVA must also sort and package waste and scrap from past operations or from decommissioning activities as required under regulations then in effect. The waste must ultimately be sent to a permanent disposal site (see note 23).

To meet this obligation, the group has deemed it necessary to set up a cash reserve covering future facility decommissioning and waste disposal expenses and has established a special portfolio to cover expenses connected with decommissioning obligations.

The amount of portfolio investments was determined with asset management optimization models that take into account the timing of future expenditure, which will largely occur from 2015 through 2040 and beyond. The portfolio is currently comprised of equities, an asset class with generally higher long-term returns than other classes of assets. The portfolio is invested in European equities, including direct or indirect holdings in publicly traded French companies and in independently managed European equity funds. The portfolio is managed with a long-term approach to ensure stability in investment values. This approach does not preclude arbitrage between individual investments based on their prospects, nor does it prohibit the occasional use of derivatives to optimize the portfolio's return on its holdings. The composition of the portfolio is not meant to be permanent. Equities will be sold and bonds will be acquired several years before decommissioning spending begins.

AREVA relies on outside advisors to monitor portfolio management with a long-term approach and to ensure that the overall approach is consistent with the group's objective.

AREVA does not consider it necessary to disclose the portfolio's investment lines, as changes may be made at any time to optimize portfolio performance. Total portfolio performance is benchmarked to the MSCI Europe index.

Position at end-2003

The portfolio's market value net of deferred taxes, based on year-end closing prices, was €2,221 billion as at December 31, 2003, compared with €1,889 billion as at December 31, 2002.

As at December 31, 2003, the portfolio's composition was designed to cover all of the obligations when decommissioning operations are performed. Based on an expected minimum portfolio return of 3.5%, net of inflation and taxes, AREVA anticipates that the portfolio's value will be sufficient to cover expenses when facility decommissioning and waste packaging operations begin.

Securities held in this long-term portfolio are recorded at cost and priced regularly. As explained in note 1.7 on accounting methods, a provision is established to record changes in the securities' utility value, which is determined using either a multi-criteria approach for securities held directly or a liquidation value approach for mutual funds. As at December 31, 2003, a provision of €159 million was recorded, as compared with €57.4 million as at December 31, 2003.

As of December 31, 2003, AREVA elected to reclassify Sagem shares held in the decommissioning portfolio to "Other long-term investment in securities". Consequently, €583 million (€576 million in net book value) were earmarked as decommissioning assets in the form of bond funds and cash/cash equivalents (see note 1.1).

Fund management principles

Some of the financial assets earmarked to fund decommissioning expenses are managed by financial institutions investing in mutual funds dedicated to AREVA.

Interest rate mutual funds

The fund managers must follow strict investment guidelines at all times, listed below.

Interest rate funds

Interest rate funds must invest:

- a minimum of 80% of their assets in euro denominated interest rate products;
- no more than 20% of their assets in interest rate products denominated in U.S. dollars or in non-euro zone European Union currencies. The foreign exchange risk must be hedged.

Risk evaluation

Investment in equities is not allowed. Each fund's sensitivity to interest rate fluctuations must be between a minimum of 0 and a maximum of 5. Average sensitivity as at December 31, 2003 was 2.16. The securities selected must be rated by Moody's and/or Standard & Poor's in accordance with the table below:

	Moody's	S&P
0 - 1 year	P1	A1
1 - 4 years	Aa3	AA-
4 - 7 years	Aa1	AA+
>7 years	Aaa	AAA

Fund valuation

As specified in the rules stipulated by the market authorities (AMF), each security included in a fund must be marked to market on the last trading day of the year. AREVA verifies that each fund's accounting results are consistent with the performance that AREVA could obtain by managing the securities directly. Thus, AREVA's interest in a portfolio's performance is always lower or equal to the fund's own accounting performance (i.e. AREVA's accounting performance from any fund corresponds to the fund's accounting performance).

AREVA's unrealized gains as at December 31, 2003 represented €7 million.

Equity mutual funds

Composition of equity mutual funds

Some of the assets serving to fund future nuclear cleanup and dismantling expenses are invested, with a long-term objective, in equity mutual funds earmarked for COGEMA. These funds are fully invested in equities, of which at least 90% are traded at all times on European Union equity markets. Liquidities held between transactions are temporary.

Risk evaluation

The benchmark index is the MSCI Europe ex France, with net dividends reinvested. Volatility compared to the benchmark (tracking error) for all funds combined is between 2 and 3 over the long term, indicating that these funds track the index relatively closely.

Fund evaluation

In view of their long-term investment objective, these funds are valued at cost in AREVA's books or marked down to their utility value when appropriate. The utility value is defined as the average arithmetic liquidating value over the 24-month period preceding closing.

13.3. Other long-term investment in securities

In 2003, this account included Sagem shares representing €380 million at book value (€523 million at market value). Following Sagem's absorption of Coficem on December 19, 2003, the group owned 16.91% of Sagem's equity and 18.61% of its voting rights through AREVA subsidiary COGEMA. In a shareholders agreement executed on December 12, 2003, between Club Sagem, COGEMA and BNP Paribas, the parties declared that they were not acting in concert since they had no agreement to pursue a common policy regarding Sagem. COGEMA agreed to maintain ownership of Sagem shares received in connection with Coficem's absorption for a minimum period of 20 months. After this period, and until the fifth anniversary of the signature of the shareholders agreement, COGEMA and BNP Paribas are free to sell their shares on the market, subject to a preemptive right by the other parties to the shareholders agreement, and have agreed not to tender their shares in any public share-purchase offer unless such share-purchase offer has been approved by Sagem's Supervisory Board.

As a result of these provisions, AREVA no longer considers Sagem shares to be part of the portfolio of assets earmarked to fund decommissioning expenses. The shares have been reclassified to “Other securities held in long-term financial portfolio”.

In 2001, this account included publicly traded shares held by AREVA in a medium-term liquidity investment perspective. These investments consisted of 12.4 million shares of TotalFinaElf, 2.6 million shares of Alcatel and 1.7 million shares of *Société Générale*. Accordingly, and in the absence of any group intention of holding these investments in the long-term (some Total shares were sold in 2002), the securities were reclassified as marketable securities as at December 31, 2002 (see note 17).

13.4. Accounts receivable related to equity interests, loans, deposits and other accounts receivable

(in millions of euros)	Gross amounts	Maturity < 1 yr	Maturity 1-5 yrs	Maturity > 5 yrs
Accounts receivable related to equity interests	107	20	79	8
Loans, deposits and other accounts receivable	641	402	234	5
Total	**748**	**422**	**313**	**13**

Loans, deposits and other accounts receivable primarily include a €150 million down payment on the acquisition of a 50% participating interest in ETC, a €180 million deposit (including interest) made in connection with a perpetual subordinated bond issue on November 15, 1991 (see note 19), and deposits of €125 million with the U.S. Customs Service.

In 2003, the AREVA group made the decision to invest in the centrifuge uranium enrichment process. Consequently, AREVA entered into certain agreements with shareholders of the Enrichment Technology Company (ETC), owner of the technology, to acquire a 50% participating interest in ETC and the right to use said technology. In 2003, AREVA made a €150 million down payment towards the total purchase price for the 50% participating interest in ETC and for the right to use the centrifuge enrichment technology.

The United States Department of Commerce (DOC) ordered that countervailing duties be levied on enrichment services imported to the United States from France, Germany, the Netherlands and Great Britain. This action followed complaints submitted in December 2000 by the United States Enrichment Corporation (USEC) against Eurodif and Urenco. To ensure payment of countervailing duties imposed on Eurodif exports to the United States for anti-dumping and unfair subsidies, a total of $35.1 million for the 2001-2002 period and $110.7 million for 2003 were deposited with the U.S. Customs Service. These sums are recoverable once the case has been adjudicated.

Administrative proceedings by the U.S. Department of Commerce against COGEMA and Eurodif for alleged dumping and illegal subsidies led to a review of 2001 and 2001 exports. A decision will be rendered in 2004 on the revision of the provisional duties, in the form of recoverable deposits, paid in 2001 and 2002, and may serve as a basis for possible future duties.

In parallel, legal proceedings initiated by COGEMA and Eurodif in the U.S. Court of International Trade have resulted in a favorable decision, issued in September 2003. This decision is under review by the U.S. Court of Appeals for the Federal Circuit (CAFC); a final decision is expected in 2004.

Note 14. Inventories and in process

(in millions of euros)	2003	2002	2001
Raw materials and other supplies	468	475	535
Goods in process	372	404	471
Services in process	381	638	616
Intermediate and finished products	629	724	831
Total gross value	**1,849**	**2,242**	**2,453**
Provisions for write-down	(230)	(282)	(334)
Net book value	**1,619**	**1,960**	**2,119**

Note 15. Trade accounts receivable and related accounts

(in millions of euros)	2003	2002	2001
Gross value	2,275	2,593	2,567
Write-down	(41)	(41)	(58)
Net value	**2,234**	**2,552**	**2,509**

The schedule of trade accounts receivable (gross value) is below.

2003

(in millions of euros)	Gross amounts	Maturity < 1 yr	Maturity 1-5 yrs	Maturity > 5 yrs
Gross value	2,275	1,973	263	39
Total	**2,275**	**1,973**	**263**	**39**

Note 16. Other accounts receivable

(in millions of euros)	2003	2002	2001
Current accounts of non-consolidated companies	-	18	10
Taxes and social security taxes	336	379	526
Miscellaneous accounts receivable	371	496	283
Deferred tax assets	293	231	210
Other	207	276	257
Total	**1,208**	**1,400**	**1,286**

Current accounts for non-consolidated companies are henceforth included in cash and cash equivalents (note 17) due to their financial nature.

Deferred tax assets primarily relate to provisions for pensions and retirement benefits and to provisions for undeductible risk and liabilities.

Note 17. Cash and marketable securities

(in millions of euros)	2003	2002	2001
Marketable securities (gross value)	1,968	3,115	1,446
Marketable securities (provisions)	(4)	(39)	(2)
Cash and current accounts	72	226	269
Net value as at December 31	**2,036**	**3,302**	**1,715**

As at December 31, 2003, current accounts net of provisions (€15 million) are reported as cash equivalents. They were included in other receivables at year-end 2002 (see note 16).

Analysis of cash and marketable securities

2003

(in millions of euros)	Number of securities	Gross book value	Net book value	Market value
Marketable securities (maturity > 3 months)				
Listed shares				
- Total	2,220,016	165	165	327
- Alcatel	2,597,435	27	27	27
- Société Générale	1,690,000	104	104	118
- Brime Assystem*	5,672,623	79	79	91
- Other		298	294	299
Total marketable securities (maturity > 3 months)		**673**	**669**	**862**
Cash				
- Short-term investments (< 3 months)		1,295	1,295	1,296
- Cash and current accounts		74	72	72
Total Cash and marketable securities		**1,369**	**1,367**	**1,368**
Net value as at December 31		**2,043**	**2,036**	**2,230**

** Including BSAR.*

As at December 31, 2003, short-term investments with maturities of less than three months when the investment was made consisted mostly of negotiable instruments and short-term cash mutual funds. Built-in gains are estimated at €0.6 million as at December 31, 2003, compared with €0.5 million as at December 31, 2002 and €5 million as at December 31, 2001.

Marketable securities maturing in more than three months include:

- Shares held by AREVA in publicly traded companies (when no specific commitment regarding the shares has been received) as well as Brime Assystem shares received as a result of the public exchange offer registered by Brime with market authorities (AMF) on October 22, 2003 (see note 12), whose shares were reclassified as marketable securities. The unrealized gain on these securities represented €188 million as at December 31, 2003, compared with €400 million as at December 31, 2002 and €1,423 billion as at December 31, 2001.
- Under "Other", bonds and negotiable mid-term instruments, some of which serve as security for expenses to be incurred under sales contracts for which customer down payments have been received, and for balanced equity/bond funds. Built-in gains are estimated at €7 million, compared with €9 million as at December 31, 2002 and €5 million as at December 31, 2001.

As at December 31, 2003, cash, interest rate mutual funds and bond mutual funds representing €576 million in net book value were reclassified as financial assets earmarked to fund decommissioning expenses (see notes 1.1 and 13).

Total cash invested as at December 31, 2003, represented €2,036 million in net book value. After deduction of €800 million in debt as at December 31, 2003 (see note 23), net cash represented €1,236 million, compared with €731 million at December 31, 2002 and net debt of €342 million as at December 31, 2001 (2002 and 2001 data restated for interest-bearing advances from customers).

2002

(in millions of euros)	Number of securities	Gross book value	Net book value	Market value
Marketable securities (maturity > 3 months)				
Publicly traded shares *				
- Total	5,403,567	310	310	735
- Alcatel	2,597,435	27	13	11
- Société Générale	1,690,000	105	92	94
- Other		857	845	859
Total marketable securities maturing > 3 months		**1,299**	**1,260**	**1,699**
Cash				
- Short-term investments (< 3 months)		1,816	1,816	1,817
- Cash and cash equivalents		226	226	226
Total Cash and marketable securities		**2,042**	**2,042**	**2,042**
Net value as at December 31		**3,341**	**3,302**	**3,741**

** Shares of publicly traded companies recorded under "Other long-term investment in securities" as of December 31, 2001 (see note 13).*

The following table presents the group's pro forma cash and marketable securities as of December 31, 2001 under the definition used as at December 31, 2002, i.e. including securities that were recorded under "Other long-term investment in securities".

(in millions of euros)	Number of securities	Gross book value	Net book value	Market value
Marketable securities (> 3 months)				
Listed shares				
- Total	12,428,567	595	595	1,994
- Alcatel	2,597,435	27	27	50
- Société Générale	1,690,000	104	104	106
- Other		821	819	850
Marketable securities (> 3 months)		**1,547**	**1,545**	**3,000**
Cash				
- Short-term investments (< 3 months)		625	625	630
- Cash and cash equivalents		269	269	269
Total Cash and marketable securities		**894**	**894**	**899**
Net value as at December 31		**2,441**	**2,439**	**3,899**

The cash and cash equivalents amount presented in the cash flow statement was determined as follows:

(in millions of euros)	12/31/2003	12/31/2002	12/31/2001
Cash and marketable securities	2,036	3,302	1,715
Less bank credit balances	(71)	(116)	(216)
Current accounts - liabilities	(12)		
Less: marketable securities	(669)	(1,260)	(819)
Cash position reported in cash flow statement	1,284	1,926	680

Note 18. Shareholders' equity

18.1. Share capital

As at December 31, AREVA share capital was broken down as follows:

at December 31	2003	2002	2001
CEA	78.9%	78.9%	78.9%
Investment certificates	4%	4%	4%
French Republic	5.2%	5.2%	5.2%
Caisse des dépôts et consignations	3.6%	3.6%	3.6%
Erap	3.2%	3.2%	3.2%
Total	**1%**	**1%**	**1%**
Employee shareholders*	1.2%	1.2%	1.6%
Crédit Agricole Indosuez	0.4%	0.4%	
EDF	2.5%	2.5%	2.5%
Total	**100%**	**100%**	**100%**

** Since July 2002, some of the shares are held by a bank that guarantees the liquidity of the Framépargne employee ownership fund (FCPE).*

18.2. Currency translation reserves

Currency translation reserves represented -€37 million (€100 million in 2002, €271 million in 2001). This variation reflects changes in the value of the U.S. dollar for the most part.

18.3. Stock option plan

AREVA does not have a stock option plan.

18.4. Earnings per share

The average number of shares and investment certificates used to calculate earnings per share is as follows:

- Fiscal year 2003: 35,442,701 shares and investment certificates.
- Fiscal year 2002: 35,442,701 shares and investment certificates.
- Fiscal year 2001: 31,423,772 shares and investment certificates.

Note 19. Perpetual subordinated debt

Framatome SA issued 250 perpetual subordinated bonds with a nominal value of $1,000,000 on November 15, 1991, which were subscribed directly by financial institutions. These bonds are redeemable only in the event that the company is liquidated, after other creditors have been fully compensated. However, the issuer has reserved the right to redeem all or part of the bonds in the event of extraordinary circumstances beyond its control during the first fifteen years.

These perpetual subordinated bonds, valued at the exchange rate in effect on the date of issuance ($1 = €0.85059), are recorded on the balance sheet as "Perpetual subordinated debt". The bonds are recorded at the historical book value, as the group does not incur any foreign exchange risk on the transaction.

The bond coupons, payable in perpetuity on a semi-annual basis, are equivalent to the 6-month Libor rate plus 0.70%.

A $76,085,000 deposit was deducted from proceeds from the issue and paid to an investment firm. It is recorded under "Other long-term financial assets". In consideration for this deposit, the investment firm will pay AREVA, as of the sixteenth year following the perpetual subordinated bonds' date of issue, interest equal to the interest due by AREVA to the holders of the perpetual subordinated debt after fifteen years. This deposit is valued at the rate of exchange in effect on the perpetual subordinated bond issue date and is not reimbursable, except in the event of extraordinary circumstances. The deposit is recorded as an asset at its historical value. Accrued interest on this deposit is recorded as a credit in a financial income account.

Effective as of January 1, 2004, as required by the law on financial security, the investment firm holding the perpetual subordinated bonds and the deposit will be consolidated in AREVA's financial statements. As a result, the perpetual financial debt recorded under liabilities and the deposit recorded under assets will disappear from the consolidated balance sheet, with the net amount (€36 million) reclassified as Debt to financial institutions at January 1, 2004.

Note 20. Minority interests in equity of subsidiaries and affiliates

The largest minority interests were:

(in millions of euros)	12/31/2003	12/31/2002
STMicroelectronics	441	455
Framatome ANP	345	380
Eurodif:	104	110
Other	69	43
Total	**959**	**988**

Note 21. Pensions and other obligations

Group companies, in accordance with laws and practices in effect in the various countries where they operate, may pay retirement bonuses to their retiring employees, based on their compensation and seniority. Early retirement pensions are sometimes due in France and in Germany, while pension supplements may be contractually guaranteed to ensure a minimum level of income to certain employees. These "special benefit" plans are recorded in accordance with the accounting method defined in note 1.15.

Each year, independent actuaries determine the group's commitments as at year-end.

In some companies, these obligations are covered in whole or in part by insurance policies or outside retirement funds. In such cases, the obligations and the covering assets are valued independently. The difference between the obligation and the assets is either a financing surplus or deficit. A provision is recorded in the event of a deficit; an asset is recorded in the event of a surplus, subject to specific conditions.

The group continued to sign CATS - CASA preretirement plans in 2003. Fourteen group companies had established CATS - CASA plans as at December 31, 2003, representing an estimated provision as of that date of €154 million.

French law no. 2003-775 of August 21, 2003 (known as the Fillon Law) on retirement reform modifies the legal retirement age. As a result, early retirement plans for some of the group's affiliates will be longer in duration. This additional financial commitment of €123 million has been treated as a plan amendment and will be amortized over the residual employment life of the employees. The new law has a negligible impact on the group's retirement obligations, since the vast majority of its affiliates are subject to the collective bargaining agreement for metal workers.

21.1. Balance sheet reconciliation

(in millions of euros)	12/31/2003	12/31/2002
Total provisions for pension and similar benefits	**609**	**568**
Retirement assets recorded by group companies	(42)	(43)
Subsidiaries not evaluated	(18)	(9)
Total	**549**	**516**
Severance pay on retirement	103	96
Pension plan	(7)	6
Pre-retirement	308	220
Medical expenses	135	186
Jubilees	10	9

CATS, CASA and CASAIC plans are included in the pre-retirement plans.

21.2. Principales hypothèses

The main actuarial assumptions used in determining the group's obligations are as follows:

	2003	2002
• Inflation	2%	1.5%
• Discount rate		
- Euro zone	5.5%	5.5%
- Dollar zone	6%- 6.75%	7.25%
• Return on retirement assets:		
- Euro zone	5.5%	5.5%
- Dollar zone	7.5% to 8.75%	7.5% to 8.75%
• Annual social security ceiling increase (before inflation)	+0.5%	+0.5%

- Mortality tables used in 2002 and 2003
  - Annuity tables for pension obligations,
  - TV 88-90 for one-time payments.
- Retirement age: 62 for exempt personnel, 60 for non-exempt personnel.
- Average attrition is assumed to occur among employees in each group company at a declining rate reflecting age brackets.

21.3. Salary increase assumptions net of inflation taken into account (weighted average based on the number of employees in each company).

AREVA Group

	Executive & Managers		Non-executive & Employees	
	2003	2002	2003	2002
< 30 years old	2.69%	2.88%	1.82%	1.58%
30-39	2.16%	2.16%	1.62%	1.48%
40-49	1.68%	1.70%	1.30%	1.22%
50-54	1.31%	1.40%	1.13%	1.09%
55 years and above	1.08%	1.22%	0.80%	0.73%

21.4. Financial assets:

Europe

	31/12/2003	31/12/2002
Type of assets		
Cash	9%	8%
Fixed	82%	86%
Equity	7%	6%
Property	2%	1%

United States

	31/12/2003	31/12/2002
Type of assets		
Cash	5%	11%
Fixed	46%	51%
Equity	49%	37%
Others	0%	1%

21.5. Net book value of pensions obligations

As at December 31, 2003

	Severance pay on retirement	Pension plan		Pre-retirement		Medical expenses	Jubilees	Total	Total	Total
(in millions of euros)		Funded	Not funded	Funded	Not funded	- Funded	Not-funded	Funded	Not funded	
Defined Benefit Obligation	173	498	85	540	306	161	10	1,211	562	1,773
Plan assets at fair value	(76)	(434)	0	(341)	-	-	-	(851)	-	(851)
Unrecognized actuarial gains and losses	8	(126)	(28)	(25)	(17)	(26)	0	(143)	(71)	(214)
Unrecognized past service cost	(2)	(3)	1	(123)	(32)	-	-	(128)	(31)	(159)
Total net amount recognized	**103**	**(65)**	**58**	**51**	**257**	**135**	**10**	**89**	**460**	**549**

As at December 31, 2002

(in millions of euros)	Severance pay on retirement	Pension plan	Pre-retirement	Related benefits	Total
Defined Benefit Obligation	179	481	575	239	1 474
Plan assets at fair value	(76)	(399)	(324)	(14)	(813)
Unrecognized actuarial gains and losses	(3)	(31)	(4)	(8)	(46)
Unrecognized past service cost	(5)	(45)	(27)	(22)	(99)
Total net amount recognized	**95**	**6**	**220**	**195**	**516**

21.6. Total expense for the year

Expense recorded in 2003

(in millions of euros)	Severance pay on retirement	Pension plan	Pre-retirement	Medical expenses	Jubilees	Total
Service cost	10	24	87	3	1	125
Interest cost	10	33	37	8	0	88
Expected return on plan assets	(4)	(26)	(18)	0	0	(48)
Amortization of actuarial net loss or gain	0	5	1	1	(1)	6
Amortization of past service cost	1	0	3	0	0	4
Curtailment / Settlement	(9)	(1)	38	1	(1)	28
Net periodic benefit cost	**8**	**35**	**148**	**13**	**(1)**	**203**

Expense recorded in 2002

(in millions of euros)	Severance pay on retirement	Other retirement benefits	Related benefits	Total
Service cost	10	48	5	63
Interest cost	9	55	13	77
Expected return on plan assets	(1)	(46)	(1)	(48)
Amortization of actuarial net loss or gain	-	1	1	2
Amortization of past service cost	1	4	-	5
Curtailment / Settlement	(7)	93	1	87
Net periodic benefit cost	**12**	**155**	**19**	**186**

21.7. Change in the provision

	2003	2002	2001
Opening balance	**516**	**403**	**264**
Currency difference	(13)	1	
Impact of consolidation	(25)	(2)	83
Net periodic benefit cost	203	186	77
Contributions / benefits paid	(132)	(72)	(23)
Net book balance as of December 31	**549**	**516**	**403**

Note 22. Provisions for risk and liabilities

2003

(in millions of euros)	Opening	Increase	Decrease (when risk has materialized)	Decrease (when risk has not materialized)	Reclassifications, changes in consolidated group and FOREX rate	Closing
Decommissioning of nuclear facilities	8,504	17	(209)		146	8,458
Waste retrieval	3,779	44	(31)		66	3,858
Sub-total: End-of-life-cycle operations	**12,283**	**61**	**(240)**		**212**	**12,316**
Restoration of mining sites and decommissioning of uranium processing plants	90	6	(24)		(3)	69
Provisions for risk	436	168	(124)	(31)	(108)	342
Restructuring and layoff plans	183	110	(138)	(14)	(2)	139
Contract performance risk	1,372	30	(63)	(12)	(897)	430
Other	120	20	(55)	(7)	9	87
Sub-total: provisions excluding end-of-life-cycle operations	**2,202**	**334**	**(404)**	**(64)**	**1,001**	**1,067**
Total provisions	**14,485**	**395**	**(644)**	**(64)**	**(789)**	**13,383**

2002

(in millions of euros)	Opening	Increase	Decrease (when risk has materialized)	Decrease (when risk has not materialized)	Reclassifications, changes in consolidated group and FOREX rate	Closing
Decommissioning of nuclear facilities	1,759	6,850*	(189)	(1)	85	8,504
Waste retrieval	1,000	2,766*	(34)	-	47	3,779
Sub-total: Decommissioning operations	**2,759**	**9,616**	**(223)**	**(1)**	**132**	**12,283**
Restoration of mining sites and decommissioning of uranium processing plants	112	14	(24)	-	(12)	90
Provisions for risk	479	159	(140)	(59)	(2)	436
Restructuring and layoff plans	183	140	(154)	(4)	18	183
Contract performance risk	1,384	189	(151)	-	(50)	1,372
Other	199	26	(33)	(2)	(70)	120
Sub-total: provisions excluding decommissioning operations	**2,357**	**528**	**(502)**	**(65)**	**(116)**	**2,202**
Total provisions	**5,116**	**10,144**	**(725)**	**(66)**	**16**	**14,485**

** Includes €8.918 billion from a change in accounting method effective as of January 1, 2002.*

22.1. Provisions for decommissioning

The table below summarizes the AREVA balance sheet accounts affected by the accounting treatment of decommissioning operations.

(in millions of euros)

ASSETS	31/12/03	LIABILITIES AND SHAREHOLDERS' EQUITY	31/12/03
Decommissioning assets (note 9)	9,109	Decommissioning provisions	12,316
*- AREVA share**	*1,118*	*- funded by AREVA*	*4,325*
*- third-party share***	*7,991*	*- funded by third-parties***	*7,991*
Long-term financial portfolio*** (note 13)	2,234		

* *Amount of total provision to be funded by AREVA (€4,325 billion) still subject to amortization.*
** *Amount of the total provision to be funded by third-parties,*
*** *Portfolio of financial assets earmarked to finance AREVA's share of the total provision (€4,325 billion).*

Nature of the commitments

As a nuclear operator, the AREVA group has a legal obligation to secure and decommission its facilities when they are shut down permanently. As provided by the regulations, the group must also package the various waste types and scrap from past operations and carry out facility dismantling activities. Group facilities subject to these obligations include facilities in the front end of the fuel cycle, in particular Eurodif's enrichment plant in Pierrelatte, but they are predominantly facilities at the back end of the fuel cycle, including the treatment plants at Marcoule and La Hague and the uranium/plutonium (MOX) fuel fabrication plants. Lastly, like any nuclear operator, the group is responsible for the facilities that it operates but does not own, such as the CEA facilities at Pierrelatte or certain Marcoule facilities. Framatome ANP sites are also subject to these obligations.

Under certain circumstances, essentially in the case of used fuel treatment services, customers have agreed to finance a portion of the cost related to decommissioning operations and to the disposal of final waste, of which they remain the owners. These contractual arrangements have the effect of transferring the financial impact of decommissioning and waste disposal from the group to third parties. Under different circumstances, decommissioning costs were included in the price of the services provided by the group.

In compliance with French accounting rule no. CRC 2000-06 relating to liabilities, the group has set up provisions for the total estimated cost of decommissioning operations (dismantling, decontamination and waste retrieval and packaging) for the nuclear facilities it operates as soon as they enter service, including the share funded by third parties when applicable. Conversely, a decommissioning asset is recorded under "Fixed assets". In current euros, the provision for decommissioning operations, before escalation, represented €12,316 billion as at December 31, 2003.

The bulk of these expenses will be incurred after 2015 and the spending period may extend beyond 2040.

Decommissioning provision calculation

Decommissioning obligations are calculated facility by facility as follows:

The group has adopted the level 2 decommissioning standard of the International Atomic Energy Agency (IAEA) and ensures the passive safety of its facilities.

Expenses are estimated based on total, unescalated final dismantling costs.

SGN, an engineering firm that served as prime contractor for the construction of the majority of the group's treatment and recycling facilities, was deemed the most qualified to select methods to decommission these facilities and prepared detailed decommissioning and waste management cost estimates. Eurodif prepared the decommissioning cost estimates for the enrichment business.

Estimates are revised each year to take inflation into account. Changes in estimates are recorded on the income statement. The impact of inflation is recorded under financial income and expenses when a special portfolio of assets has been set up to cover the decommissioning cost.

In the absence of firm supplier commitments for permanent waste disposal, waste retrieval and packaging, cost estimates were based on technical and financial assumptions taken from a study prepared by SGN in 1994. Ultimate waste disposal plans (relating to B and C waste of the French waste classification system) will eventually be decided under programs established by Law no. 91–1381, now incorporated in article L.542-1 et seq. of the French Environment Code Law.

Regarding final disposal of waste owned by the group, AREVA has decided to retain these evaluations insofar as:

- The key features of the French national program for B and C waste disposal have not yet been established. The administration must present an evaluation report to Parliament on research done on these waste types, conceivably perhaps even with proposed legislation authorizing the development of a deep repository for high-level, long-lived waste and outlining disposal conditions.
- Preliminary estimates submitted to waste generators by Andra, the French nuclear waste management agency, have increased but remain tentative and have never been finalized.
- The estimated unit costs of deep repositories vary significantly, depending on various site development scenarios.
- The group's own comparative analyses of international waste disposal rates offered by existing repositories for these same types of waste indicate that Andra's estimates are generally very high.

Cost estimates will be updated if and when legislation changes or substantial technological developments can be anticipated. In any event, the group has decided to update its estimates at least once every six years.

2003/2004 changes

EDF and COGEMA embarked on framework agreement negotiations to establish:

Firstly:

- the legal and financial terms of a transfer to COGEMA of EDF's current financial obligations with respect to dismantling operations at the La Hague site (including, conceivably, payment of a lump sum to settle EDF's long-term commitment);
- EDF's financial participation in the retrieval and disposal of La Hague waste;

Secondly:

- the financial terms of the future used fuel treatment contract for the 2008-2020 period.

In 2003, the parties made progress on these issues, although a final agreement could not be reached by December 31, 2003. Elements concerning the update of the base estimate for dismantling costs and the respective shares of decommissioning expenses to be funded by each party were documented in a July 2003 statement of joint conclusions accepted by both parties.

At the same time, CEA, COGEMA and EDF held discussions in 2003 to define organizational and management processes for end-of-cycle operations at sites operated by the group and to define their respective roles and responsibilities in this respect. At the request of government authorities, this work is being carried out by a steering committee comprised of representatives of the operators, the CEA and government authorities. The Committee will give its conclusions in the near future.

Considering the umbrella nature of these negotiations, and the fact that no final conclusions have been reached at this stage, AREVA used the same methods to calculate the provisions for the financial statements as at December 31, 2003, as were used for the December 31, 2002, and June 30, 2003, financial statements. Based on available information, this is not expected to have any significant impact on the group's financial statements or financial position.

The provisions recorded based on the above principles present a reasonable evaluation of AREVA's decommissioning obligations. This evaluation relies on the best future cost estimates prepared by the group based on current legislation, technology state-of-the-art and lessons learned.

Provision for reclamation of environmentally regulated sites

The group operates certain industrial sites that are environmentally regulated sites under the law. These sites must be reclaimed when operations cease permanently. The group's total obligation in this respect represented €14 million as of December 31, 2003, compared with €23 million at December 31, 2002.

Financing of decommissioning and waste retrieval expenses

AREVA has set aside a portion of its cash holdings to fund future decommissioning and waste retrieval operations through a special financial portfolio recorded on the balance sheet under "Other long-term notes and investments" (see note 13).

22.2. Risk

As at December 31, 2003, the provisions for risk were as follows:

	2003	2002	2001
Contingencies on contracts	22	224	280
Losses on contracts	99	91	108
Litigation	10	17	16
Provisions for risk and liabilities		2	(2)
Environmental risk		14	14
Tax risk	27	21	-
Financial guarantees	119	12	15
Work in progress		15	8
Provisions for fines and penalties	3		
Other provisions	62	40	40
Total	**342**	**436**	**479**

22.3. Restructuring

Provisions for restructuring represented €139 million in 2003 (€183 million in 2002, €183 million in 2001). The provisions include €68 million for manpower reduction plans and €71 million for site closures and related expenses.

These provisions, including a layoff plan spending schedule and the personnel involved, are indicated below.

Company	Site closure and related costs	Layoff plan	Manpower reduction plan spending schedule			Estimated workforce
(in millions of euros)			2004	2005	2006	
COGEMA	3	12	8	2	2	205
ANP		3	3			
FCI	68	53	28	20	5	1 073
Total	**71**	**68**	**39**	**22**	**7**	

Layoff provisions are generally recorded when plans are submitted to employee representatives. Layoff plans may concern total or gradual activity terminations, changes in employee assignments or, to a lesser extent, negotiated departures.

22.4. Provisions for completion of contracts

These provisions, covering future expenses on contracts considered as closed out, represented €430 million as at December 31, 2003, compared with €410 million as at December 31, 2002. These provisions correspond to additional services, such as waste storage or processing, that must be rendered under contract after margins on the activity have already been recognized using the company's accounting method.

As at December 31, 2002, "Provisions for liabilities" included "Provisions for expenses to be incurred" representing €962 million. These provisions correspond to depreciation on assets allocated to and financed under certain sales contracts when the depreciation period exceeds the duration of the contract. These provisions have been reclassified as depreciation (see note 1.1. and note 11).

(in millions of euros)	2003	2002
Provision for completion of contracts	430	410
Provision for liabilities		962
Total	**430**	**1 372**

Note 23. Debt

(in millions of euros)	2003	2002	2001
Bond issues (in French francs)	4	2	2
Interest-bearing advances	2		
Loans from financial institutions	248	2 001	2 097
Short-term bank facilities	71	116	216
Other debt *	61	98	129
Total	**800**	**2 217**	**2 444**
** Including leasing debt:*	*13*	*15*	*15*

Interest-bearing advances from customers have been reclassified to "Debt" as at December 31, 2003 (see notes 1.1 and 24).

Debt by maturity, by currency and by type of interest rate:

(in millions of euros)	2003	2002
Debt maturing in less than one year	164	1 092
Debt maturing in one to five years	483	1 118
Debt maturing in more than five years	153	7
Total	**800**	**2 217**

(in millions of euros)	2003	2002
Euro	569	1 334
US dollar	8	653
Debt denominated in other currencies	223	230
Total	**800**	**2 217**

(in millions of euros)	2003	2002
Fixed rate debt	173	494
Variable rate debt	627	1723
Total	**800**	**2217**

23.1. Major loans

Unless they have been swapped, variable rate loans are based on Libor or Euribor.

(in millions of euros)	2003
COGEMA	
Variable rate loan 2000/2006 (CAD 280 million)	172
6% loan (ultimate rate)* 2000/2007 (€54 million)	38
FRAMAPAR	
1997/2005 loan	14

23.2. Guarantees and covenants

No assets have been pledged to secure any loan or debt, except for assets financed under lease arrangements.

23.3. Covenants

Certain loan agreements to finance group subsidiaries such as CRI Canada include covenants such as:

- Gearing ratios at group level, calculated on the basis of group equity or cash flow. These types of ratios did not apply at year-end 2003 as the group maintained a positive cash position.
- Debt service. None of these ratios approaches the thresholds included in the agreements.

Note 24. Advances and prepayments

(in millions of euros)	2003	2002	2001
Trade advances and prepayments	2,448	2,860	3,043
Customer advances and prepayments invested in fixed assets	1,167	1,206	533
Total	**3,615**	**4,066**	**3,576**

Interest-bearing advances (€382 million as at December 31, 2002) have been reclassified to "Debt" (see notes 1.1 and 23).

These accounts record French and foreign customer advances specified under sales contracts. These advances finance working capital requirements or are invested in fixed assets. They are reimbursed by deduction from invoices on sales of uranium, nuclear fuel, enrichment services or used fuel treatment services. At year-end 2002, the majority of these advances were related to sales of used fuel treatment services at the COGEMA-La Hague plant or services associated with these operations. Interest-bearing advances accounted for €382 million of the total amount of advances received from customers. As at December 31, 2003, these advances were classified as "Debt".

Only advances and prepayments effectively collected are recorded as a liability.

Trade advances also include the difference between sales of used fuel treatment services at La Hague, which is recognized proportionally when the cost of services is incurred and the corresponding invoices issued to customers. This account also includes interest income on advances or prepayments received under certain contracts performed without margin.

The main changes recorded in 2002 include:

- €532 million transferred from "Other liabilities" (see note 25) to "Trade advances and prepayments",
- €743 million transferred from "Trade advances and prepayments" to "Customer advances and prepayments invested in fixed assets".

Note 25. Other liabilities

(in millions of euros)	2003	2002	2001
Taxes and social security taxes	812	1,081	1,194
Deferred tax: credit balances	259	146	132
Other liabilities	418	521	1,059
Total	**1,488**	**1,748**	**2,385**

The main entry for 2002 was a €532 million account-to-account transfer from "Other liabilities" to "Trade advances and prepayments" (see note 24).

Deferred tax liabilities reflect, for the most part, the impact of regulated provisions (accelerated depreciation) recorded in France by certain AREVA companies.

Note 26. Cash from operating activities

Change in working capital requirement

(in millions of euros)	2003	2002	2001
Change in inventories and work in process	258	59	458
Change in accounts receivable and other receivables	235	(7)	34
Change in accounts payable and other liabilities	(13)	(789)	(306)
Change in advances and prepayments received	(103)	579	(403)
Change in advances and prepayments made	2	53	60
Total	**379**	**(104)**	**(157)**

Note 27. Related party transactions

The consolidated financial statements include normal business transactions with companies in which the group may have unconsolidated participating interests or with companies consolidated under the equity method or with shareholders controlling more than 5% of the AREVA's equity.

	2003	
(in millions of euros)	CEA	STMicroelectronics
Loans (including short-term loans) to unconsolidated companies	-	-
Guarantees given to unconsolidated companies	-	-
Sales	343	-
Purchases	75	24

	2002	
(in millions of euros)	CEA	STMicroelectronics
Loans (including short-term loans) to unconsolidated companies	-	-
Guarantees given to unconsolidated companies	-	-
Sales	303	-
Purchases	57	49

Note 28. Financial instruments

28.1. General objectives and counterparty risk management

The group uses derivatives to manage its exposure to currency and interest rate risks, fluctuations of raw material prices and changes in the price of certain publicly traded securities. These instruments are generally used as a hedge in the management of group assets, liabilities commitments.

The group controls the counterparty risk associated with these instruments by centralizing the commitments and by implementing a series of procedures that specify the limits and characteristics of the counterparty for each type of instrument.

Management of interest rate risks and raw material price risk is centralized by the parent company. Foreign exchange risk is also usually managed by the parent company on behalf of the subsidiaries. The few subsidiaries that manage their foreign exchange exposure directly implement their strategy along with the parent company.

28.2. Foreign exchange risk management

AREVA trades currencies on forward markets and uses derivative products to cover or manage:

- The foreign exchange exposure of subsidiaries engaged in international trade. This exposure is systematically hedged. The risk may be hedged by special insurance contracts acquired on a case-by-case basis, for instance through Coface (a French export insurance group). Other exposure may be identified through an annual or multi-annual budget, in which case the risk covered corresponds to a certain percentage of the estimated budget.
- The balance sheet risk on loans to subsidiaries made in currencies other than their own.
- Foreign currency cash positions, through currency swaps.

28.3. Interest rate risks management

The group uses several types of financial instruments, as required by market conditions, to allocate its debt between fixed rate and floating rate obligations and to manage its investment portfolio. The group primarily uses swaps for debt management and cash management purposes. Rate futures are used to manage medium-term investments.

28.4. Raw material price risk management

The group uses financial instruments, including futures and commodity swaps, to reduce its exposure to commodity price volatility for raw materials used in manufacturing, especially copper and gold, or to hedge its sales as a producer especially for COGEMA's gold mining subsidiaries.

28.5. Risk on shares

To manage its long-term investment positions, the group may elect to use puts and calls backed by equities held in the portfolio. No such transaction was pending as of December 31, 2002.

	Notional amounts of contracts as of 12/3103 (by maturity)							Market value (difference)
	2004	2005	2006	2007	2008	> 5 years	Total	
FOREIGN EXCHANGE INSTRUMENTS								
Currency swaps - Borrower								
US dollars for euros	477.5	2.6	15.8	0.7			496.6	25.6
US dollars for Canadian dollars	23.8						23.8	5.3
Australian dollars for US dollars	0.6						0.6	0.0
Canadian dollars for euros	202.1						202.1	(0.7)
Pounds sterling for euros	17.0						17.0	0.1
Yen for euros	30.4						30.4	0.7
Australian dollars for euros								
Hong Kong dollars for euros								
Swiss francs for euros	0.6						0.6	0.0
Swedish kroner for euros	1.4						1.4	0.0
Currency swaps - Lender								
US dollars for euros	124.5						124.5	(4.0)
Canadian dollars for euros	57.7						57.7	0.2
Canadian dollars for US dollars	15.4						15.4	0.0
Pounds sterling for euros								
Yen for euros								
Australian dollars for US dollars	2.5						2.5	0.7
Hong Kong dollars for euros								
Swiss francs for euros	0.5						0.5	
Rimimbi for euros	1.2						1.2	
Forward transactions - Buyer								
US dollars for euros	17.7	0.9	0.9	0.5			20.0	(2.2)
US dollars for Canadian dollars	7.9						7.9	(0.1)
Canadian dollars for euros	1.1						1.1	0.0
Euros for US dollars								
Pounds sterling for euros	1,0						1,0	0,0
Yen for euros	21.5	6.1	0.7				28.2	(1.7)
Yen for US dollars	1.9						1.9	(0.1)
Australian dollars for euros								
Swiss francs for euros	0.9	0.5					1.3	(0.1)
Rimimbis for euros								
Swedish kroner for euros	0.2						0.2	
Forward transactions - Seller								
US dollars for euros	299.8	51.0	2.2	0.9			354.0	46.5
US dollars for Canadian dollars	23.8	7.9					31.7	2.9
US dollars for Australian dollars								
Canadian dollars for euros	3.7						3.7	0.2
Canadian dollars for US dollars								
Pounds sterling for euros	1.0	0.6		0.2			1.8	0.0
Yen for euros	6.1	2.2	2.2	0.8			11.3	0.6
Yen for US dollars	9.2						9.2	(0.5)
Australian dollars for euros								
Australian dollars for US dollars	17.3	1.2					18.5	(1.4)
Swedish kroner for euros	0.1						0.1	0.0
Swedish kroner for euros								
Currency options								
Calls - Seller								
Euros for US dollars								
Puts - Seller								
Euros for US dollars								
Collars								
US dollars for euros		30.0					30.0	4.1

Notional amounts in foreign currency have been converted into euros based on year-end closing exchange rates, except for currency swaps.

	Notional amounts of contracts by maturity date as at December 31, 2003								
(in millions of euros)	*Fixed rate*	2004	2005	2006	2007	2008	> 5 years	Total	Market value (diff.)
INTEREST RATE INSTRUMENTS									
Interest rate swaps - fixed payer									
Euro [a]									
US dollar	*2.535%-3.92%*	79.2	118.8	7.9				205.9	(4.9)
Canadian dollar		119.5						119.5	(1.4)
Interest rate swaps - fixed receiver									
Euro [a]					38.1			38.1	8.7
US dollar									
Canadian dollar									
Interest rate swaps - variable/variable									
Euro			40.0						40.0
Collars									
Euro									
US dollar									

[a] Variable-rate payer swap in CAD (currency swap).

	Notional amounts by maturity date as at December 31, 2003						
(in millions of euros)	2004	2005	2006	2007	2008	> 5 years	Total
COMMODITIES AND EQUITIES							
Commodities							
Gold							
Forward transactions - Buyer							
Forward transactions - Seller	33.1	1.1					34.2
Copper							
Swap - lender							
Stock derivatives							
Puts and calls							
Equity swaps							

Note 29. Commitments made or received

AREVA has established a procedure to identify and confirm off-balance sheet items disclosed in these Notes. This procedure includes a definition of the main categories of commitments and their evaluation methods. It also includes a method to collect and control the data, relying largely on confirmations from third parties.

29.1. Off-balance sheet commitments

(in millions of euros)		31/12/2002	31/12/2003	Maturity < 1 yr	Maturity 1-5 yrs	Over 5 years
I. COMMITMENTS MADE	(6+10+16)	**912**	**1,522**	**651**	**514**	**240**
1 - Guarantees of endorsements of notes and other instruments		0	102	93	3	6
2 - Endorsements of notes and other instruments		1	4	3	1	0
3 - Corporate guarantees		639	638	241	174	223
4 - Letters of comfort/letters of intent		37	38	37	1	0
5 - Other guarantees		0	1	0	0	0
6 - Total corporate guarantees given	(1+2+3+4+5)	**677**	**783**	**375**	**178**	**229**
7 - Collateral		0	6	0	0	5
8 - Mortgages		0	19	19	0	0
9 - Other asset-based guarantees given		0	0	0	0	0
10 - Total asset-based guarantees given	(7+8+9)	**0**	**24**	**19**	**0**	**5**
11 - "Return to better fortune" clauses		0	2	0	0	2
12 - Representations and warranties		35	116	48	19	48
13 - Subsidies subject to contingent repayment		3	1	1	0	0
14 - Commitments made on trade receivable financing		0	0	0	0	0
15 - Other commitments made		196	597	256	335	6
16 - Total other commitments made	(11+12+13+14+15)	**234**	**715**	**257**	**335**	**6**
II. DEBT SECURED WITH TANGIBLE ASSETS	(18+19)	**0**	**7**	**3**	**3**	**0**
18 - Secured debt to financial institutions		0	7	3	3	0
19 - Other secured debt		0	0	0	0	0
III. COMMITMENTS RECEIVED		**231**	**46**	**22**	**17**	**7**
21 - Personal/corporate guaranties		20	13	10	3	0
22 - Asset-based guarantees		2	1	1	0	0
23 - Guarantees payable on first demand		32	12	4	4	5
24 - Representations and warranties		2	0	0	0	0
25 - "Return to better fortune" clauses		1	1	0	0	1
26 - Other commitments received		175	18	7	10	1
IV. RECIPROCAL COMMITMENTS	(21 to 26)	**198**	**1,981**	**1,102**	**879**	**0**
28 - Unused portion of credit lines		182	622	131	491	0
29 – Major orders on CAPEX		0	18	18	0	0
30 - Documentary credit		0	1	1	0	0
31 - Securities piggyback arrangements		0	0	0	0	0
32- Other reciprocal commitments		16	1,340	952	388	0

29.2. Main balances as at December 31, 2003

Endorsements given:	**102**
Endorsements given to banks by FCI on financing provided to its subsidiaries in the US, Brazil and Asia	102

Corporate guarantees:	**638**
Performance guarantee given by AREVA SA for the “BLUE” contract and the BFEN Refuel Services contract and extension	111
Guarantee given by Framatome ANP Sas for the repayment of deposits received by Framatome ANP GmbH	90
Performance guarantees given by Framatome ANP Sas to Framatome ANP GmbH	74
Guarantees given by Framatome ANP Sas to Framatome ANP Inc's customers	49
Guarantee given by AREVA SA in connection with a perpetual subordinated bond issue (letters of indemnity)	33
Assumption by AREVA SA of the guarantee given by Siemens for the dismantling of the Richland site	33
Post-completion guarantee given by Framatome ANP Sas to Framatome ANP GmbH	30
Guarantee of letters of credit issued at COGEMA Inc's request	30
Letters of credit issued by Framatome ANP Sas for Framatome ANP Inc.	26
Decommissioning guarantee pertaining to FBFC International facilities	20
Commitment pertaining to the value of uranium concentrate inventories held by Comurhex	17
Lease guarantees given by Framatome ANP Sas to Framatome ANP Inc.	14
Decontamination commitment made by Comurhex	10
Guarantee of performance given by AREVA SA on the "MF RATP 2000" contract	10
Bank guarantees given by Framatome ANP GmbH	9
Guarantee of value given by AREVA SA to Framépargne	7
Guarantee given by AREVA SA on FCI bank financing	6
Performance guarantees given by COGEMA Logistics	5
Other corporate guarantees given	64

Other commitments made:	**597**
Guarantees given by Framatome ANP Sas on guarantees issued by financial institutions	254
Performance guarantees given by Framatome ANP Inc.	201
Commitments to invest in S.A.R. given in connection with government contracts awarded to Framatome ANP Sas	26
Real estate lease agreements (Framatome ANP GmbH)	27
Management of information systems contract (Framatome ANP GmbH)	8
Service contract (Framatome ANP GmbH)	9
Guarantee of a performance guarantee issued at AREVA SA's request	3
Other commitments made	69

Reciprocal commitments include mainly:	
Unused portion of credit lines	**622**
FCI credit lines	504
Framatome ANP GmbH credit lines	60
Framatome ANP Inc. credit lines	59

Other reciprocal commitments	**1,340**
Commitment concerning AREVA SA's acquisition of Alstom's T&D division	950
Commitment concerning AREVA SA's acquisition of a 50% interest in ETC, a URENCO subsidiary	388
Other commitments received	2

The Framépargne employee stock fund included in the AREVA group savings plan owns 418,721 shares of the company. These shares are not publicly traded and, as provided by the law on employee savings plans, the fund benefits from a guarantee of liquidity. An independent financial institution gave the guarantee, which expired on July 10, 2003 and was extended to July 11, 2004. Subsequently, to allow this commitment to come into effect, the company gave a guarantee of value for the same period. As at December 31, 2003, this guarantee related to 184,717 shares sold by Framépargne. A €14.3 million provision was recorded for 2003. The company estimates that the commitment for the balance of the guarantee represents €7.3 million.

AREVA has a given a commitment to the shareholders of URENCO to acquire a 50% participating interest in the British company ETC. This commitment represents €388.3 million. In addition, AREVA made a €150 million down payment when the memorandum of agreement was executed, which is recorded on the balance sheet under "Other long term notes and investments" (see note 13). If the transaction closes after December 31, 2004 (and in any event no later than December 31, 2005), the amount to be paid by AREVA would be adjusted based the Euribor rate. A number of guarantees and conditions precedent apply to this commitment. Acquisition of the 50% interest in ETC will give AREVA access to the ultracentrifuge technology for uranium enrichment.

AREVA has given a commitment to Alstom/Alstom Holdings to acquire Alstom's Transmission and Distribution division, for a price between a floor of €900 million and the division's estimated enterprise value of €950 million. The acquisition was subject to conditions precedent and guaranties regarding assets, liabilities and the target company's environmental position. The T&D acquisition closed on January 9, 2004 (see note 32).

The group gave a parent company guarantee to Finnish customer TVO in the amount of its commitment as part of the EPR reactor contract in Finland.

Note 30. Not applicable

Note 31. Disputes and contingent liabilities

31.1. Disputes and contingent liabilities arising in 2003

Based on the progress of negotiations and risk analyses performed by the group, no disputes arose in 2003 warranting a significant provision.

Exelon

During the first half of 2003, Exelon, a Framatome ANP Inc. customer, submitted a claim concerning nuclear fuel under warranty.

Having observed leaking fuel rods in a few assemblies, the customer decided unilaterally:

- to suspend the contract "for cause",
- to unload the assemblies ahead of schedule, along with other assemblies of the same type.

The technical reason for the leaks had not yet been established by year-end 2003, and Framatome ANP's liability in this matter has not yet been established. Accordingly, Framatome ANP Inc. is still challenging the warranty claim for "burnup guarantee not met", and maintains its initial proposal.

Discussions are in progress to resume contract performance, and Framatome ANP Inc. is evaluating an Exelon proposal received in late January 2004 in which the customer considerably reduces its demands, demonstrating a desire to find an economically viable solution to the dispute.

Paks

On April 10, 2003, an incident occurred during chemical cleanup of a batch of fuel assemblies at the PAKS nuclear power plant in Hungary. The IAEA confirmed the joint liability of the PAKS plant operator, the Hungarian safety authority and Framatome ANP GmbH, which designed the chemical cleanup system. The group has reached an agreement with the customer regarding its contribution to repairs of certain pecuniary damages. Normal business relations have now resumed with the PAKS plant operator.

Tax disputes

The tax administration is conducting an audit of consolidated income reported by the AREVA group for 2000 and 2001. AREVA has received notice of its revised tax liability for 2000. The revised liability is currently under discussion with the tax administration.

31.2. Disputes and contingent liabilities existing before January 1, 2003

McClean

On September 23, 2002, the Federal Court of Canada, ruling on a claim submitted by the Inter-Church Uranium Committee Educational Cooperative (ICUCEC) against the nuclear safety authority for violating the permitting process, canceled the permit to operate the McClean uranium mine and mill issued by

the Atomic Energy Control Board (AECB) in 1999. The Canadian Nuclear Safety Commission (CNSC), which replaced AECB, and COGEMA Resources, Inc. have appealed this decision and requested the right to continue operations at McClean pending a decision on their appeal. On November 7, 2002, a judge designated by the Federal Court of Appeal of Canada granted the group's request for a stay on the lower court decision. The judgment on appeal is expected in 2004.

USEC litigation

As mentioned in note 13, the United States Department of Commerce (DOC) ordered that countervailing duties be levied on enrichment services imported to the United States from France, Germany, the Netherlands and Great Britain. This action followed complaints submitted in December 2000 by the United States Enrichment Corporation (USEC) against Eurodif and Urenco. To ensure payment of countervailing duties imposed on Eurodif exports to the United States for anti-dumping and unfair subsidies, a total of $35.1 million for the 2001-2002 period and $110.7 million for 2003 were deposited with the US Customs Service. These sums can be recovered after the case has been adjudicated.

Administrative proceedings by the US Department of Commerce against COGEMA and Eurodif for alleged dumping and illegal subsidies led to a review of 2001 and 2002 exports. A decision will be rendered in 2004 on revision of the provisional duties, in the form of recoverable deposits, paid in 2001 and 2002, and may serve as a basis for possible future duties.

In parallel, legal proceedings initiated by COGEMA and Eurodif in the US Court of International Trade have resulted in a favorable decision, issued in September 2003. This decision is under review by the US Court of Appeals for the Federal Circuit (CAFC); a final decision is expected in 2004.

Note 32. Event subsequent to year-end

32.1. Acquisition of Alstom's Transmission and Distribution business

On January 9, 2004, having received all required European Commission and national antitrust authorizations, the AREVA group signed the final acquisition agreement for Alstom's *Transmission and Distribution* operations.

The provisional acquisition price of €920 million will be finalized in May 2004, after the acquisition audit.

T&D's business – electricity transmission and distribution – is an important component of the value chain for the electric energy industry. It connects electric power generators with end-users consisting of large and small businesses as well as individual consumers. The T&D market begins at the power plant outlet and ends at the point where individual and industrial users are connected to the grid. T&D supplies equipment to this market to transform electric power, including transformers and connecting equipment, such as circuit breakers and disconnecting switches, often combined in a sub-station. These major equipment items go hand in hand with measurement equipment, measurement transformers, automatic relays and grid operating systems, and grid safety equipment such as lightning arresters. T&D does not supply low value-added equipment, such as wires and electric towers. T&D also offers grid monitoring and management systems and a broad range of value-added services to electric operators.

32.2. Financial data

The Transmission and Distribution data hereunder consists of unaudited reconstituted accounting data. The data has been restated as described below.

Change in accounting period

Alstom's accounting year ends on March 31. T&D's income statement has been adjusted to correspond to AREVA's accounting year. The last quarter of fiscal year 2002-2003 was added to the first three quarters of fiscal year 2003-2004 to construct pro forma statements for calendar year 2003.

Change in portfolio of businesses

Some T&D companies were being transferred out as the acquisition agreement was being signed Due to local regulations, two companies operating in India and Pakistan respectively are not likely to be acquired by June 30, 2004, and will therefore be consolidated only after their final acquisition. The provisional €920 million purchase price indicated above includes both of these companies. Accordingly, data pertaining to the Indian and Pakistani companies have been excluded from the unaudited reconstituted accounting data. For information, T&D division sales was €2,971 million including the Indian and Pakistani companies.

Restatements to comply with AREVA group accounting standards

During the last quarter of 2003, AREVA and the T&D business line created a task force to identify and assess accounting standard differences between the two groups. No major difference was identified. However, the following principles were adopted in preparing unaudited reconstituted accounting data:

- goodwill and the corresponding amortization were eliminated,
- assets financed through lease purchase agreements were recognized as fixed assets,

- costs relating to the pre-acquisition reorganization of the legal structure were removed.

Based on the above, the pro-forma income statement and balance sheet items for the 12-month period ending December 31, 2003, are as follows:

Simplified income statement *(in millions of euros)*	Fiscal year 2003
Sales	2,859
Cost of sales	(2,121)
Gross margin	738
Research, sales/marketing and administrative expenses	(572)
Other operating income and expenses	(32)
Operating income before restructuring costs	134
Restructuring costs	(151)
Operating income	(17)
Exceptional items	3
Financial income	(35)
Minority interests in subsidiaries' earnings	(1)
Net income before tax	(32)

Balance sheet items	12/31/2003
Net tangible assets	291
Working capital requirement	295
Provisions for risk and liabilities	339

Other information	12/31/2003
Employees	21,805

Note 33. The consolidated group

FC: full consolidation
PC: proportional consolidation
EM: equity method

			2003		2002	
Company name, Legal form, Corporate office	Country	Business reg. no.	Method	% Interest	Method	% Interest
Framatome ANP						
Framatome ANP SAS - 92400 Courbevoie	France	428 764 500	FC	66.00	FC	66.00
Intercontrole SA - 94583 Rungis	France	305 254 526	FC	66.00	FC	66.00
Somanu SA - 92400 Courbevoie	France	328 946 231	FC	66.17	FC	58.08
ANF GmbH Advanced Nuclear Fuels, 49811 Lingen	Germany		FC	66.00	FC	66.00
FUSA (Framatome USA Inc.)	United States		FC	66.00	FC	66.00
Framex South Africa - 8000 Cape Town	South Africa		FC	65.92	FC	65.92
Nuclear Power International SNC - 92800 Courbevoie	France	950 565 978		Merger	FC	66.00
NNS SNC - 69006 Lyon	France	333 824 530	FC	39.60	FC	39.60
CERCA SA - 92400 Courbevoie	France	572 205 433	FC	66.00	FC	66.00
ANP GmbH, 91058 Erlangen	Germany		FC	66.00	FC	66.00
Incore Services SA - 44472 Carquefou	France	872 802 848	FC	66.00	FC	66.00
LNS	South Africa		EM	29.70	EM	29.70
SGT, Ltd	United States		PC	33.00	PC	33.00
Signum	South Africa		EM	32.34	EM	32.34
Sofinel	France	312 664 824	EM	29.70	EM	29.70
Jeumont SA - 92400 Courbevoie	France	341 805 836	FC	66.00	FC	66.00
Visionic SA - 45600 Sully-sur-Loire	France	326 382 900	FC	66.00	FC	66.00
Sarelem SA - 92400 Courbevoie	France	319 606 091	FC	66.00	FC	66.00
Cte-Ndt SA - 94583 Rungis	France	308 548 742	FC	66.00	FC	66.00
NDT GmbH – 91058 Erlangen	Germany		FC	66.00	FC	66.00
Timet Savoie SA - 95023 Cergy-Pontoise	France	408 579 084	EM	19.80	EM	19.80
Fragema GIE, 69006 Lyon	France	338 344 658	FC	66.00	FC	66.00
Cezus SA - 92400 Courbevoie	France	071 500 763	FC	66.00	FC	66.00
FBFC SNC - 92400 Courbevoie	France	300 521 754	FC	66.00	FC	66.00
FBFC International SA - 1000 Bruxelles	Belgium		FC	66.00	FC	66.00
Framatome ANP Holding Inc. - 24506 Lynchburg VA	United States		FC	66.00	FC	66.00
Framatome ANP DE&S Hanford, Inc.	United States		FC	66.00	FC	66.00
Northrop, Devine & Tarebell, Inc.	United States			Disposal	FC	66.00
Framatome ANP DE&SR, LLC	United States			Merger	FC	66.00
DE-SE Framatome ANP DE&S Hanford, Inc.	United States		FC	66.00	FC	66.00
Framatome ANP DE&S Hanford, Inc.	Canada		FC	66.00	FC	66.00
Framatome ANP&DE&S	Czech Republic		FC	66.00	FC	66.00
Framatome ANP Blakey Staffing Solution	Canada		FC	66.00	FC	66.00
Washington Framatome ANP DE&S Decontamination & Decommissioning LLC	United States		FC	66.00	FC	66.00
Framatome ANP DE&S, Inc. Argentina Branch	Argentina		FC	66.00	FC	66.00
Uranium Disposition Services, LLC	United States		PC	31.68	-	-
Framatome ANP DE&S Srl	Peru		FC	66.00	FC	66.00
Framatome ANP DE&S Srltda	Peru		FC	66.00	FC	66.00

Company name, Legal form, Corporate office	Country	Business reg. no.	2003 Method	2003 % Interest	2002 Method	2002 % Interest
COGEMA						
COGEMA	France	305 207 169	FC	100.00	FC	100.00
Katco	Kazakhstan		EM	45.00	EM	45.00
CRI CAN	Canada		FC	100.00	FC	100.00
Mul	Canada		FC	100.00	FC	100.00
COGEMA Inc.	United States		FC	100.00	FC	100.00
CRI USA	United States		FC	100.00	FC	100.00
PMC USA	United States		FC	100.00	FC	100.00
Eurodif SA, 78140 Vélizy-Villacoublay	France	723 001 889	FC	59.65	FC	59.65
Eurodif Production, 26700 Pierrelatte	France	307 146 472	FC	59.65	FC	59.65
Compagnie Française de Mokta (CFM) 78140 Vélizy-Villacoublay	France	552 112 716	FC	100.00	FC	100.00
Comilog	France	592 017 750	EM	7.65	EM	7.65
Eramet Manganèse Alliages	France	423 464 577	EM	30.50	EM	30.50
Socatri	France	302 639 927	FC	59.65	FC	59.65
Sofidif	France	303 587 216	FC	60.00	FC	60.00
Tasys	France	408 773 323	Deconsolidated		FC	100.00
Compagnie Nucléaire de Services (CNS)	France	401 649 363	FC	51.00	FC	51.00
SICN	France	325 720 209	FC	100.00	FC	100.00
Gemma	France	332 201 664	FC	100.00	FC	100.00
Séchaud et Metz, 92260 Fontenay-aux-Roses	France	652 030 677	EM	34.00	EM	34.00
Euriware PGI (Axisse)	France	380 416 222		Merger	FC	100.00
SGN, 78180 Montigny-le-Bretonneux	France	612 016 956	FC	100.00	FC	100.00
Eurodoc	France	349 617 084	FC	100.00	FC	100.00
Euriware SA	France	320 585 110	FC	100.00	FC	100.00
AT-Nutech	France	379 385 982	FC	100.00	FC	100.00
Sogéfibre, 78180 Montigny-le-Bretonneux	France	351 543 004	FC	100.00	FC	100.00
Valfibre, 50700 Valognes	France	950 619 890	FC	99.90	FC	99.90
Le Bourneix (SMB), 78140 Vélizy-Villacoublay	France	323 097 899	FC	100.00	FC	100.00
COGEMA Australia, Sydney, NSW 2000	Australia		FC	100.00	FC	100.00
Mineraus	Australia		FC	100.00	FC	100.00
Sytech, 78190 Trappes	France	383 323 805	Deconsolidated		FC	59.99
Eurisys Corporation (COGEMA Services)	United States		FC	100.00	FC	100.00
COGEMA Engineering	United States		FC	100.00	FC	100.00
NHC, 20814 Bethesda Maryland	United States		FC	100.00	FC	100.00
Socodei, 95613 Eragny-sur-Oise	France	380 303 107	EM	49.00	EM	49.00
Mécagest	France	350 357 596	FC	100.00	FC	100.00
Mécachimie	France	304 864 036	FC	100.00	FC	100.00
Mainco	France	350 130 167	FC	100.00	FC	100.00
Gie Commox	France	331 102 624	FC	100.00	FC	100.00
Lemaréchal	France	323 266 460	FC	100.00	FC	100.00
Canberra CO (Aptec Instruments Ltd)	Canada		FC	100.00	FC	100.00
Canberra Dover Inc.	United States		FC	100.00	FC	100.00
Canberra Eurisys SA	France	384 449 773	FC	100.00	FC	100.00
Assystem group	France	323 158 709	Deconsolidated		EM	38.55
Maintenance Eurisys Mesures (MEM) Canberra Maintenance	France	322 522 681	FC	99.98	FC	99.98
Groupe Euriware	France	378 566 343	FC	100.00	FC	100.00
Euriware Group (services)	France	318 132 040	FC	100.00	FC	100.00
DGI 2000	France	331 813 378	FC	100.00		
Ifatec	France	321 833 444		Merger	FC	99.90

Company name, Legal form, Corporate office	Country	Business reg. no.	2003 Method	2003 % Interest	2002 Method	2002 % Interest
Comurhex, 78140 Vélizy-Villacoublay	France	712 007 962	FC	100.00	FC	100.00
COGEMA Logistics (Transnucléaire)	France	602.039.299	FC	100.00	FC	100.00
Transnuclear US (undergoing consolidation)	United States		FC	100.00	FC	100.00
Transnuclear LTD (TN Tokyo)	Japan		FC	100.00	-	-
Cominak, Niamey	Niger		EM	34.00	EM	34.00
Cominor	France	422 123 984	FC	100.00	FC	100.00
AMC	Sudan		EM	40.00	EM	40.00
CMA	Côte d'Ivoire		FC	90.00	FC	90.00
SMI	Côte d'Ivoire		FC	51.00	FC	51.00
Somaïr, Niamey	Niger		FC	63.40	FC	63.40
COGEMA Germany	Germany		FC	100.00	FC	100.00
Urangesellschaft, 60486 Frankfurt	Germany		FC	100.00	FC	100.00
Urangesellschaft USA	United States		FC	100.00	FC	100.00
Mines de Jouac (SMJ) 78140 Vélizy Villacoublay	France	303 697 924	FC	100.00	FC	100.00
Compagnie Française de Mines et Métaux CFMN, 78140 Vélizy-Villacoublay	France	300 574 894	FC	100.00	FC	100.00
COGEMA Minerals Corporation (CoMin), 82604 Mills NY	United States		FC	100.00	FC	100.00
PEA Consulting (formerly Eurisys Consulting)	France	592 029 128	FC	100.00	FC	99.90
Geraco	France	432 125 664	FC	100.00	FC	100.00
Canberra Industries US	United States		FC	100.00	FC	100.00
CNSV	Belgium		FC	100.00	FC	100.00
Canberra Harwell	United Kingdom		FC	100.00	FC	100.00
Canberra Aquilla	United States		FC	100.00	FC	100.00
MCS	United States		FC	55.00	FC	55.00
Canberra Oak Ridge	United States		FC	100.00	FC	100.00
Canberra Japan	Japan		FC	100.00	FC	100.00
Canberra Inc.	United States		FC	100.00	FC	100.00
Canberra Eurisys Benelux	Belgium		FC	100.00	FC	100.00
Canberra Eurisys GmbH	Germany		FC	100.00	FC	100.00
Technicatome						
Technicatome SA - 91190 Gif-sur-Yvette	France	772 045 879	FC	83.58	FC	83.58
01DB Italia	Italy		PC	37.21	PC	37.21
01DB Brazil	Brazil		PC	46.15	PC	30.89
01DBINC	United States		PC	37.21	PC	37.21
Aesse	Italy		PC	37.21	PC	37.21
Corys Tess 38000 Grenoble	France	413 851 924	EM	28.43	EM	28.43
CVI	France	384 787 958		Merger	FC	74.43
Elta	France	388 919 177	FC	55.15	FC	83.58
Helion	France	435 050 737	FC	83.58	FC	83.07
Axilya, 13590 Mereuil	France	380 094 235	FC	83.58	FC	83.58
Isis Mpp - 31084 Toulouse	France	325 517 621	FC	71.64	FC	83.58
M.V.I Technologies - 69670 Limonest	France	332 087 949	FC	74.43	FC	74.43
Metravib - 69670 Limonest	France	409 869 708	FC	74.39	FC	74.41
01BD S'tell	France	344 830 179		Merger	FC	74.43
Principia RD - 83507 La Seine-sur-Mer	France	320 786 171	PC	20.89	PC	20.90
Principia Marine	France	384 408 993	PC	10.66	PC	10.66
SCS	Italy			sold	PC	37.21
Technoplus Industries -13170 Les Pennes Mirabeau	France	338 296 478	FC	83.58	FC	83.58
RJH	France	448 727 859	FC	69.00	-	-

Company name, Legal form, Corporate office	Country	Business reg. no.	2003 Method	2003 % Interest	2002 Method	2002 % Interest
Open Cascade	France	420 919 805	PC	20.90	-	-
O1db GmbH	Germany		FC	48.37	-	-
Cortex	Germany		FC	74.43	-	-
FCI						
FCI Berg Asia Pte Ltd - Singapore 089315	Singapore		FC	100.00	FC	100.00
FCI Connectors Australia Pty Ltd - Smithfield NSW	Australia		FC	100.00	FC	100.00
FCI Austria GmbH – 5230 Mattighoffen	Austria		FC	100.00	FC	100.00
FCI Deutschand GmbH - 65824 Schwalbach	Germany		FC	100.00	FC	100.00
FCI Americas Inc. - Manchester, NH 16831	United States		FC	100.00	FC	100.00
FCI Mechelen - 2800 Malines	Belgium		FC	100.00	FC	100.00
FCI Besançon SA-25000 Besançon	France	388 636 896	FC	99.95	FC	99.95
FCI Brasil Ltda - Sao Paulo CEP 04901	Brazil		FC	100.00	FC	100.00
Berg UK Limited, Dunstable	United Kingdom		FC	100.00	FC	100.00
FCI Canada Inc. – Scarborough Ontario M1P 2G9	Canada		FC	100.00	FC	100.00
FCI Schweiz AG – 6340 Baar	Switzerland		FC	100.00	FC	99.25
FCI Quigdao Co Ltd Shangdong 266101 PRC	China		FC	100.00	FC	100.00
FCI Hertogenbosch BV - 5222 AV's Hertogenbosch	Netherlands		FC	100.00	FC	100.00
FCI Dominican Republic Inc. - Santiago de Los Caballeros Dominican Republic			Disposal	FC	100.00	
FCI Automotive Deutschland GmbH - 90411 Nuremberg	Germany		FC	100.00	FC	100.00
FCI Connectors España SA - 08635 San Esteve de Sesrovires	Spain		FC	100.00	FC	100.00
FCI France SA - 78000 Versailles	France	552 056 533	FC	99.95	FC	99.95
FCI SA -75009 Paris	France	349 566 240	FC	100.00	FC	100.00
FCI Automotive France SA – 28230 Epernon	France	775 678 980	FC	99.95	FC	99.95
FCI Trésorerie SA - 78000 Versailles	France	393 476 783	FC	100.00	FC	100.00
FCI Europe – 78000 Versailles	France	421 188 426	FC	100.00	-	-
FCI Finland OY - 02270 Espoo	Finland		FC	100.00	FC	100.00
FCI Hong Kong Ltd, Tsim Sha Tsui Road, Kowloon	China		FC	100.00	FC	100.00
FCI Holding (Europe) BV, 5222 AV's Hertogenbosch	Netherlands		FC	100.00	FC	100.00
FCI Hungary KFT - 2800 Tatabanya	Hungary		FC	100.00	FC	100.00
FCI Korea Ltd - Ichon-Kun, Kyungju-si	South Korea		FC	100.00	FC	100.00
FCI Ireland BV - 5222 AV's Hertogenbosch	Netherlands		FC	100.00	FC	100.00
FCI Italia SpA - 10156 Torino	Italy		FC	100.00	FC	100.00
FCI Technology & Services Ltd, Cochin, Kerala	India		FC	100.00	FC	100.00
FCI Japan KK - Shinagawa-ku Tokyo 140	Japan		FC	93.6	FC	93.60
FCI Katrineholm AB – 64122 Katrineholm	Sweden		FC	100.00	FC	100.00
FCI Connectors UK Ltd - Dunstable	United Kingdom		FC	100.00	FC	100.00
Société Rhénane de Participations SA - 78000 Versailles	France	318 099 306	FC	99.95	FC	99.95
FCI Belgium NV – 2800 Mechelen	Belgium		FC	100.00	FC	100.00
Morocco Connectors International Tangier	Morocco			Disposal	FC	100.00
FCI Electrique France SA –27000 Evreux	France	775 596 679	FC	100.00	FC	100.00
FCI Microconnections SA – 78200 Mantes-la-Jolie	France	335 187 696	FC	99.95	FC	99.95
Framatome Connectors Mexico SA de CV - Toluca, Estado de Mexico C.P 50200	Mexico		FC	100.00	FC	100.00
FCI Electronics Mexico S de RL de CV - Chihuahua, Mexico	Mexico		FC	100.00	FC	100.00
FCI Connectors Malaysia Sdn Bhd – 47400 Petaling Jaya, Selangor	Malaysia		FC	100.00	FC	100.00
FCI Nantong Ltd - Jiangsu, PRC 22630	China		FC	100.00	FC	100.00
FCI Nederland BV - 2908 LJ Capelle A/D Ijssel	Netherlands		FC	100.00	FC	100.00
FCI OEN Connectors Ltd - 682 019 Vyttila, Cochin	India		FC	62.84	FC	62.84

Company name, Legal form, Corporate office	Country	Business reg. no.	2003 Method	2003 % Interest	2002 Method	2002 % Interest
FCI Asia Technology Pte Ltd - Singapore 089315	Singapore		FC	100.00	FC	100.00
FCI Pontarlier SA - 78000 Versailles	France	383 703 808	FC	100.00	FC	100.00
FCI PRC Ltd Tsimshatsui Kowloon Hong Kong	China		FC	100.00	FC	100.00
FCI Scotland Ltd - Glasgow G33 4JD	United Kingdom		FC	100.00	FC	100.00
FCI Singapore Pte Ltd – Singapore 089315	Singapore		FC	100.00	FC	100.00
FCI Donguuan Co. Ltd - Shatia Town, Donguuan Municipality	China		FC	100.00	FC	100.00
FCI Americas Special Purpose Vehicles - Manchester, NH 03301	United States		FC	100.00	FC	100.00
FCI Connectors Sweden AB ?? S-10074 Stockholm	Sweden		FC	100.00	FC	100.00
FCI Taiwan Ltd, Chungli - Taoyuan, Taiwan	Thailand		FC	100.00	FC	100.00
Technocontact SA – 78000 Versailles	France	712 052 364		Disposal	FC	99.95
FCI Americas Technology Inc., Manchester, NH 16830	United States		FC	100.00	FC	100.00
Framatome Connectors UK Ltd - LU5 4TS Dunstable Bedfordshire	United Kingdom		FC	100.00	FC	100.00
FCI USA Inc. Etters (Valley Green) PA 17319	United States		FC	100.00	FC	100.00
FCI Americas International Holding Inc. Etters, Pennsylvania	United States		FC	100.00	FC	100.00
FCI Americas Holding Inc. - Manchester, NH 1630	United States			Disposal	FC	100.00
STMicroelectronics						
STMicroelectronics	Netherlands		EM	11.00	EM	11.03
STMicroelectronics Holding BV	Netherlands		EM	30.99	EM	30.99
STMicroelectronics Holding II BV	Netherlands		EM	30.99	EM	30.99
Holding companies and other						
AREVA SA 75009 Paris	France	712 054 923	FC	100	FC	100.00
STMI	France	672 008 489	FC	67.06	FC	67.06
Cilas	France	669 802 167	EM	37	EM	37.00
Sofradir	France	334 835 709	EM	20	EM	20.00
Polinorsud	France	343 008 231	FC	67.06	FC	67.06
MSIS	France	327 492 336	FC	67.06	FC	67.06
GADS	France	420 952 194	FC	67.06	FC	67.06
RTC	France	331 055 947	FC	67.06	FC	67.06
ESI	France	400 013 629	FC	53.65	FC	53.65
Stmilog	France	388 398 059	FC	67.06	FC	67.06
Trihom	France	378 649 040	FC	44.26	FC	44.26
Gamma Assistance	France	350 322 293	FC	67.06	FC	67.06
Cedec, 75015 Paris	France	394 329 841	FC	90.14	FC	90.14
Eramet	France	632 045 381	EM	26.50	EM	26.28
Melox 78140 Vélizy-Villacoublay	France	378 783 237	FC	100.00	FC	100.00
Cogerap	France	328 171 004	FC	100.00	FC	100.00
FT1CI	France	385 129 036	FC	63.77	FC	63.77
Cere SA - 92400 Courbevoie	France	330 956 871	FC	100.00	FC	100.00
Fipt SA - 92400 Courbevoie	France	351 737 051	FC	100.00	FC	99.00
Packinox SA - 92400 Courbevoie	France	333 914 760		Deconsolidated	FC	100.00
Framapar SA- 92400 Courbevoie	France	410 343 669	FC	100.00	FC	100.00
Secori SA - 92400 Courbevoie	France	328 740 550		Merger	FC	99.76
Teknassur – Luxembourg	Luxembourg		FC	100.00	FC	100.00
Frarea - 92400 Courbevoie	France	381 484 955	FC	100.00	FC	100.00
Sepi SA - 1211 Genève	Switzerland		FC	100.00	FC	100.00
AREVA Inc.	United States		FC	100.00	-	-
AREVA Japan	Japan		FC	100.00	-	-
AREVA Korea	South Korea		FC	100.00	-	-

≫ 5.6. AREVA SA financial statements

5.6.1. Auditors' general report on the financial statements - Year ended, 31 December 2003

This is a free translation into English of the original Statutory Auditors' report signed and issued in the French language and is provided solely for the convenience of English speaking readers. The Statutory Auditors' report includes for the information of the reader, as required under French law in any auditor's report, whether qualified or not, an explanatory paragraph separate from and presented below the audit opinion discussing the auditor's assessments of certain significant accounting and auditing matters. These assessments were considered for the purpose of issuing the audit opinion on the financial statements of the parent company only taken as a whole and not to provide separate assurance on individual account caption or on information taken outside of the financial statements. Such report should be read in conjunction and construed in accordance with French law and French auditing professional standards.

In accordance with our appointment as Statutory Auditors by your Annual General Meeting, we hereby report to you, for the year ended 31 December 2003, on:

- the audit of the accompanying financial statements of AREVA,
- the specific verifications and disclosures required by law.

These financial statements have been approved by the Executive Board. Our responsibility is to express an opinion on these financial statements based on our audit.

Opinion on the financial statements

We conducted our audit in accordance with professional standards applicable in France. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statements presentation. We believe that our audit provides a reasonable basis for our opinion.

In our opinion, the financial statements give a true and fair view of the company's financial position and of its assets and liabilities as of 31 December 2003, and of the results of its operations for the year then ended in accordance with rules and accounting principles generally accepted in France.

Justification of our assessments

Pursuant to the provisions of aArticle L. 225-235 of the French Commercial Code (*Code de Commerce*) governing the justification of our assessments, as introduced by the French Financial Security Act (*Loi sur la Sécurité Financière*) of August 1, 2003, which apply for the first time this year, we draw your attention to the following:

Participating interests were measured in accordance with the accounting methods described in the note entitled "Accounting principles, rules and methods – Long-term notes and investments" in the notes to the financial statements. As part of our procedures, we reviewed the appropriateness of these accounting methods and the assumptions adopted, as well as the resulting valuations.

The assessments of these items were performed as part of our audit approach for the annual financial statements taken as a whole and contributed to the expression of the unqualified opinion in the first part of this report.

Specific verifications and disclosures

We have also performed the specific verifications required by law, in accordance with professional standards applicable in France.

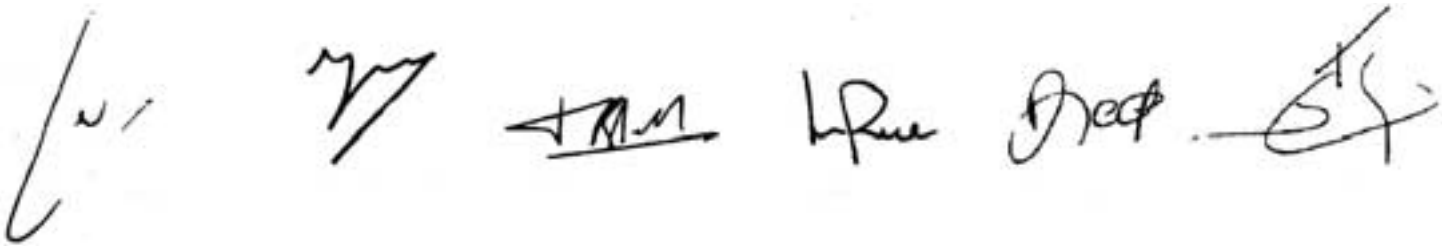
We have no comment to make as to the fair presentation and consistency with the financial statements of the information given in the Executive Board's Management Report and in the documents addressed to the shareholders with respect to the financial position and financial statements.

In accordance with the law, we have verified that the Management Report contains the appropriate disclosures as to the acquisition of shares and controlling interests and to the identity of the principal shareholders in terms of capital and voting rights.

Paris, March 17, 2004

The Statutory Auditors

Deloitte Touche Tohmatsu		**Mazars & Guerard**		**RSM Salustro Reydel**	
Pascal Colin	Jean-Paul Picard	Thierry Blanchetier	Michel Rosse	Denis Marangé	Hubert Luneau



5.6.2. Balance sheet

ASSETS

(in thousands of euros)	Notes	2003 Gross	2003 Depreciation, amortization and provisions	2003 Net	2002 Net
Fixed assets					
Intangible assets	5.7.4.1.	1,287	452	835	165
Tangible assets	5.7.4.2.	41,048	18,454	22,594	21,702
Long-term notes and investments	5.7.4.3.	4,989,359	2,188,023	2,801,336	1,830,133
Total fixed assets		5,031,694	2,206,929	2,824,765	1,852,000
Working capital					
Inventories and in-process					
Advances and prepayments on orders	5.7.4.4.	281		281	55
Accounts receivable and related accounts	5.7.4.4.	37,476	140	37,336	64,720
Other accounts receivable	5.7.4.4.	207,010	32,109	174,901	368,623
Investment securities	5.7.2.6	216,547		216,547	361,329
Cash and marketable securities	5.7.4.6.	1,281,437		1,281,437	1,655,926
Total working capital		1,742,751	32,249	1,710,502	2,450,653
Prepaid expenses	5.7.4.5.	1,390		1,390	122
Unrealized foreign exchange gains		51		51	150
Total assets		**6,775,886**	**2,239,178**	**4,536,708**	**4,302,925**

LIABILITIES AND SHAREHOLDERS' EQUITY

(in thousands of euros)	Notes	2003	2002
Shareholders' equity			
Share capital	5.7.4.8.	1,346,823	1,346,823
Share premiums	5.7.4.9.	328,289	331,803
Reserves and retained earnings	5.7.4.9.	204,489	144,389
Net income	5.7.4.9.	372,444	216,230
Regulated provisions	5.7.4.9.	1,561	1,708
Total shareholders' equity		2,253,606	2,040,953
Other shareholders' equity			
Perpetual subordinated debt	5.7.4.10.	212,647	212,647
Total - other shareholders' equity		212,647	212,647
Provisions for risk and liabilities			
Provisions for risk	5.7.4.11.	53,986	708,835
Provisions for liabilities	5.7.4.11.	65,980	64,565
Total provisions for risk and liabilities		119,966	773,400
Long-term debt			
Debt	5.7.4.12.	1,799,704	7,159
Advances and prepayments on orders received		0	0
Trade accounts payable and related accounts	5.7.4.12.	33,101	25,446
Other debt and liabilities	5.7.4.12.	117,653	1,242,562
Cash instruments	5.7.4.12.	24	58
Total debt		1,950,482	1,275,225
Unearned income			
Unrealized foreign exchange losses		7	700
Total liabilities and shareholders' equity		**4,536,708**	**4,302,925**

5.6.3. Income statement

(in thousands of euros)	Notes	2003	2002
Operating income			
Sales		36,046	73,133
Provisions recaptured		1,277	3,766
Operating costs charged out		110	113
Other income		264	124
Total operating income		37,697	77,136
Operating costs			
Income and other taxes		(4,249)	(11,269)
Payroll expense		(28,747)	(27,389)
Increases in amortization, depreciation and provisions		(2,310)	(3,640)
Other operating expenses		(531)	(464)
Total operating costs		(116,195)	(125,527)
Current operating income	5.7.5.1.	(78,498)	(48,391)
Financial income			
From participating interests		331,618	124,708
From other marketable securities and capitalized receivables		22	46,118
Other interest and related income		84,055	36,600
Currency translation gain		107,453	35,010
Net income from disposals of marketable securities		288,117	695,003
Provisions recaptured		683,761	11,959
Financial expenses charged out		1,302	2,099
Total financial income		1,496,328	951,497
Financial expense			
Interest and related expense		(45,354)	(65,830)
Currency translation loss		(103,847)	(34,510)
Net expense from disposals of marketable securities		0	0
Increases in provisions		(910,594)	(867,697)
Total financial expense		(1,059,795)	(968,037)
Net financial income	5.7.5.2.	436,533	(16,540)
Earnings before exceptional items and tax		358,035	(64,931)
Exceptional gains			
From operations		12	2
From capital or fixed asset transactions		35,270	357,216
Provisions recaptured		7,547	9,314
Total exceptional gains		42,829	366,532
Exceptional expenses			
From operations		(7,386)	(4,641)
From capital or fixed asset transactions		(15,077)	(58,948)
Increases in provisions		(62,523)	(4,120)
Total exceptional expenses		(84,986)	(67,709)
Exceptional income (loss)	5.7.3.3.	(42,157)	298,823
Employee profit-sharing			
Income tax	5.7.5.4.	56,566	(17,662)
Net income		**372,444**	**216,230**

5.6.4. Cash flow statement

(in thousands of euros)	2003	2002
Cash flow from operating activities		
Net income for the year	372	216
Net depreciation and amortization	2	2
Net provisions	251	847
Loss (gain) on disposals of fixed assets and investment securities	(284)	(989)
Cancellation of receivables and other non-cash income	(1)	(2)
Change in advances and prepayments on orders		4
Change in trade accounts receivable and other receivables	188	(89)
Change in trade accounts payable and other liabilities	(1,056)	97
Other	(25)	
Total cash flow from operating activities (i)	(553)	86
Cash flow from investing activities		
Investment in tangible and intangible assets	(5)	(6)
Net investment in long-term notes and investments	(1,872)	(6)
Disposals of tangible and intangible assets	2	217
Disposals of long-term notes and investments	7	140
Change in receivables and debt related to fixed assets	31	(60)
Other (decrease in long-term notes and investments)	8	2
Total cash flow from investing activities (i)	(1,829)	289
Cash flow from financing activities		
Decrease (increase) in share capital and related premiums	-	-
Dividends and tax on dividend tax credits	(220)	(220)
Change in debt	0	(4)
Total cash flow from financing activities (iii)	(220)	(223)
Change in net cash (i + ii + iii)	**(2,601)**	**152**
Before change in investment securities		
Change in investment securities	434	1,017
Increase (decrease) in net cash	(2,167)	1,168
Net cash at the beginning of the year (A)	**1,651**	**483**
Marketable securities at the beginning of the year		
Net cash at the end of the year (B)	**(517)**	**1,651**
Change in net cash (B – A)	**(2,167)**	**1,168**

≫ 5.7. Notes to the AREVA SA financial statements

The notes hereunder supplement the AREVA SA balance sheet, before net income allocation for the year ended December 31, 2003, totaling K€4,536,708, and the AREVA SA income statement, representing K€372,444 in net profit.

These statements are for the twelve-month period beginning January 1 and ending December 31, 2003.

These notes include:
- Highlights for the year;
- Accounting principles, rules and methods;
- Notes to the balance sheet;
- Notes to the income statement;
- Additional data.

These notes and tables are an integral component of the financial statements approved by AREVA's Supervisory Board.

5.7.1. Scope of business

AREVA is a services and financial holding company. Services provided include centralized cash management, consulting and support services, and insurance management for the group. AREVA also manages real estate assets, which it rents to group as well as non-group companies.

5.7.2. Highlights for the year

5.7.2.1. Acquisition of Alstom's Transmission & Distribution division

The AREVA group's strategy centers on the needs of our major customers: electric utilities. Our review of sectors important to their business led us to the conclusion that electricity transmission and distribution is essential to their success. This prompted our July 1, 2003 offer to acquire Alstom's Transmission and Distribution division (T&D), which had been on the market.

Since then, a series of blackouts in several major countries and firming up of demand for renovation of electric grid equipment have validated our decision. The T&D acquisition agreement was signed with Alstom on September 25, 2003 (See also 4.8, "Events subsequent to year-end").

The Transmission & Distribution business serves electric utilities, some of which are not currently AREVA group customers, and offers prospects in areas such as engineering, management and information systems, and high value-added services.

5.7.2.2. FCI recapitalization

On November 21, 2003, AREVA contributed €1.3 billion in new capital to FCI (the group's connectors division). The capital contribution was used entirely to repay FCI debt, which amounted to €1.8 billion at December 31, 2002.

The combination of the capital contribution and the sale of non-strategic assets was sufficient to reduce FCI's debt considerably.

5.7.2.3. Disposal of Packinox

Consistent with its policy of disposing of non-strategic assets, AREVA sold Packinox, which owns a proprietary heat exchange process used in the petrochemical industry, to its management team on December 17, 2003.

Based in Chalon-sur-Saône, France, the company employs approximately 130 people and recorded sales of €36 million in 2003 up to its divestment date.

5.7.3. Accounting principles, rules and methods

5.7.3.1. Rules and methods concerning balance sheets accounts

The financial statements of AREVA SA for the year ended December 31, 2003, were prepared in accordance with French accounting standards established in 1999 (*Plan Comptable Général*).

Change in format of the corporate financial statements

In light of AREVA's centralized cash management operations and the corresponding cash management agreements, non-trade current accounts are now considered as cash equivalents. Accordingly, non-trade current account assets (K€144,741) were reclassified from "Other accounts receivable" to "Cash and cash equivalents", while non-trade current account liabilities (K€1,796,737) were reclassified from "Other liabilities" to "Debt" in 2003.

Tangible and intangible assets

Tangible and intangible assets appear on the balance sheet at cost, except for assets that have been revalued in accordance with applicable accounting rules.

Depreciation of these assets is calculated under the most appropriate method for the asset category.

Off-the-shelf software is depreciated over three years or less. Buildings are depreciated over 25 years, building improvements and office furniture over ten years, and office equipment, computers and transportation equipment over five years.

In addition, each asset is subject to an individual depreciation schedule. A provision for write-down may also be recorded when a specific asset's book value exceeds its usage value.

Long-term notes and investments

Long-term notes and investments are recorded on the balance sheet at cost (i.e. acquisition price, or contributed value for contributed assets).

Equity investments are written down when their book value exceeds their usage value, which is determined security by security.

The provision for write-down is computed based on the group's interest in each affiliate's equity (or consolidated equity for parent companies) as of year-end. However, this evaluation also takes into account events or positions subsequent to year-end, when they are known before closing, as well as each affiliate's estimated profitability or market value.

Receivables and debt

Receivables and debt are recorded at book value. Provisions for write-down of receivables may be recorded to reflect potential collection difficulties based on information available at closing.

Receivables and debt in foreign currency are translated and recorded in euros based on exchange rates in effect at year-end.

Differences with previously booked unrealized losses and gains are recorded on the balance sheet as currency translation differences.

Receivables and debt in foreign currencies whose exchange rates have been hedged are recorded in euros based at the hedged rate.

Unrealized foreign exchange losses are recognized through a provision for risk.

Marketable securities

Marketable securities are recorded at the lowest of their cost or their end-of-period valuation. A provision for depreciation is recorded if the valuation of any class of securities as of the end of the period shows an overall loss. The end-of-period valuation is equal to the average closing market price of the securities for the last month of the period.

A provision for write-down of other cash investments, such as debt instruments that are not publicly traded, is recorded separately when warranted.

Other shareholders' equity

The gross amount of the perpetual subordinated bond issue is recorded as "Perpetual subordinated debt" and kept at its historic value.

The amount of the deposit deducted from this issue and paid to an investment firm is posted to the "Other long-term notes and investments" account. This deposit, recorded on the balance sheet at its book value on the date of the perpetual subordinated bond issue, can be recovered only under exceptional circumstances.

Provisions for risk and liabilities

Provisions for risk and liabilities may be recorded, in particular to cover restructuring and litigation expenses.

A provision for deferred tax liability has been recorded to recognize AREVA's use, as provided under tax consolidation rules (see 5.7.4.3), of deficits that French subsidiaries are entitled to apply against future profits.

AREVA's provisions for risk and liabilities are consistent with CRC (Committee on accounting regulations) rules on liabilities dated December 7, 2000 (CRC 2000-06).

Pension commitments

The financial statements reflect all of AREVA's pension, retirement and similar benefit commitments, both for its current personnel and for its retirees.

For defined contribution plans, payments by the group are recorded as expenses for the period to which they relate.

For defined benefit plans, benefit costs are estimated using the projected credit unit method. Under this method, accrued pension benefits are allocated among service periods based on the plan vesting formula. If subsequent year service results in accrued benefit levels that are substantially higher than for previous years, the company must allocate the accrued benefits on a straight-line basis.

The amount of future benefit payments to employees is determined based on salary trend assumptions, retirement age and mortality, discounted to present value based on interest rates for long-term bonds from AAA issuers.

The discount is spread out over the average expected remaining working life of personnel taking part in these plans for the portion exceeding the largest of the following values by more than 10 %:

- present value of the commitment on the end-of-period date for benefits determined as of the end of said period,
- fair value for plan assets on the end-of-period date.

The costs of plan changes are spread out over the vesting period.

5.7.3.2. Cash flow statement

AREVA uses the “indirect method” for presenting cash flows from operating activities.

Cash is composed of cash and cash equivalents, available bank balances, short-term investments maturing in less than three months and current accounts.

Acquisitions or (disposals) of marketable securities maturing in more than three months correspond more to cash management decisions than to an AREVA investment strategy. They are therefore reflected as an (increase) or decrease in cash and cash equivalents, which determines the net change in cash position, rather than being included in the cash flow from investing activities.

5.7.3.3. Additional data

In 1983, AREVA received regulatory approval to submit a consolidated tax return under article 209-5 of the French tax code. That approval has been renewed for fiscal years 2002 through 2004.

Under the rules governing consolidated tax returns, the tax burden is computed based on the group's consolidated taxable income rather than on taxable income reported by AREVA SA.

AREVA has also elected to submit to the provisions of article 223A et seq. of the French tax code concerning tax integration. The provisions of the tax integration agreements signed between AREVA and its tax-integrated subsidiaries are subject to ordinary law.

5.7.4. Notes to the balance sheet

5.7.4.1. Intangible assets

Gross values

Intangible assets *(in thousands of euros)*	12/31/2002	Increase	Decrease	12/31/2003
Softwares	427	840	0	1,267
Advances and prepayments on fixed assets	20	0	0	20
Total	**447**	**840**	**0**	**1,287**

Depreciation, amortization and provisions

Intangible assets *(in thousands of euros)*	12/31/2002	Increase	Decrease	12/31/2003
Softwares	282	170	0	452
Total	**282**	**170**	**0**	**452**

5.7.4.2. Tangible assets

Gross values

Tangible assets *(in thousands of euros)*	12/31/2002	Increase	Decrease	12/31/2003
Tangible assets	3,021	0	1,359	1,662
Buildings	30,712	134	486	30,360
Production facilities, equipment and tooling	524	0	0	524
Other assets				
- general facilities, fixtures, etc.	2,961	1,235	0	4,196
- transportation equipment	39	82	0	121
- office and computer equipment	374	250	0	624
- office furniture	1,142	377	9	1,510
Assets in progress	41	2,051	41	2,051
Advances and prepayments on fixed assets	0	0	0	0
Total	**38,814**	**4,129**	**1,895**	**41,048**

Depreciation, amortization and provisions

Tangible assets *(in thousands of euros)*	12/31/2002	Increase	Decrease	12/31/2003
Land improvements	227	0	58	169
Buildings	15,385	1,265	479	16,171
Production facilities, equipment & tooling	476	13	1	488
Other assets				
- general facilities, fixtures, etc.	792	330	0	1,122
- transportation equipment	12	21	0	33
- office and computer equipment	103	131	3	231
- office furniture	117	132	9	240
Total	**17,112**	**1,892**	**550**	**18,454**

5.7.4.3. Long-term notes and investments

Gross values

Long-term notes and investments *(in thousands of euros)*	12/31/2002	Increase	Decrease	12/31/2003
Participating interests	2,931,498	1,330,719	13,325	4,248,892
Receivables related to participating interests	2,125	414,685	3,023	413,787
Long-term financial portfolio	0	0	0	0
Other long-term securities	8,089	0	39	8,050
Loans	56,623	0	4	56,619
Other long-term notes and investments	115,008	152,576	5,573	262,011
Total	**3,113,343**	**1,897,980**	**21,964**	**4,989,359**

"Participating interests" are essentially comprised of the following:

- Cere : K€251,541,
- COGEMA : K€703,929,
- Eramet : K€291,693,
- FCI : K€2,505,872,
- Framatome ANP : K€277,638.

The following increases were recorded in 2003: capital contribution to FCI (K€1,300,000), Frarea's absorption of and merger with Secori (K€26,260), and a stock dividend from Eramet (K€3,291).

The following decreases were recorded in 2003: book value of Packinox shares sold; book value of Secori shares held before its merger with Frarea.

"Accounts receivable related to participating interests" concern medium-term loans made to certain group companies, i.e.:
- K$259,262 and K€80,000 to FCI,
- K$110,000 to COGEMA, Inc.,
- K€20,000 to COGEMA Logistics.

"Loans" include K€51,096 in principal lent to Creusot Loire (a company being currently liquidated) and interest on same in the amount of K€5,433. A provision for write-off covers both amounts in full.

"Other long-term notes and investments" mainly include:
- K€150,000 corresponding to an advance paid on the acquisition of a participating interest in ETC, a Urenco subsidiary;
- K€64,717, corresponding to the amount of the deposit paid to an investment firm (K$76,085) out of proceeds from a perpetual subordinated bond issue (see 5.7.4.10). This deposit, which can be recovered only under exceptional circumstances, is recorded on the balance sheet at the rate of exchange in effect on the date of the perpetual bond issue ($1 = €0.85059).
- K€45,655, corresponding to non-deductible interest on the perpetual subordinated bonds.

Depreciation, amortization and provisions

Long-term notes and investments	12/31/2002	Increase	Decrease	12/31/2003
Participating interests	1,221,289	907,573	2,755	2,126,107
Receivables related to participating interests	1,936	0	0	1,936
Long-term financial portfolio	0	0	0	0
Other long-term securities	3,456	0	6	3,450
Loans	56,529	0	0	56,529
Other long-term notes and investments				
Total	**1,283,210**	**907,573**	**2,761**	**2,188,022**

The provisions for depreciation of "Participating interests" reflect a provision increase (K€905,797) to reconcile the book value of AREVA's interest in FCI with the latter's consolidated equity, and a provision recapture (K€2,755) subsequent to the disposal of Packinox. The additional provision for FCI was partially offset by the recapture (K€681,000) of a provision for risk, for a net additional 2003 provision of K€224,797.

5.7.4.4. Working capital items (excluding cash and marketable securities)

	At 12/31/2003	At 12/31/2002
Advances and prepayments on orders	281	55
Trade accounts receivable and related accounts	37,476	64,860
Provision for depreciation of trade accounts receivable	(140)	(140)
Non-trade current accounts (see note 1.1.1)	-	220,938
Miscellaneous accounts receivable	207,010	150,088
Provisions for other accounts receivable	(32,109)	(2,403)
Total	**212,518**	**433,398**

Miscellaneous accounts receivable include the following items:
- Consolidated income tax receivable: K€134,851;
- Outstanding balance on SOVAKLE disposal proceeds: K€30,513;
- Accrued receivable in lieu of tax to be received from tax-integrated subsidiaries: K€7,504;
- Accrued dividends from SEPI: K€6,413.

5.7.4.5. Loan and receivable maturities at year-end

(in thousands of euros)	Gross book value	Maturing in less than one year	Maturing in one year or more
Long-term assets:			
- Receivables related to participating interests	413,787	288,466	125,321
- Loans and other long-term notes and investments	318,630	208,258	110,372
Working capital assets:			
- Trade accounts receivable and related accounts	37,476	37,476	
- Miscellaneous accounts receivable	207,010	207,010	
- Prepaid expenses	1,390	1,390	
Total	**978,293**	**742,600**	**235,693**

5.7.4.6. Cash and securities

(in thousands of euros)	At 12/31/2003	At 12/31/2002
Securities - equities (gross book value)	216,547	361,478
Securities - equities (depreciation)	0	(149)
Other marketable securities (gross book value)	1,132,280	1,653,249
Other marketable securities (depreciation)	0	0
Cash instruments	19	0
Cash and cash equivalents (see note 1.1.1)	149,138	2,677
Total	**1,497,984**	**2,017,255**

Marketable securities, comprised mainly of debt securities and Total shares, represented K€1,348,846 as of December 31, 2003.

Unrealized gains on mutual fund investments and marketable securities represented K€164,237.

5.7.4.7. Accrued income

Accrued income connected with loans and receivables was as follows:

(in thousands of euros)	Amount
Long-term notes and investments	
- Receivables related to participating interests	1,487
- Loans	5,433
Trade accounts receivable and related accounts	11,875
Other receivables (excluding taxes and social security taxes)	6,490
Taxes and social security taxes – other receivables	134,851
Non-trade current accounts	47
Marketable securities	10,280
Total	**170,463**

5.7.4.8. Share capital

Composition at 12/31/2003:

- Shares: 34,013,593;
- Investment certificates: 1,429,108;
- Par value of share and investment certificate: €38.

There was no change during the year.

5.7.4.9. Other shareholders' equity

Shareholders' equity excluding share capital

	12/31/2002	Increase	Decrease	12/31/2003
Merger premium	187,871		3,514	184,357
Consolidation goodwill	143,932			143,932
Legal reserve	134,682			134,682
Regulated reserves	6,405			6,405
Permanent reserves	3,302			3,302
Retained earnings	0	60,100		60,100
Net income for the year	216,230	372,444	216,230	372,444
Regulated provisions	1,708	218	365	1,561
Total	**694,130**	**432,762**	**220,109**	**906,783**

The increase in retained earnings corresponds to the reclassification of a residual tax due on distributed dividend tax credits previously recorded under "Tax debt". The tax debt was eliminated due to a change in the tax calculation method.

Allocation of 2002 net income (Ordinary General Meeting of Shareholders - May 12, 2003):

- Distribution of 2002 net income in its entirety: K€216,230;
- Supplemental, partial distribution of the merger premium: K€3,515;
- Total distribution: K€219,745.

5.7.4.10. Perpetual subordinated debt

Framatome S.A. issued 250 perpetual subordinated bonds with a nominal value of $1,000,000 on November 15, 1991, which were subscribed directly by financial institutions. These bonds are redeemable only in the event that the company is liquidated, after other creditors have been fully compensated. However, the issuer has reserved the right to redeem all or part of the bonds in the event of extraordinary circumstances beyond its control during the first fifteen years.

This perpetual subordinated bonds, valued at the exchange rate in effect on the date of issuance ($1 = €0.85059), are recorded on the balance sheet as "Perpetual subordinated debt". The bonds are recorded at the historical book value, as the group does not incur any foreign exchange risk on the transaction.

The securities coupons, payable in perpetuity on a semi-annual basis, are equivalent to the 6-month Libor rate plus 0.70%. A $76,085,000 deposit was deducted from proceeds from the issue and paid to an investment firm. It is recorded under "Other long-term financial assets". In consideration for this deposit, the investment firm will pay AREVA, as of the sixteenth year following the perpetual subordinated bonds date of issue, interest equal to the interest due by AREVA to the holders of the perpetual subordinated bonds after fifteen years. This deposit is valued at the rate of exchange in effect on the perpetual subordinated bond issue date ($1 = €0.85059) and is not reimbursable, except in the event of extraordinary circumstances.

5.7.4.11. Provisions for risk and liabilities

	12/31/2002	Increase	Decrease	12/31/2003
Provisions for risk	**708,835**	**28,316**	**683,165**	**53,986**
Litigation	221	20,552		20,773
Fines and penalties	21			21
Foreign exchange loss	149	1,251	149	1,251
Framépargne guarantee	12,247	2,066		14,313
FCI risk	681,000		681,000	0
Other risk	15,197	4,447	2,016	17,628
Provisions for liabilities	**64,565**	**8,069**	**6,654**	**65,980**
Framatome employment plan	1,277		1,277	0
Pension commitments	1,421	248		1,669
Tax use of subsidiaries' losses	34,505	7,579		42,084
Ship ownership interests	21,985	242		22,227
Other expenses	5,377		5,377	0
Total	**773,400**	**36,385**	**689,819**	**119,966**
Including provision increases and recaptures:				
- operation		*248*	*1,276*	
- financial transactions		*3,318*	*681,149*	
- exceptional items		*32,819*	*7,394*	

Following AREVA's capital contribution to FCI, the provision for risk on FCI was recaptured and the provision on FCI shares was adjusted as appropriate (see 5.7.4.3).

The provisions for liabilities (K€42,084) largely include a deferred liability related to AREVA's use of certain of its subsidiaries' tax losses in the consolidated tax return.

5.7.4.12. Debt maturity at year-end

	Amount	Maturing in one year or less	Maturing in one year to five years	Maturing in more than five years
Loans from financial institutions	1,400	1,400		
Miscellaneous loans and debt	1,798,304	1,797,464	840	
Trade accounts payable and related accounts	33,101	33,101		
Accounts payable to fixed assets suppliers	1,885	1,885		
Income and social security taxes	29,618	29,618		
Miscellaneous debt	86,150	86,150		
Cash instruments	24	24		
Total	**1,950,482**	**1,949,642**	**840**	**0**

Loans from financial institutions correspond to bank account liabilities.

Miscellaneous loans and debt correspond mostly to non-trade current accounts including cash advances made to or received from subsidiaries under certain cash management agreements. Also included are deposits and collateral received.

Miscellaneous debt includes K€78,869 corresponding to debt related to current accounts for tax integration.

5.7.4.13. Accrued expenses

Accrued expenses related to debt accounts are as follows:

	Amount
Debt	
- Loans from financial institutions	0
- Miscellaneous loans and debt	754
Other debt	
- Trade accounts payable and related accounts	27,497
- Accounts payable to fixed assets suppliers	1,805
- Income and social security taxes	7,426
- Miscellaneous debt	712
Total	**38,194**

5.7.5. Notes to the income statement

5.7.5.1. Current operating income

Reported sales include:

- proceeds from real estate operations (K€4,718),
- charge allocations to subsidiaries corresponding to services, personnel expenses and insurance (K€31,328).

Operating expenses reflect services provided to subsidiaries under various service agreements. The AREVA corporate operating loss thus came to K€78,498.

5.7.5.2. Financial income

Financial income mainly includes the following:

- dividends received from subsidiaries (K€331,618),
- net gains from disposals of Total shares (K€288,429),
- income from cash and marketable securities, non-trade current accounts and loans to subsidiaries, and income from Total shares (K€84,055)
- recapture of provisions on financial assets (K€683,761), including K€681,000 for FCI (see 5.7.4.11).

Financial expenses include interest expenses on non-trade current accounts with subsidiaries (K€33,438).

Depreciation and provisions mainly concern financial investments, including K€905,797 in provisions for write-down of AREVA's participating interest in FCI (see 5.7.4.3).

Financial income and expenses also include positive and negative foreign exchange variations, for a net positive impact of K€3,606.

5.7.5.3. Exceptional items

Exceptional items include:

- gain on the Frarea/Secori merger: K€24,736,
- loss on disposal of Packinox shares, with a net impact of K€(4,855), excluding recapture of the provision for write-down of the shares,
- provision expense for exceptional risk: K€(19,805),
- provision expense for write down of other receivables: K€(29,704),
- provision expense for deferred taxes (consolidated tax return): K€(7,579).

5.7.5.4. Income tax

AREVA's income tax position for 2003, determined in accordance with the rules specific to tax consolidation, generated a K€56,567 revenue. This includes tax revenue for 2003, adjustments to the tax expense reported for 2002, and taxes paid by subsidiaries integrated into AREVA for tax purposes.

The tax revenue calculated for 2003 is summarized as follows:

Income tax refund on 2003 net income (consolidated tax return)	46,169
Decrease in income tax on 2002 tax return (consolidated tax return)	235
Additional 2003 contributions (tax integration system)	(16,395)
2003 tax to be collected from integrated subsidiaries	28,832
Adjustments to 2002 income tax (tax integration system)	(2,274)
Total	**56,567**

Following AREVA's tax election, the AREVA integrated tax group subject to the provisions of articles 223A et seq. of the French tax code include the following companies: AREVAdelfi, AREVA Finances, AREVA Participations, AT Nutech, Canberra Eurisys, Cere, CFM, COGEMA, Cogerap, Cominor, Comurhex, Ets Pierre Mengin, Euriware, Eurodoc, FCI, FCI Automotive, FCI Besançon, FCI Electrique France, FCI Finances, FCI France, FCI Microconnections, FCI Participations, FCI Pontarlier, FCI Trésorerie, FIPT, Fracere, Framapar, Frarea, Gemma, Groupe Euriware, Krebs et Cie, Le Maréchal, Mainco, Mécachimie, Mecagest, SAO, SGGM, SGN, SICN, Simebio, SIMO, Tasys, Technocontact, Cogema Logistics.

The tax administration is conducting an audit of consolidated income reported by the AREVA group for 2000 and 2001. AREVA has received notice of its revised tax liability for 2000. The total impact of these adjustments is reflected in the financial statements as of December 31, 2003.

5.7.6. Other data

5.7.6.1. Employees

The company employed 197 people on December 31, 2003, as indicated in the following table:

	2003	2002	2001
Managerial personnel	131	126	76
Supervisors	22	14	16
Support staff	44	49	16
Total	**197**	**189**	**108**

5.7.6.2. Information on lease arrangements

Fixed asset leasing arrangements

(in thousands of euros)		Increases in depreciation		
Asset class	Acquisition cost	Current year	Since inception	Net book value
Land	625	31	506	88
Buildings	15,336	767	12,396	2,173
Total	**15,961**	**798**	**12,902**	**2,261**

Fixed asset leasing arrangements

(in thousands of euros)	Lease payments made as of 12/31		Lease payments remaining				
Asset class	Current year	Since inception	< 1 year	1 to 5 years	> 5 years	Total	Residual purchase price
Land	40	795	40	104	0	144	0
Buildings	993	19,492	983	2,559	0	3,542	0
Total	**1,033**	**20,287**	**1,023**	**2,663**	**0**	**3,686**	**0**

5.7.6.3. Company exposure to market risk

General objectives and counterparty risk management

AREVA uses derivatives to manage its exposure to currency and interest rate risk, fluctuations of raw material prices and changes in the price of certain publicly traded securities. These instruments are generally used as a hedge in the management of the company's assets, liabilities or commitments.

AREVA controls the risk associated with these instruments by centralizing the commitments and by implementing a series of procedures that specify the limits and characteristics of the counterparty for each type of instrument.

Management of interest rate risk and raw material price risk is centralized in AREVA. Foreign exchange risk is also usually managed by AREVA on behalf of the subsidiaries. The few subsidiaries that manage their foreign exchange exposure directly implement their strategy in concurrence with AREVA.

Foreign exchange risk management

AREVA trades currencies on forward markets and uses derivative products to cover or manage:

- The foreign exchange exposure of subsidiaries engaged in international trade. This exposure is systematically hedged. The risk may be hedged by special insurance contracts acquired on a case-by-case basis, for instance through Coface (a French export insurance group).
- Balance sheet exposure associated with loans made to subsidiaries in their local accounting currencies.

Foreign currency cash positions are managed through currency swaps.

	Notional amounts of contracts as of 12/31/03 (by maturity)							
	2004	2005	2006	2007	2008	> 5 year	Total	Market value
CURRENCY RISK HEDGING INSTRUMENTS								
Currency swaps - borrower								
US dollars for euros	477.5		15.8	0.7			494.0	24.8
US dollars for Canadian dollars	23.8						23.8	5.3
Canadian dollars for euros	22.1						22.1	(0.1)
Pounds sterling for euros	17.0						17.0	0.1
Yens for euros	29.5						29.5	0.6
Swiss francs for euros	0.6						0.6	0.0
Swedish kroner for euros	1.1						1.1	0.0
Currency swaps - lender								
US dollars for euros	124.5						124.5	(4.0)
Canadian dollars for euros	12.3						12.3	0.1
Canadian dollars for US dollars	2.3						2.3	0.0
Swiss francs for euros	0.5						0.5	0.0
Forward transactions - Buyer								
US dollars for euros	17.3	0.4	0.4	0.5			18.7	(1.8)
US dollars for Canadian dollars	7.9						7.9	(0.1)
Pounds sterling for euros	1.0						1.0	0.0
Yens for euros	21.5	6.1	0.7				28.2	(1.7)
Swiss francs for euros	0.9	0.5					1.3	(0.1)
Swedish kroner for euros	0.2						0.2	0.0
Forward transactions - Seller								
US dollars for euros	56.9	27.6	2.2	0.9			87.6	11.7
US dollars for Canadian dollars	23.8	7.9					31.7	2.9
Canadian dollars for euros	1.0						1.0	0.1
Pounds sterling for euros	1.0	0.6		0.2			1.8	0.0
Yens for euros	6.1	2.2	2.2	0.8			11.3	0.6
Australian dollars for US dollars	13.1	1.2					14.3	(0.3)
Swedish kroner for euros	0.1						0.1	0.0
Czech kroner for euros		1.9		0.6	0.3	0.4	3.2	0.0
Currency options								
Calls - seller								
Euros for US dollars								
Puts - seller								
Euros for US dollars								
Collars								
US dollars for euros								

Notional amounts in foreign currency have been converted into euro based on year-end closing exchange rates, except for currency swaps.

Interest rate risk management

AREVA uses several types of financial instruments, as required by market conditions, to allocate its debt between fixed rate and floating rate obligations and to control its investment portfolio exposure. These instruments mainly include swaps and individually negotiated options, used to manage the debt, as well as investments.

		Notional amounts of contracts as of 12/31/03 (by maturity)							
(in millions of euros)	*Fixed rate*	2004	2005	2006	2007	2008	> 5 years	Total	Market value
INTEREST RATE DERIVATIVE									
Interest rate swaps- fixed payer									
Euro									
US dollar	*[2.5350% - 3.92%]*	79.18	118.76	7.92				205.9	(4.9)
Canadian dollar									
Interest rate swaps- fixed receiver									
Euro [a]									
US dollar	*[5.7391%]*								
Canadian dollar									
Interest rate swaps- variable/variable									
Euro									

[a] variable-rate payer swap in CAD (currency swap).

Raw material price risk management

Net positions from hedging operations centralized at the AREVA level:

	Notional amounts by maturity date at December 31, 2003							
(in millions of euros)	2004	2005	2006	2007	2008	> 5 years	Total	Market value
COMMODITIES								
Gold								
Forward transactions - Buyer								
Forward transactions - Seller	28.9	1.1					30.1	2.4

5.7.6.4. Off-balance sheet commitments excluding leasing arrangements

Commitments made

(in millions of euros)	Total	< 1 year	1 to 5 years	> 5 years
Corporate guarantees given	219,408	23,903	46,571	148,934
“Return to better fortune” clauses	429			429
Representations and warranties	114,766	48,345	18,171	48,250
Other commitments made	2,708	2,708		
Total	**337,311**	**74,956**	**64,742**	**197,613**

In addition, AREVA gave a guarantee to TVO in connection with the EPR reactor contract in Finland.

Commitments received

Endorsements, commitments and guarantees: 0.

Reciprocal commitments

(in millions of euros)	Total	< 1 year	1 to 5 years	> 5 years
Unused portion of credit lines	536,697	45,568	491,129	
Other reciprocal commitments	1,338,300	950,000	388,300	
Total	**1,874,997**	**995,568**	**879,429**	

Other reciprocal commitments are as follows:

- AREVA gave a commitment to the shareholders of Urenco to acquire a 50% participating interest in the British company ETC. This commitment represents €388.3 million. In addition, when the memorandum of agreement was executed, AREVA made a €150 million down payment recorded on the balance sheet under "Other long term notes and investments" (see note 5.7.4.3). If the transaction closes after December 31, 2004 (and in any event no later than December 31, 2005), the amount to be paid by AREVA would be adjusted based on the Euribor rate.
  A number of guarantees and conditions precedent apply to this commitment.
  Acquisition of the 50% interest in ETC will give AREVA access to the ultracentrifuge technology for uranium enrichment.

- AREVA has given a commitment to Alstom/Alstom Holdings to acquire Alstom's Transmission and Distribution division, for a price between a floor of €900 million and the division's estimated enterprise value of €950 million.
  The acquisition was subject to conditions precedent and guaranties regarding assets, liabilities and the target company's environmental position.

The acquisition of T&D closed on January 9, 2004.

5.7.6.5. Data on affiliates

	2003
Long-term notes and investments	
- Participating interests (gross value)	3,938,282
- Receivables related to participating interests	411,723
Accounts receivable	
- Trade accounts receivable and related accounts	29,286
- Other accounts receivable	14,079
- Non-trade current accounts	114,573
Long-term debt	
- Trade accounts payable and related accounts	17,383
- Other debt	81,844
- Non-trade current accounts	1,807,294
Income from participating interests	**323,558**
Other financial income	**41,187**
Financial expense	**93,626**

5.7.6.6. Compensation of company representatives

The total compensation paid in 2003 to official representatives of the corporation (members of the Executive Board and of the Supervisory Board) and of companies under its control (as defined under article L. 233-16 of the French Code of Commerce) was K€2,731, including benefits paid in kind.

5.7.6.7. Five-year financial data

Performance indicator *(in thousands of euros)*	1999	2000	2001	2002	2003
Share capital at year-end					
Share capital	1,121,046	1,121,046	1,346,823	1,346,823	1,346,823
Number of ordinary shares outstanding	27,985,200	27,985,200	34,013,593	34,013,593	34,013,593
Number of investment certificates outstanding	1,429,108	1,429,108	1,429,108	1,429,108	1,429,108
Activities and income for the year					
Sales	21,377	860	55,618	73,133	36,046
Income before tax and employee profit-sharing and closing entries (depreciation, amortization and provisions)	750,399	110,679	193,610	1,084,311	598,720
Income tax	8,127	11,366	(49,667)	17,662	(56,566)
Income after tax, employee profit-sharing and closing entries (depreciation, amortization and provisions)	682,116	150,490	(712,961)	216,230	372,444
Net income distributed *	300,889	672,179	219,745	219,745	
Earnings per share (in euros)					
Income after tax, employee profit-sharing and before closing entries	25.23	3.38	6.85	30.10	18.49
Income after tax, employee profit-sharing and closing entries (depreciation, amortization and provisions)	23.19	5.12	(20.12)	6.10	10.51
Dividend per share *	10.23	22.85	6.20	6.20	
Personnel					
Number of salaried employees at year end	16	17	108	189	197
Total compensation for the year	1,383	1,279	14,766	18,337	17,726
Payroll taxes and other benefit expenses	579	536	7,335	6,826	8,005

** For 2003: pending decision by the General Meeting of Shareholders of May 4, 2004.*

5.7.6.8. Events subsequent to year-end

Acquisition of Alstom's Transmission and Distribution business

On January 9, 2004, having received all required European Commission and national antitrust authorizations, the AREVA Group executed the final acquisition agreement for Alstom's Transmission and Distribution operations.

The acquisition price of €920 million will be finalized in May 2004, after the acquisition audit.

5.7.6.9. Subsidiaries and shareholdings

(in (thousands of euros unless otherwise indicated)) Subsidiaries & equity	Share	Premium reserves retained earnings	Percentage of interest held	Gross book value of shares held	Net book value of shares held	Loans and advances out-standing	Sales before tax (last fiscal year)	Net income (last fiscal year)	Dividends collected in 2003
A -Detailed information on subsidiaries and equity interests (when net book value exceeds 1% of AREVA's capital)									
1 - Subsidiaries (> 50% of capital held by AREVA)									
- Cédec									
27/29, rue Le Peletier - 75009 Paris	36,532	1,157	90	33,466	33,466		0	2,304	1,690
- Compagnie d'Etude et de Recherche pour l'Energie (CERE)									
27/29, rue Le Peletier - 75009 Paris	247,500	8,037	100	251,541	251,541		0	31,250	3,770
- COGEMA									
2, rue Paul Dautier - 78141 Vélizy Cedex	100,259	178,307	100	703,929	703,929		2,344,619	106,723	160,295
- Framatome ANP SAS									
Tour Framatome - 92084 Paris - La Défense Cedex	400,000	93,791	66	277,638	277,638		996,686	77,399	120,318
- Framatome Connectors International (FCI)									
53, rue de Châteaudun - 75009 Paris	2,166,394	(1,502,166)	100	2,505,872	394,203	288,466	63,220	(349,930)	
- Framapar									
27/29, rue Le Peletier - 75009 Paris	22,116	(30,007)	100	22,477	22,477		867	(2,104)	
- FT1CI									
27/29, rue Le Peletier - 75009 Paris	84,688	1,288,308	64	54,888	54,888		0	32,223	
- Frarea									
27/29, rue Le Peletier - 75009 Paris	6,375	75,287	100	30,940	30,940		0	13,048	17,700
- Sepi									
6, rue François-Bellot - 1211 Genève 12 - Suisse	CHF 61,000	CHF 6,077	100	36,415	36,415		0	9,816	18,396
2 - Equity interests (10-50% of capital held by AREVA)									
- Eramet	78,002	626,213	26	291,693	291,693		ND	ND	6,582
- Technicatome	20,000	44,903	25	14,042	14,042		203,298	11,696	871
B - Summary information on other subsidiaries & equity interests									
1 - Subsidiaries not listed in paragraph A									
a) French subsidiaries (total)				7,737	2,274				
b) Foreign subsidiaries (total)				2,139	2,139				
2 - Equity interests not listed in paragraph A									
a) in French companies (total)				13,100	7,026				
b) in foreign companies (total)									

Chapter 6

Corporate Governance

≫ 6.1. Composition and operation of management, executive and supervisory bodies

6.1.1. Composition of management, executive and supervisory bodies

6.1.1.1. Composition of the Executive Board

Anne Lauvergeon, Chairman of the AREVA Executive Board

Term began: Supervisory Board meeting of July 3, 2001. Term ends: First Supervisory Board meeting after July 3, 2006.

Born August 2, 1958 in Dijon, France; *Ingénieur en chef* of the *Corps des Mines*, graduate of *Ecole Normale Supérieure*, doctorate in physical sciences, responsible for studying chemical safety-related issues in Europe for the *Commissariat à l'Energie Atomique* (CEA) in 1984, mineral resources administrator for the Ile-de-France region in 1988, deputy department head at the *Conseil Général des Mines* in 1988, special assistant for international economics and trade to the President of the French Republic in 1990, deputy secretary general for the organization of G7 summits for the President of the French Republic in 1991, general partner at Lazard Frères & Cie in 1995, Executive Vice President of Alcatel Telecom in 1997, Chairman and CEO of COGEMA in 1999, and Chairman of AREVA since July 3, 2001.

Other offices held:
- Chairman and CEO of FCI;
- Permanent representative of AREVA to the Board of Directors of FCI;
- Vice Chairman of the Supervisory Board of Sagem;
- Member of the Boards of Directors of Suez and Total.

Gérald Arbola, Member of the AREVA Executive Board, Chief Financial Officer of AREVA

Term began: Supervisory Board meeting of July 3, 2001. Term ends: First Supervisory Board meeting after July 3, 2006.

Born May 29, 1948 in Paris, France; graduate of *Institut d'Etudes Politiques de Paris*, holds an advanced degree in economics, joined the COGEMA group in 1982 as director of planning and strategy for SGN, Chief Financial Officer at SGN from 1985 to 1989, Executive Vice President of SGN in 1988, Chief Financial Officer of COGEMA in 1992 and member of the Executive comittee in 1999, while also serving as Chairman of the Board of SGN in 1997 and 1998, Chief Financial Officer and member of the Executive Board of AREVA since July 3, 2001.

Other offices and positions:
- Chairman and CEO of FT1C1 and Chairman of Cogerap SAS;
- Member of the Boards of Directors of COGEMA and Assystem;
- Member of the Supervisory Board of STMicroelectronics Holding NV;
- Member of the Board of Directors of Framatome ANP.

The three members listed below were appointed by a decision of the Supervisory Board on October 15, 2002, and confirmed by the Minister of the Economy, Finance and Industry and the delegated Minister of Industry on January 21, 2003..

Didier Benedetti, member of the AREVA Executive Board, Chief Operating Officer of COGEMA

Term began: Supervisory Board meeting of October 15, 2002. Effective date: February 1, 2003 – Term ends: First Supervisory Board meeting after July 3, 2006.

Born August 26, 1952 in Paris, France; Ingénieur of the *Ecole Supérieure d'informatique, d'électronique et d'automatique* (ESIEA) and a graduate of *Institut d'Administration des Entreprises* (IAE) of Paris, held various positions with Schlumberger, with Thomson, where he was Executive Vice President of Thomson Brandt Armement and Vice Chairman of Thomson Consumer Electronic, and with the Fiat group, where he was President of all Magneti Marelli passenger compartment divisions. Became Chief Operating Officer of COGEMA in June 2002.

Other offices:
- Member of the Board of Directors of *Compagnie Nucléaire de Services* (CNS).

Jean-Lucien Lamy, member of the AREVA Executive Board, Chairman and CEO of FCI

Term began: Supervisory Board meeting of October 15, 2002. Effective date: February 1, 2003 – Term ends: First Supervisory Board meeting after July 3, 2006.

Born February 28, 1948 in Manoncourt, France; graduate of *Ecole Nationale Supérieure de l'Aéronautique et de l'Espace*, master in economic systems from the University of Stanford and MBA from the University of Iowa, held various positions in multinational groups, including Rockwell and Allied Signal, before joining the Labinal group in 1984, becoming President of several operating divisions in 1987 and contributing to the international development of Labinal through organic growth and acquisitions until it was acquired by Snecma in late 2000. Became Chairman and CEO of FCI in November 2001.

Other offices held:
- Chairman of FCI Expansion 1 and FCI Expansion 2;
- Permanent representative of FCI to the Boards of Directors of FCI Micronnections, FCI Besançon, FCI France and FCI Automotive France;
- Chairman of the Supervisory Board of FCI Connectors Hungary;
- Chairman and CEO of FCI Connectors España, FCI Americas Holding, Inc., FCI Americas International Holdings, Inc., FCI Americas Technology, Inc., FCI Delaware, Inc., and Chairman of FCI Italia, FCI Americas, Inc. and FCI USA, Inc.;
- Member of the Boards of Directors of FCI Asia Pte Ltd and FCI Japan K.K.;
- Member of the Executive Board of FCI Nederland BV;
- Member of the Board of Directors of Eramet.

Vincent Maurel, Member of the AREVA Executive Board, President of Framatome ANP

Term began: Supervisory Board meeting of October 15, 2002. Effective date: February 1, 2003 – Term ends: First Supervisory Board meeting after July 3, 2006.

Born February 3, 1948, in Castres, France; graduate of *Ecole Polytechnique* and *Ecole Nationale Supérieure des Télécommunications*; joined Thomson CSF in 1974, later becoming executive Vice President and industrial director for Alcatel Telspace. Starting in 1993, managed the steam turbine division then the turnkey electric power plant division for Alstom before becoming chairman of ABB-Alstom Power France and its services subsidiary. Joined COGEMA in December 2000 as Executive Vice President of the Enrichment business unit and member of the Executive comittee. Has been President of Framatome ANP since December 2001.

Other offices held:
- Member of the Supervisory Board of Framatome ANP GmbH (Germany);
- Member of the Board of Directors of Framatome ANP Inc. (USA).

6.1.1.2. Composition of the Supervisory Board

Several changes to the composition of the Supervisory Board occurred in 2003, notably the appointment of Philippe Pontet as new Chairman to replace Pascal Colombani, who resigned following the Annual General Meeting of Shareholders of May 12, 2003, the appointment of Alain Bugat as new Vice Chairman, the appointment of Olivier Pagezy as new Board member, and the designation of Jacques Bouchard as Permanent Representative of the CEA.

The Supervisory Board currently consists of 16 members.

Members appointed by the Shareholders

Philippe Pontet, Chairman of the AREVA Supervisory Board (appointed by the Supervisory Board of June 12, 2003, to replace Pascal Colombani, who resigned on May 12, 2003)

Term began: 2001 Annual General Meeting.
Term ends: 2006 Annual General Meeting.
Born October 30, 1942 in Dijon, France.

Other offices held:
- Chairman of SOGEPA SA and SOGEADE Gérance;
- Member of the Board of Directors of FCI SA (resigned in 2003);
- Member of the Board of Directors of Framatome ANP SAS (resigned in 2003);
- Chairman of Placement Obligations (NSM Gestion mutual fund) and AGF Foncier (mutual fund).

Alain Bugat, Vice Chairman of the AREVA Supervisory Board (coopted to replace Philippe Braidy on January 23, 2003 and named Vice Chairman of the Supervisory Board on June 12, 2003 to replace Philippe Pontet)

Term began: January 2003 Supervisory Board.
Term ends: 2006 Annual General Meeting.
Born September 8, 1948, in Bordeaux, France.

Other offices held:
- Administrator General and Chairman of the CEA Board of Directors;
- Chairman of the Board of Directors of Technicatome (resigned in 2003) and of the Supervisory Board of MVI Technologies (resigned in 2003);
- Member of the Board of Directors of DCN SA;
- Member of the Boards of Directors of COGEMA and EDF, representing the French State;
- Member of the Board of *Agence Nationale de la Recherche Technologique* (ANRT) - Association.

Euan Baird *

Term began: 2001 Annual General Meeting.
Term ends: 2006 Annual General Meeting.
Born September 16, 1937, in Aberdeen, Scotland.

Other offices held:
- Chairman of the Boards of Directors of Rolls Royce and of Schlumberger Limited (resigned in 2003);

** Independent members of the Supervisory Board. Individuals who hold less than 10% of the company's share capital and who have no financial or commercial relationship with the company (as customer or supplier) are considered to be independent.*

- Member of the Boards of Directors of ScottishPower and *Société Générale*;
- Member of the advisory Board of *Banque de France*.

Patrick Buffet

Term began: 2001 Annual General Meeting.
Term ends: 2006 Annual General Meeting.
Born October 19, 1953 in Lyon, France.

Other offices held:
- Member of the Boards of Directors of *Commissariat à l'Energie Atomique* (CEA), Neuf Telecom and subsidiaries of the Suez group: *Société Générale de Belgique* (resigned in 2003), Tractebel (resigned in 2003), Degrémont (resigned in 2003), Suez Lyonnaise Telecom, Suez Tractebel;
- Member of the Supervisory Boards of Astorg Partners, CDC Ixis, Elyo (resigned in 2003);
- Auditor of SI Finance.

Thierry Desmarest *

Term began: 2001 Annual General Meeting.
Term ends: 2006 Annual General Meeting.
Born December 18, 1945, in Paris, France.

Other offices held:
- Chairman and CEO of Total and Elf Aquitaine;
- Member of the Supervisory Board of Air Liquide;
- Member of the Board of Directors of Sanofi-Synthelabo.

Gaishi Hiraiwa *

Term began: 2001 Annual General Meeting.
Term ends: 2006 Annual General Meeting.
Born August 31, 1914, in Tokyo, Japan.

Other offices held:
- Member of the Boards of Directors of Japanese firms Kookyo Tatemono Co., Ltd, Japan Oil Development Co., Ltd (until March 10, 2003), Three Hundred Club, World Trade Center Building, Inc., Tôkô Tatemono Co., Ltd, and Nippon Television Network Corporation.

Daniel Lebègue *

Term began: 2001 Annual General Meeting.
Term ends: 2006 Annual General Meeting.
Born May 4, 1943, in Lyon, France.

Other offices held:
- Member of the Boards of Directors of Gaz de France, Thalès, Alcatel, Scor and Technip.

Olivier Pagezy (coopted as member of the Supervisory Board to replace Pascal Colombani on June 12, 2003)

Term began: Supervisory Board meeting of June 12, 2003.
Term ends: 2006 Annual General Meeting.
Born April 7, 1968, in Boulogne Billancourt, France.

Other offices held:
- Member of the Board of Directors of CEA Valorisation;
- Member of the Board of Directors of Co-Courtage Nucléaire.

Commissariat à l'Energie Atomique (CEA)

Term began: 2001 Annual General Meeting.
Term ends: 2006 Annual General Meeting.

Represented since September 25, 2003, by Jacques Bouchard, born November 23, 1939, in Dijon, France, to replace Philippe Rouvillois, who resigned on September 12, 2003.

Other offices held:
- Permanent Representative of the CEA to the Board of Directors of Technicatome;
- Permanent Representative of AREVA to the Board of Directors of COGEMA;
- Chairman of SFEN (Association).

Other offices held by CEA:
- Member of the Board of Directors of Brevatome (nuclear patent applications);
- Member of the Board of Directors of CEA Valorisation;
- Member of the Board of Directors of Sofratome (nuclear engineering and construction) (resigned in 2003);
- Member of the Board of Directors of Technicatome.

Members representing the French State, appointed by ministerial order:

Jeanne Seyvet (replaced by Jean-Pierre Falque-Pierrotin, appointed by ministerial order of February 9, 2004, published in the* Journal Officiel *of February 18, 2004)

Term began: 2001 – Term ends: 2006 Annual General Meeting.
Born March 23, 1954 in Sidi Bel Abbes, Algeria.

Other offices held:
- Member of the Boards of Directors of Renault and Bull;
- Member of the Boards of Directors of *Ecole Normale Supérieure* (ENS) and *Ecole Polytechnique*;
- Government commissioner to France Telecom, FT1CI, ERAP and the French Postal Service.

** Independent members of the Supervisory Board. Individuals who hold less than 10% of the company's share capital and who have no financial or commercial relationship with the company (as customer or supplier) are considered to be independent.*

Dominique Maillard

Term began: 2001 – Term ends: 2006 Annual General Meeting.
Born March 28, 1950, in Paris, France.

Other offices held:

- Member of the Boards of Directors and representative of the French State to the Boards of Directors of the French Postal Service, ERAP, *Ecole Nationale Supérieure des Mines de Paris* and *Institut Français du Pétrole*,
- Government commissioner to COGEMA, ANDRA and the *Commission de régulation de l'électricité* (electricity regulation commission),
- Member of the Steering comittee and Atomic Energy comittee of the International Atomic Energy Agency.

Hubert Colin de Verdière

Term began: 2002 – Term ends: 2006 Annual General Meeting.
Born October 31, 1941, in Roubaix, France.

Other offices held:

- Representative of the French State to the Board of Directors of COGEMA;
- Representative of the Ministry of Foreign Affairs to the Board of Directors of *Ecole Nationale d'Administration*;
- Member of the Board of Directors of GIP/France Coopération Internationale (public interest group) and of the *Association Française d'Action Artistique* (AFAA).

Bruno Bézard

Term began: 2002 – Term ends: 2006 Annual General Meeting.
Born May 19, 1963, in Chauny, France.

Other offices held:

- Member of the Boards of Directors of Renault (resigned in 2003), SNCF, EDF and *France Télévisions*.

Members elected by and representing the employees

Jean-Claude Bertrand

Facility safety leader, COGEMA-Pierrelatte.
Born November 16, 1951, in Tarascon, France.
Term began: 2002 – Term ends: 2007.

Gérard Melet

Purchaser, COGEMA-La Hague.
Born July 24, 1957, in Cherbourg, France.
Term began: 2002 – Term ends: 2007.

Alain Vivier-Merle

Program Manager, Strategy and Marketing, Framatome ANP - Lyon.
Born October 4, 1948, in Lyon, France.
Term began: 2002 – Term ends: 2007.

Other offices held:

- Member of the Supervisory Boards of Framépargne mutual fund and AREVA money market fund;
- Member of the Supervisory Board of SOGEPLAN A.

Participating in an advisory capacity

François Muller, government controller. Christophe Xerri, sole representative for AREVA personnel.

6.1.2. Operation of administrative, management and supervisory bodies

6.1.2.1. Operation of the Executive Board

The Executive Board consists of at least two members and at most five members named by the Supervisory Board, which appoints the Chairman of the Executive Board from among its members. When company shares are publicly traded in a regulated market, the Executive Board may be increased to seven members.

The Executive Board is appointed for a term of five years expiring at the first meeting of the Supervisory Board held after the fifth anniversary of that appointment. The Supervisory Board may appoint a new member to the Executive Board during its term. The decision to increase the number of Executive Board members above the number set at its appointment is subject to the approval of the Executive Board Chairman.

Executive Board member terms are renewable.

The Executive Board meets whenever the company's interests so require at the corporate office or other location indicated in the notice of meeting. In 2003, the Executive Board met on seventeen occasions.

For the decisions of the Executive Board to be valid, at least half of the members must be present. Management duties may be distributed among the members of the Executive Board based on a recommendation by the Chairman of the Executive Board approved by the Supervisory Board.

Full authority is vested in the Executive Board to act on behalf of the Company in all circumstances with regard to third parties, excepting authority expressly attributed by law to the Supervisory Board and to the Combined Shareholders. Executive Board meetings are recorded in a written meeting report.

6.1.2.2. Operation of the Supervisory Board

The Executive Board has kept the Supervisory Board regularly informed of the business and operations of the company and of the group since the latter was established. In connection with its supervisory responsibilities, it has been able to perform such verifications and checks as it deemed necessary.

The Supervisory Board established its rules of procedure for, in particular:

- the establishment and operation of the four committees described below,
- rules for preparing Supervisory Board deliberations,
- conditions for establishing the schedule of Supervisory Board meetings,
- resources at the disposal of Supervisory Board members elected by the employees.

The Supervisory Board consists of at least ten and no more than eighteen members, including three members elected by company personnel per the conditions described below and representatives of the French State appointed pursuant to article 51 of Law no. 96-314 dated April 12, 1996, as applicable. The three members representing company personnel are elected by an electoral college consisting of engineers, managers and support personnel (one member) and by an electoral college consisting of the other employees (two members). The members of the Supervisory Board serve for a term of five years. The Supervisory Board elects a Chairman and a Vice Chairman from among its members who are charged with convening the Board and conducting meetings, with the Vice Chairman fulfilling these functions in the event of the Chairman's absence or inability to do so. The Chairman and the Vice Chairman are natural persons.

The Supervisory Board meets at least once quarterly at the corporate office or any other place indicated in the notice of meeting issued by the Chairman, or by the Vice Chairman in the absence of the former, to review the Executive Board's report.

Decisions are made on a majority vote of the members present or represented. In the event of a tie vote, the Chairman of the meeting casts the deciding vote.

In accordance with article L. 225-68 of the French Commercial Code, the Supervisory Board exercises ongoing control of the Executive Board's management of the company, giving its approval for operations that the latter may require. It deliberates on the overall strategy of the company and of the group and on the financial statements. Annual budgets and multi-year plans for the company, its direct subsidiaries and the group are subject to its approval, as are subsidiary operations falling under article 23-2 of the bylaws involving an amount exceeding the authorization threshold of €80 million established in that article.

The following Executive Board decisions are subject to prior approval by the Supervisory Board when they involve an amount exceeding €80 million:

- Issues of marketable securities, regardless of type, that may have an impact on capital stock;
- Significant decisions on opening establishments in France and abroad, either directly, through creation of an establishment of a direct or indirect subsidiary, or by acquiring a participating interest, or by decisions to close such establishments;
- Significant operations that may affect the group's strategy and modify its financial structure or scope of business;
- Acquisitions, extensions or sales of participating interests in any company, existing or future;
- Exchanges of goods, securities or assets, excluding cash operations, with or without payment of cash;
- Acquisitions of buildings;
- Settlements, compromises or transactions relating to disputes;
- Decisions pertaining to loans, borrowings, credit and advances;
- Acquisitions and disposals of any debt by any means.

In addition, the Supervisory Board authorizes the Executive Board to carry out various types of transactions with the following thresholds:

- Disposals of property classified as buildings (€30 million);
- Disposals of participating interests, in whole or in part (€80 million),
- collateralization of corporate commitments (€80 million, provided that each commitment is less than €30 million).

The Supervisory Board of March 27, 2003 renewed the authorizations granted to the Executive Board for endorsements, commitments and guaranties in the amount of €80 million for a period of one year, effective July 3, 2003, and authorized a max-

imum of €270 million for guarantee extensions for specific requests relating to FCI and to Framatome ANP's U.S. contracts.

Proposals for appropriations of earnings presented by the Executive Board are subject to the prior approval of the Supervisory Board.

In 2003, the Board met eight times at the corporate office (attendance rate: 73.5%) due to important decisions requiring its prior authorization, notably the acquisition of Alstom's Transmission and Distribution Division, the Georges Besse II / Urenco project, and the FCI capital increase. Aside from budget proposals from the Executive Board, which it approved, the Supervisory Board also examined the AREVA group values charter and revised the composition of the four specialized committees by modifying its rules of procedure.

Prior to each meeting of the Supervisory Board, as necessary, the specialized committees carry out detailed analysis and regularly report on their work to the members of the Supervisory Board.

Strategy committee

The five members of the strategy committee are chosen from among the members of the Supervisory Board. They are: Philippe Pontet (Chairman), appointed to the Supervisory Board on June 12, 2003, to replace M. Colombani, Dominique Maillard, Euan Baird, Patrick Buffet, Bruno Bézard. François Muller, government controller, participates in the committee in an advisory capacity.

The committee meets at least once per six-month period and as often as necessary to fulfill its duties, and is convened by its Chairman or at least two of its members. It is responsible for advising the Supervisory Board on the strategic objectives of the company and of its main subsidiaries and for assessing the risks and merits of major strategic decisions proposed by the Executive Board to the Supervisory Board. It ensures application of the company's strategic policy and its implementation at subsidiary level. It orders studies to performed as it deems useful and recommends policies as it deems necessary.

The strategy comittee met five times in 2003 with an attendance rate of 76%:

- February 12: The comittee reviewed the strategic options available to AREVA in wind turbine technology as a supplemental growth vector to nuclear power that can produce electricity without releasing CO_2. The comittee's consensus was to continue with AREVA's strategic reflection with a view to eventually expanding into this sector.
- June 30 and July 1: These meetings focused on a presentation of plans to acquire T&D from Alstom, especially the terms for a possible bid to Alstom after assigning a value to the company and following a financial and strategic analysis. The deal's strategic importance is such that the committee met twice to prepare a recommendation to the Supervisory Board for a reasonable price to offer Alstom given the risks incurred.
- September 24 and 30: The committee met twice to review three major strategic matters for AREVA's future:
  1. The centrifuge enrichment project – Georges Besse II / Urenco project: The committee backs the centrifuge enrichment process in light of Eurodif's expected shutdown in 2012 and because it is less costly than the gaseous diffusion process. The committee gave a favorable opinion on launching the project for construction of a new Georges Besse II plant, on which the future of French civilian enrichment rests.
  2. FCI's capital increase and legal reorganization: The comittee favors this deal since FCI's recapitalization and the subsequent financial and legal reorganizations send a strong signal to the market that will help FCI regain its customers' trust and financial equilibrium.
  3. The Executive Board presented the group's strategic plan for the 2003-2008 period, excluding T&D, to the comittee. After reviewing it, the committee approved the overall thrusts of the strategic plan, which will be submitted to the Supervisory Board for approval.

Audit committee

The four members of the audit committee are chosen from among the members of the Supervisory Board (June 12, 2003, amendment of the Supervisory Board rules of procedure to increase the number of committee members from three to four). They are: Daniel Lebègue (Chairman), appointed to the Supervisory Board on June 12, 2003, to replace M. Pontet, Bruno Bézard and Jean-Claude Bertrand, appointed to the Supervisory Board on June 12, 2003 (Philippe Rouvillois resigned from the Supervisory Board on September 12, 2003, and was replaced by Olivier Pagezy on January 9, 2004).

The comittee meets at least once quarterly and as often as necessary to fulfill its duties, and is convened by its Chairman or at least two of its members. Its mission is to evaluate and help to define accounting, financial and ethical standards, as the case may be, to be implemented by the group's various companies in France and abroad.

It must ensure that these standards are appropriate and effective and that the group's internal control procedures are effective. It conducts reviews of particular points as requested by the Supervisory Board or on its own initiative. The comittee reviews proposed budgets, preliminary financial statements and proposed multi-year plans for the company, its direct subsidiaries and the group. It consults with the company's Statutory Auditors and those of its subsidiaries in order to assist the Supervisory Board in its mission of audit and control. Lastly, it nominates successors for the Statutory Auditors or recommends the renewal of their terms.

The committee establishes a risk map and assesses resources provided or to be provided to prevent risk.
Eight audit committee meetings were held in 2003, with an attendance rate of 96%:

- January 21: The committee reviewed the preliminary closing statements for 2002 and the fiscal year 2003 budget. It pointed out the stability of sales in the nuclear business and analyzed the factors behind the decline in FCI's sales.
- March 5: The committee reviewed the principal year-end reporting options with a view to closing the books for fiscal year 2002 with the approval of the Board of Auditors. The aim is to improve internal control and financial reporting procedures. The committee analyzed assumptions for the turnaround plan drawn up by FCI's management and a strategic consulting firm, notably the impact on computing goodwill amortization for the CDC division to be used in the 2002 financial statements. The comittee also worked with the Statutory Auditors to choose the method for reporting portfolio investments for year-end 2002 in order to honor long-term commitments to dismantle facilities.
- March 25: The committee reviewed the fiscal year 2002 financial statements and the draft 2002 earnings announcement. The committee also gave a favorable opinion on the signature of a comfort letter by AREVA for Framatome's response to a call for bids for the Finnish reactor.
- June 11: The committee reviewed the following points:
  - AREVA's methodology for evaluating its internal control and the progress made on its risk mapping work. The committee requested that a group business model be established and that efforts continue to raise management awareness concerning the group's internal controls and risk assessments.
  - The adoption of IFRS standards (issues and timetable for transition to IFRS standards) and the structure of the group's plan for dealing with it (steering committee, task forces, timetable) were presented to the committee.
- July 3: The comittee meeting pertained to review of the 2003 budget, which integrates changes in corporate overheads and the impact of adoption of IFRS standards on the group's financial statements.
  The comittee underscored the importance of the established objective to monitor all corporate costs in 2004 and to control any increases.
  At the comittee's request, the Executive Board gave an initial estimate of the effects of applying IFRS standards on the group's consolidated financial statements, and priority themes were identified The Statutory Auditors took part in these initial efforts, and joint detailed analysis was performed to arrive at a complete simulation that will help fine-tune a pro forma for 2004.
- September 19: The comittee reviewed the six-month interim statements, which reported sales a bit below forecast, primarily due to reduced USD/EUR parity. The comittee noted that income from operations in connectors reached break-even earlier than forecast in the year and that FCI's turnaround plan was implemented in keeping with the restructuring program. The Board of Auditors reported to the comittee the conclusions of its review of the consolidated interim financial statements for the six months ended June 30 while underscoring the improvement in the year-end closing process. The comittee also reviewed plans to increase FCI's capital, driven by commercial, legal and financial considerations that require both reorganization and recapitalization.
- November 25: The committee reviewed progress on migrating to IFRS standards. The Board of Auditors worked closely with it on this project. It will be possible to measure the initial quantified impacts in 2004. The comittee requested that a progress report be made to the Board in due time. Information was also provided to the comittee on the current state of deliberations on implementing the financial security law on internal controls, in which the Accounting Board is also involved. The Supervisory Board Chairman's report on this subject will be reviewed and discussed at an upcoming comittee meeting before being submitted to the Supervisory Board for approval.
- December 19: The comittee reviewed the second revision to the 2003 budget in accordance with the final sales forecast, excluding currency effects. The comittee also reviewed the 2004 budget, put together on a like-for-like basis (in terms of consolidation) and excluding the acquisition of Alstom T&D. The comittee requested that the initial simulations of the 2003 financial statements revised to meet IFRS standards be presented at the end of the first half of 2004.

Compensation and nominating comittee

The three members of the compensation and nominating comittee are chosen from among the members of the Supervisory Board. They are: Patrick Buffet, named Chairman of the Supervisory Board on June 12, 2003, to replace Daniel Lebègue, who remains a member of the committee, and Bruno Bézard, appointed to the Supervisory Board on June 12, 2003, to replace M. Bugat, who had been appointed to the Supervisory Board on March 27, 2003, to replace M. Maillard. François Muller, government controller, participates in the committee in an advisory capacity.

The committee meets at least once each six-month period and as often as necessary to fulfill its duties, and is convened by its Chairman or at least two of its members.

The comittee is responsible for recommending executive compensation levels, retirement and insurance programs, and in-kind benefits to the Supervisory Board based on comparable factors in the market and on individual performance assessments. With respect to nominations, the committee reviewed the opportunity and the procedures for opening stock ownership plans for corporate officers, management and employees of the company and of its direct and indirect subsidiaries It also reviewed the files of persons approached to sit on the Executive Board, and sent its recommendations to the Supervisory Board. The committee may also, at the Board's request, recommend members to the Supervisory Board other than members representing the shareholders and the French State; it may review the files of candidates for membership in the Supervisory Board and convey its opinion to the Board. The committee also gives the Supervisory Board its opinion on executive nominations for first-tier companies of the AREVA group.

The compensation and nominating committee met six times in 2003 with an attendance rate of 100%:

- February 12, February 25 and April 17:
  On appointing a new member to COGEMA's Board of Directors, the committee recommended the appointment of an independent director to satisfy the principles of better governance.
  The committee recommended to the Supervisory Board that Gérald Arbola's compensation be revised and that a standardized bonus be set for the Chairman and the members of the Executive Board, with the variable portion being set based on a weighting of quantitative and strategic objectives determined for each of the Executive Board members.
  The committee recommended that the directors' fees be raised by a meeting of the Supervisory Board and the committee, along with the overall annual budget, to factor in the presence of three new members representing the employees, the creation of a new committee to monitor the fund for decommissioning and cleanup expenses, and as an initial step in bringing fees in line with practices in comparable publicly traded companies.
- May 23: The committee reviewed the terms and conditions for Pascal Colombani's departure as member and Chairman of the Supervisory Board, effective May 12, 2003.
- June 12: The committee gave a favorable opinion on the appointment of a new Chairman and Vice Chairman to the Supervisory Board and on changes in the composition of the various committees.
- August 28: The committee recommended procedures for compensating the Chairman of the Supervisory Board by considering his responsibilities to society outside of the AREVA group and took note of the Vice Chairman's request not to collect any compensation in this respect.

Cleanup and decommissioning fund monitoring committee

The Supervisory Board created this fourth comittee at its meeting of December 10, 2002.

The committee has a maximum of five members, chosen from among the members of the Supervisory Board. They are: Alain Bugat (Chairman), appointed to the Supervisory Board on June 12, 2003, to replace M. Pontet, Dominique Maillard, Gérard Melet, appointed to the Supervisory Board on June 12, 2003, to replace M. Bezard, Olivier Pagézy, appointed to the Supervisory Board on June 12, 2003, to replace M. Braidy (Philippe Rouvillois resigned from the Supervisory Board on September 12, 2003 and was replaced by Bruno Bézard on March 16, 2004). François Muller, government controller, participates in the comittee in an advisory capacity.

The committee meets at least once per six-month period and as often as necessary to fulfill its duties, and is convened by its Chairman or at least two of its members. The committee held its first meeting in the second half of 2003. The committee is charged with helping to monitor the portfolio of earmarked assets set up by AREVA's subsidiaries to cover their future cleanup and decommissioning expenses. In this capacity, and based on pertinent documentation submitted by AREVA, including a management charter, it reviews the multi-year

schedule of estimated future cleanup and decommissioning expenses for affected companies of the AREVA group, the criteria for establishing, using and controlling funds earmarked for expenses by these companies, and the management strategy for the related assets.
The comittee may give audience to financial consulting firms chosen by the fund management companies.
The cleanup and decommissioning fund monitoring comittee met twice in 2003 with a 75% attendance rate.

- June 11: The committee reviewed the estimate of future expenses and their accounting treatment. It also considered the constitution, status and management of fund assets. Funding decommissioning and cleanup expenses is a major challenge for the AREVA group, and the comittee focused on finding procedures for optimum allocation of fund assets and on the need for clearly specifying the earmarked fund earmarked in AREVA's financial statements.
- December 12: The committee reviewed the estimated decommissioning and cleanup liabilities as well as deliberations in progress concerning governance of fund asset management. The committee felt that it was appropriate to define a new management charter for the fund assets and to document suitable governance rules for greater transparency and security, in line with prospects for a new share issue.

6.1.3. Observations by the Supervisory Board on the Executive Board's management report and on the 2003 financial statements

The Supervisory Board and its specialized comittees have monitored the conduct of business and operations of the group, its major subsidiaries and its participating interests, mainly through quarterly reports submitted by the Executive Board.

As part of its supervisory role, the Board also conducted the audits and controls it deemed necessary on the corporate and consolidated financial statements, relying on the opinion of the Audit comittee and working closely with the Statutory Auditors.

In addition to its review of recurring topics, particularly the financial statements, budgets, significant capital spending projects, the group's business strategy and operations, governance problems and labor-management relations, the Supervisory Board was called upon on several occasions to review several major deals that are important to the group's future and require its prior authorization, and which appear in the Executive Board's management report.

These included:

Proposed acquisition of T&D from Alstom

Given the strategic and financial issues involved, the Supervisory Board met four times to review the proposed acquisition.

Following the Executive Board's presentation of the proposed acquisition and the strategy comittee's favorable opinion, the Supervisory Board authorized the Executive Board to make a binding offer on July 1, 2003 for one billion euros, equal to the company's enterprise value, and subject to due diligence.

The Supervisory Board reviewed progress in negotiations between Alstom and AREVA on July 10, September 12, and September 24, 2003. Given the status of due diligence audits, the Supervisory Board gave the Executive Board authority to finalize and sign the best possible contract for a tentative acquisition price of €950 million in enterprise value. The offer is subject to adjustments and contingent on the French government subscribing a €300 million issue of 20-year subordinated securities redeemable in shares before closing, expected early in 2004.

The agreement to acquire T&D was signed with Alstom on September 25, 2003, and final closing occurred on January 9, 2004.

Georges Besse II / Urenco centrifuge enrichment project

Following the Executive Board's presentation of the project, and in light of the Strategy comittee's favorable opinion of September 24, 2003, the Supervisory Board authorized the Executive Board Chairman on September 30, 2003 to finalize the negotiations and to sign an agreement with Urenco. This decision was based on the October 6, 2002 Terms Sheet and the major strategic importance to AREVA of the project, which lays out the future of French civilian enrichment with the construction of a new Georges Besse II plant. On November 24, 2003, AREVA signed an agreement with Urenco's shareholders under which AREVA acquires a 50% stake in the Enrichment Technology Company (ETC), which conso-lidates Urenco's operations in uranium centrifuge enrichment equipment and facility design and related research and development.

The acquisition is subject to approval by the anti-trust authorities and to an intergovernmental agreement among Germany, the Netherlands, the United Kingdom and France, neither of which has yet been received.

FCI capital increase

Following the Executive Board's presentation of the plan to increase FCI's capital, the Supervisory Board agreed in principle to recapitalize FCI up to a limit of €1.5 billion at its meeting of September 30, 2003. The purpose of the capital injection is to restore FCI's financial stability and support the turnaround of this subsidiary, which was hit hard by the global telecom crises and is a major international player in connectors. The €1.3 billion capital increase was made on November 21, 2003.

In addition, the Supervisory Board reviewed the group's Strategic Plan for the 2003-2008 period, which had been examined by the Strategy comittee on September 24 and 30, 2003.

The Board also reviewed the AREVA group values charter presented by the Executive Board. The Board views this as the group's solemn commitment to good corporate governance, sustainable development and continuous improvement.

After reviewing and auditing the corporate and consolidated financial statements for fiscal year 2003, and pursuant to article L. 225-68 of the French Commercial Code, the Supervisory Board has no observations to make on these accounts nor on the Executive Board's management report, as presented during its meeting of March 16, 2004.

6.1.4. Report of the Supervisory Board Chairman on the conditions for preparing and organizing the functions of the Board and internal control procedures

6.1.4.1. Introduction and regulatory framework

Articles L. 225-37 and L. 225-68 of the French Commercial Code, resulting from article 117 of the Law on Financial Security, require that the Chairman of the Board of Directors or Supervisory Board, as applicable, of any *société anonyme* (French corporation) with its registered office in France, whether or not it makes a public issue, to "report, in a report attached to the report mentioned in articles L. 225-100, L. 225-102, L. 225-102-1 and L. 233-26, on the conditions for preparing and organizing the functions of the Board as well as on the internal control procedures implemented by the company. Without prejudice to the provisions of article L. 225-56, the report sets forth the possible limitations that the Board of Directors applies to the authority of the Chief Executive Officer."

These provisions, which are covered in this annual report, apply to all fiscal years henceforth, beginning January 1, 2003.

6.1.4.2. Preparation and organization of the Board's functions

Board missions

See paragraph 6.1.2.2.

Board composition

See paragraph 6.1.1.2.

Board functions

See paragraph 6.1.2.2.

Functions of its four committees

The functions of the four committees – strategy committee, audit committee, compensation and nominating committee, and cleanup and decommissioning fund monitoring committee – are described in paragraph 6.1.2.2.

6.1.4.3. Internal control procedures

Values and action principles

AREVA's internal control procedures are managed in an environment that fosters group spirit and shared values.

The group drew up a values charter and laid out ten commitments that it is making as part of its sustainable development initiative.

Internal control objectives

Achieving its objectives, managing its risks, protecting its assets and controlling its operations, particularly in accounting and finance, are integral to the culture and values of the AREVA group.

AREVA defines "internal control procedures" as the set of rules, directives and operating procedures within its organizations designed to:

- ensure that its operations and employees:
  - comply with applicable laws and regulations as well as internal rules and standards;
  - adhere to the values, guidelines and objectives defined by the labor-management bodies and their representatives, notably with respect to risk management policy.
- verify that internal and external communications accurately reflect the business and position of the group and of its subsidiaries.

Any internal control procedure, no matter how well designed and applied, does not represent an absolute guarantee, but it does provide reasonable assurance of achieving the control objectives it covers.

Principal risk factors

The group established a risk map from the outset. AREVA's Risk and Insurance Department, together with the Audit Department, constantly updates the risk factors. The main risk factors are identified and described in the annual report in paragraph 4.11.3.

Players and organizations involved in control

AREVA is organized under a Supervisory Board and an Executive Board, which provides for stronger corporate governance by virtue of their duality.

AREVA's Supervisory Board performs verifications and audits based on the recommendations of various specialized comittees under the terms and conditions described in paragraph 6.1.2 above.

General internal audit procedures

Since it was formed in 2001, AREVA has worked to make its corporate organization and internal control procedures clear, while striving to establish uniform practices among its subsidiaries.

In particular, AREVA has added two functions, "Organization" and "Standards and Procedures", to keep the company's organizational procedures up to date and to centralize the management of procedures that apply to the entire group. Correspondents were designated in first-tier subsidiaries to ensure their implementation.

In addition, these correspondents set up specific procedures and management methods, including ISO certification, delegation of authority, systems for approving proposals and capital expenditures, continuous improvement initiatives supported by the use of AREVA WAY self-assessment model, and others.
AREVA's organizational procedures are drafted jointly with the company's specialized functions (Finance, Human Resources, Audit, Legal Affairs, etc.) while adhering to the principle of separation of duties.

In particular, within the Financial Controls Department, various players audit and analyze financial information. They include line and financial managers of the management units, financial controllers of the business units and subsidiaries, AREVA's consolidation department, business analysts, and others. Likewise, AREVA's Department of Financial Operations and Cash Management has separated its operational (Front Office and Back Office) and control (Middle Office) functions.

Accounting and financial reporting procedures

AREVA's Finance Department has a manual of accounting rules and principles. A glossary defines the major financial statement aggregates and performance indicators. Moreover, it has drafted standards and instructions covering long-term contracts, provisions (particularly for decommissioning), short-term investments, rate risks, etc.

Application of this common benchmark was reinforced in 2003 through the implementation of a single reporting and consolidation tool in all of the group's affiliates. Use of this tool sped up the processing of accounting and financial data. Data reliability is secured by automatic interfaces between the local accounting systems and the consolidation tool. For FCI, consolidated data are fed into the reporting tool at the tier level.

In practice, data is transferred according to a timetable and instructions defined by AREVA once it has been validated by the affiliates. AREVA consolidates the data and administers the overall system.

Concerning management accounting data, the budgetary guidelines for the next 5 years are established in a Strategic Action Plan. The current year's budget is detailed in accordance with this plan and is revised twice a year. The first revision integrated into the Strategic Action Plan.

So that all AREVA employees use these standards and the reporting and consolidation tool, training sessions were held for over 400 employees in 2003 in France and abroad.

Lastly, to prepare for the transition to the IFRS standards in 2005, a project comittee took stock of the main effects that implementing these standards would have on the financial statements and information systems. Actions to be carried out in 2004 were scheduled – modifying information systems, developing procedures, the training plan, deployment, etc. – to ensure that deadlines for applying the new standards will be met.

Assessment of internal controls

Before the Law on Financial Security was passed, the AREVA group took steps to improve its internal control system. These include implementing a continuous improvement initiative,

defining self-assessment tools, and internal control training sessions.

As a follow-up to the Law on Financial Security, affiliates representing about 80% of the group's consolidated sales assessed their internal control systems, whether they were subject to the law's provisions or not (Framatome ANP SAS, Inc. and GmbH participated in the exercise, for example), using a self-assessment questionnaire that had been reviewed by the Board of Auditors.

AREVA's Audit Department reviewed the merits of the questionnaire responses. This was the first step in an assessment process, and it did not reveal any malfunctions that could have a major effect on the company's business and financial position.

6.1.5. Auditors' report

Prepared in accordance with the last paragraph of Article L.225-235 of the French Commercial Code, on the report prepared by the Chairman of the Supervisory Board of Areva, with respect to the description of the internal control procedures relating to the preparation and processing of accounting and financial information.

Year ended, December 31, 2003

This is a free translation into English of the report issued in the French language and is provided solely for the convenience of English speaking readers.

In our capacity as statutory auditors of Areva and in accordance with the requirements of the last paragraph of Article L.225-235 of the French Commercial Code, we present our report on the report prepared by the Chairman of your company in accordance with Article L.225-68 of the French Commercial Code for the year ended December 31, 2003.

Under the Supervisory Board of Directors responsibility, Management is in charge of defining and implementing appropriate and effective internal control procedures. It is the Chairman's responsibility to report, in his report, notably on the conditions of preparation and organization of the Supervisory Board's work and on the internal control procedures implemented in the company.

Our responsibility is to provide you with our comments on the information and declarations contained in the Chairman's report concerning the internal control procedures relating to the preparation and processing of accounting and financial information.

In accordance with professional guidelines applicable in France, we have taken note of the internal control objectives and general organization, as well as the internal control procedures relating to the preparation and treatment of the financial and accounting information, as presented in the Chairman's report.

Based on the procedures performed, we have nothing to report with regard to the description of the internal control procedures of the company relating to the preparation and treatment of the financial and accounting information, as included in the report of the Chairman of the Supervisory Board, prepared in accordance with Article L.225-68 of the French Commercial Code.

Paris, March 17, 2004

The Statutory Auditors

Deloitte Touche Tohmatsu
Pascal Colin
Jean-Paul Picard

Mazars & Guerard
Thierry Blanchetier
Michel Rosse

RSM Salustro Reydel
Denis Marangé
Hubert Luneau

≫ 6.2. Executive compensation

6.2.1. Compensation of company representatives

6.2.1.1. The Ministry of the Economy, Finance and Industry sets the compensation for the Chairman of the Executive Board, the members of the Executive Board, and the Chairman, Vice Chairman and members of the Supervisory Board of AREVA based on a recommendation from the group's compensation and nominating comittee

The table below sets forth the compensation paid to each executive of the AREVA group in fiscal years 2001, 2002 and 2003 by AREVA, the companies it controls, or the company by which it is controlled, namely the CEA.

Compensation paid to the members of the Executive Board (in €)

	2001	2002				2003			
Members of the Executive Board [1]	Total gross compensation	Fixed comp. (a)	Variable comp. (b)	In-kind benefits (c)	Total gross compensation (d=a+b+c)	Fixed comp. (a)	Variable comp. (b)	In-kind benefits (c)	Total gross compensation (d=a+b+c)
Anne Lauvergeon [2]	267,676	308,252	54,121	1,836	364,209	316,266	93,678	7,172	417,116
Gérald Arbola [2]	207,818	246,601	39,332	3,284	289,217	280,106	74,943	6,906	361,955
Didier Bénédetti [3]						273,900	98,770	6,726	379,396
Vincent Maurel [3]						236,225	171,080	3,866	411,171
Jean-Lucien Lamy [3]						253,825	110,760	4,210	368,795

(1) Appointed by the Supervisory Board on July 3, 2001.
(2) Appointed by the Supervisory Board on October 15, 2002, effective February 1, 2003.
(3) Compensation is calculated based on date of appointment.

6.2.1.2. 2001 bonus calculation (paid in 2002)

The Minister of the Economy, Finance and Industry established a 2001 bonus ceiling of €121,960 for Anne Lauvergeon and €73,176 for Gérald Arbola, both of whom were appointed at the beginning of the second half of 2001. Consequently, the Compensation and Nominating comittee recommended a 2001 bonus representing 70% of half of the annual ceilings.

6.2.1.3. 2002 bonus calculation (paid in 2003)

The Compensation and Nominating comittee proposed that variable compensation for the two members of the Executive Board, representing a maximum of 40% of their respective gross compensation, be determined based on quantitative objectives for 60% of the bonus amount and based on strategic and qualitative objectives for the remaining 40%. The Compensation and Nominating comittee proposed that the 2002 bonus for Anne Lauvergeon and Gérald Arbola be set at 75% of the ceiling. The amount was approved by the ministers with jurisdiction over the matter.

6.2.1.4. 2003 bonus calculation (paid in 2004)

The Compensation and Nominating comittee proposed that variable compensation for the five members of the Executive Board, representing a maximum of 40% of their respective gross compensation, be determined based on quantitative objectives for 70% of the bonus amount and based on strategic and qualitative objectives for the remaining 30%.

There is no pension or similar commitment to Anne Lauvergeon, Didier Benedetti or Jean-Lucien Lamy. A provision for pension representing €36,453 for Gérald Arbola and €25,046 for Vincent Maurel was recorded in 2003.

Compensation paid to the members of the Supervisory Board (in €)

	2001			2002			2003		
Supervisory Board [1 et 2]	Gross comp. (a)	Director's fees (b)	Total gross comp. (c=a+b)	Gross comp. (a)	Director's fees (b)	Total gross comp. (c=a+b)	Gross comp. (a)	Director's fees (b)	Total gross comp. (c=a+b)
Pascal Colombani [3, 4 et 5]	50,000		50,000	101,650		101,650	277,280		277,280
Philippe Pontet [5 et 6]	107,000		107,000	112,801		112,801	89,748		89,748
Alain Bugat [7 et 8]							150,546		150,546
Euan Baird			0		6,863	6,863		27,964	27,964
Jacques Bouchard [4 et 9]							50,110		50,110
Patrick Buffet		9,152	9,152		17,542	17,542		21,000	21,000
Philippe Braidy [4 et 7]		6,100	6,100		10,675	10,675	12,260		12,260
Thierry Desmarest		6,100	6,100		10,675	10,675		12,000	12,000
Gaishi Hiraiwa			0		3,050	3,050		22,675	22,675
Daniel Lebègue		8,389	8,389		15,253	15,253		20,000	20,000
Olivier Pagezy [3 et 4]							86,434	8,000	94,434
Jean-Claude Bertrand [10]					6,100	6,100	46,520	14,000	60,520
Gérard Melet [10]					6,100	6,100	31,167	12,000	43,167
Alain Vivier-Merle [10]					6,100	6,100	67,700	12,000	79,700

(1) Compensation calculated based on date of appointment or end of term.

(2) Certain amounts corresponding to prior fiscal years may have been paid in 2002 or 2003.

- *For Mr. Baird and Mr. Hiraiwa:*
  Director's fees for 2001 were paid in 2002 (€6,863 and €3,050, respectively)
  Director's fees for 2002 were paid in 2003 (€12,964 and €10,675 respectively)
  Director's fees for 2003 were paid in 2003 (€15,000 and €12,000 respectively)
- *For Mr. Buffet and Mr. Lebegue:*
  Balance due on 2001 directors' fees, paid in 2002 (€763)

(3) Mr. Colombani was replaced by Mr. Pagezy as a member of the Supervisory Board on June 12, 2003.

(4) For 2003, includes compensation received from CEA and AREVA by Messrs. Colombani, Bouchard, Braidy and Pagezy

(5) In 2001 and 2002, corresponds to compensation received from AREVA only.

(6) Replaced Mr. Colombani as Chairman of the Supervisory Board on June 12, 2003.

(7) Mr. Bugat replaced Mr. Braidy on the Supervisory Board on January 23, 2003 and was appointed Vice President of the Supervisory Board on June 12, 2003.

(8) In 2003, only represents compensation as CEA Administrator General. Mr. Bugat receives no compensation as Vice Chairman of AREVA's Supervisory Board.

(9) Replaced Mr. Rouvillois as CEA Permanent Representative on September 25, 2003.

(10) Members elected by company personnel, who became members of the Supervisory Board on September 25, 2002, and who opted to distribute their net directors' fees to the labor organization of which they are members. Amounts reported for 2003 correspond to their compensation as employees of certain AREVA subsidiaries (COGEMA or Framatome ANP).

6.2.2. Executive shares of capital stock

Each member of the AREVA Supervisory Board owns one share of stock, except for members representing the French State. Members of the Executive Board do not own stock in the company.

6.2.3. Stock options

The AREVA group does not presently have a stock option plan.

6.2.4. Auditors' special report on regulated agreements referred to in article L. 225-86 of the French Commercial Code

"As the Statutory Auditors of your company, we hereby present our report on the agreements involving company directors."

6.2.4.1. Agreements authorized during the period

In accordance with Article L. 225-88 of the Commercial Code, we have been notified of the agreements previously authorized by your Supervisory Board.

We are not required to investigate the possible existence of other agreements, but are to inform you, on the basis of the information provided, of the basic terms and conditions of the

agreements which have been brought to our attention. Nor are we required to express an opinion on their appropriateness or merit. It is your responsibility, according to the provisions of Article 117 of the Decree of March 23, 1967, to assess the purpose and benefits of these agreements, with a view to approving them.

We conducted our work in accordance with French generally accepted auditing standards (GAAS). Those standards require that we plan and perform our work to enable us to verify that the information provided to us conforms with the source documentation from which it is derived.

Agreement with COGEMA

At its meeting on March 27, 2003, the Supervisory Board authorized the Management Board to transfer to AREVA or to guarantee on behalf of its subsidiary, COGEMA, a portion amounting to 280 million Canadian dollars, (or 173 million euros at the current exchange rate) of a syndicated loan of 305 million Canadian dollars, granted in November 2000 to COGEMA Ressources Inc. Canada.

Management Board members involved: Mrs Anne LAUVERGEON, Mr Gérald ARBOLA and Mr Didier BENEDETTI.

Supervisory Board members involved: Mr Pascal COLOMBANI and Mr Hubert COLIN de VERDIERE.

6.2.4.2. Agreements approved during previous periods applicable during the period

Moreover, in accordance with the Decree of March 23, 1967, we have been informed that the following agreements, approved during previous years, were also applicable during the period.

Agreement with FCI

- At its meeting on April 16, 2002, the Supervisory Board authorized the Management Board to subscribe to a credit line of 600 million US dollars (or the equivalent in euros) with a banking syndicate, for a three-year period, to finance FCI.
  In addition, assuming that this credit line would be subscribed to by FCI, the Supervisory Board authorized the Management Board to issue the AREVA demand guarantee to the banking syndicate, for 620 million US dollars or the equivalent sum in euros.
- At its meeting on October 15, 2002, the Supervisory Board authorized the Management Board to issue the AREVA demand guarantee to banks that would grant loans to FCI, for a maximum amount of 1,020 million euros.

Moreover, the Supervisory Board authorized the Management Board to subscribe to bank credit lines for AREVA, as co-borrower with FCI, for 1,000 million euros, and to give the banks the AREVA demand guarantee for a maximum amount of 1,020 million euros, in proportion to the funds drawn by FCI. This financing system replaced the use of AREVA treasury notes worth 1,000 million euros, which was authorized by the Supervisory Board at its meeting on July 25, 2002.

- At its meeting on 10 December 2002, the Supervisory Board authorized the Management Board to take all measures required in connection with the sale of FCI's Military/Aerospace/Industry (MAI) division, which took place during 2003.
  Moreover, in connection with the sale of the MAI division, the Supervisory Board authorized the Management Board:
- on the one hand, to grant a co-surety to back the commitments given by FCI and FCI France in connection with the CATS/CASA plan, to the purchaser of MAI or to the entity to which FCI FRANCE's MAI business would be transferred, for a maximum amount of 17.8 million euros;
- on the other hand, to grant a co-surety in connection with the commitments relating to the sale given by FCI to MAI's purchaser, for a maximum amount of 33.25 million euros.

Agreements with COGEMA, FRAMATOME ANP, FCI and TECHNICATOME

At its meeting on July 25, 2002, the Supervisory Board authorized Mr ARBOLA, as Management Board member, to sign:

Four service contracts for recurring and non-recurring services invoiced by AREVA to several of its subsidiaries:

- ***AREVA and COGEMA:***
  - From January 1, 2003 to December 31 2003,
  - Annual global amount: €11,919,000,
  - Term: 1 year renewable.
- ***AREVA and FRAMATOME ANP:***
  - From January 1, 2003 to December 31 2003,
  - Annual global amount: €10,110,000,
  - Term: 1 year renewable.
- ***AREVA and FCI:***
  - From January 1, 2003 to December 31 2003,
  Annual global amount: €4,812,000,
  Term: 1 year renewable.

• ***AREVA and TECHNICATOME:***
- From January 1, 2003 to December 31, 2003
- Annual global amount: €1,171,000
- Term: 1 year renewable.

A services agreement invoiced by FRAMATOME ANP to AREVA.

Under this agreement, which terminated on June 30, 2003, FRAMATOME ANP invoiced €1,012,000.

Agreement with COGEMA

At its meeting on October 15, 2002, the Supervisory Board authorized the signature of a services contract for the recurring and non-recurring services invoiced by COGEMA to AREVA. The main terms and conditions of this service agreement were as follows:
• Term: from January 1, 2003 to December 31, 2003,
• Annual global amount: €7,774,000.

Agreement with Etablissements Pierre MENGIN

AREVA agreed to settle commitments amounting to 609,796.07 euros, made by Etablissements Pierre MENGIN, which is currently in liquidation, in connection with the sale of Euriso-Top to CIL (Cambridge Isotopes Laboratories Inc).

At its meeting on October 19, 2000, the Board of Directors authorized a guarantee for warranty obligations on this sale, for an amount equivalent to the acquisition price.

In addition, the shareholders' advance of €1,936,202.52 granted to Etablissements Pierre MENGIN in 1989, which does not bear interest, was maintained.

Agreement with FRAMATOME ANP

The guarantee for warranty obligations granted by AREVA to FRAMATOME ANP in connection with the sale of INTERCONTROLE continued to apply during the period. No funds were paid by AREVA in 2003 in connection with this guarantee.

6.2.5. Fees paid to Auditors for fiscal year 2003

(in thousands of euros)	Audit (statutory auditors, certification, review of corporate and consolidated financial statements)	Related services	Other services	Total
Deloitte & Touche Tohmatsu	3,087	1,311	0	4,398
Mazars et Guérard	993	280	0	1,273
RSM Salustro Reydel	2,447	102	380	2,929
Total	**6,527**	**1,693**	**380**	**8,600**

≫ 6.3. Profit-sharing plan

AREVA group practices in the area of savings plans (profit-sharing, incentive remuneration and savings plans) continued to reflect the background and circumstances of each subsidiary in 2003 (Framatome ANP, COGEMA, FCI and Technicatome).

6.3.1. Profit-sharing and incentive remuneration

Various profit-sharing and incentive compensation agreements are in effect in the group's companies to involve employees in their companies' overall performance and to strengthen the employee-company relationship while providing group employees with tax and employment benefits.

Profit-sharing is oriented primarily towards overall financial performance, while incentive remuneration focuses more on partial financial results or on more technical or special fields.

The purpose of these agreements is to distribute a bonus to employees (profit-sharing or incentive remuneration) of approximately one month's salary if defined objectives are met.

The incentive agreements in effect are generally based on performance criteria linked to:
- quantitative results, such as operating income, sales revenue, operating profit, etc.,
- productivity improvements;
- costs reductions;
- qualitative results, such as performance improvement objectives specific to each company.

6.3.2. Corporate savings plans and investment vehicles

AREVA's group savings plan has been in effect since May 17, 2002. The plan has three corporate funds: a money market fund, a diversified fund and a fund comprised exclusively of AREVA shares.

The companies of the Framatome ANP and FCI groups subscribe to the plan.

In addition, most COGEMA, Technicatome and FCI subsidiaries offer their own employee savings plans.

For example, the COGEMA group set up some fifteen savings plans comprising a total of forty mutual funds over the years, based on its subsidiaries' requirements.

6.3.3. Employee shareholders

AREVA shares held by group employees via employee shareholding transactions that were carried out at Framatome beginning in 1986 are currently invested in the "Framépargne" fund of the AREVA group savings plan.

The Framépargne fund held 375,858 AREVA shares at December 31, 2003, for €88,326,630 invested in company securities that are not publicly traded. The fund currently benefits from a guarantee of liquidity that takes effect whenever liquidity dips below a minimum threshold of 15%. The bank providing the guarantee held 184,717 AREVA shares at year-end 2003.

When AREVA was created in September 2001, the general management of the group expressed its desire to expand employee ownership in France and abroad.

Since we are planning to open our share capital to the financial marketplace, this would be the time to offer the opportunity of subscribing to AREVA shares to as many employees as possible.

6.3.4. Stock options

AREVA does not presently have a stock option plan at the group level.

≫ 6.4. Combined Annual and Extraordinary Meeting of Shareholders of May 4, 2004

6.4.1. Order of business

6.4.1.1. Deliberating as an Ordinary General Meeting

- Reading of the Executive Board's management report for the year ending December 31, 2003 (including information on the social and environmental consequences of the company's operations, as required per article L. 225-102-1 of the French Commercial Code).
- Reading of the Supervisory Board's report on the Executive Board's report, on the corporate financial statements and on the consolidated financial statements for fiscal year 2003; reading of the report of the Chairman of the Supervisory Board on the Supervisory Board's activities and internal control procedures, and observations submitted by the company's Statutory Auditors, in accordance with articles L. 225-68 and L. 225-235 of the French Commercial Code.
- Reading of the Statutory Auditors' report on the financial statements for fiscal year 2003.
- Reading of the Statutory Auditors' special report on agreements referred to in article L. 225-86 of the French Commercial Code.
- Approval of the corporate and consolidated financial statements of the company (balance sheet, income statement and notes) for the fiscal year ending December 31, 2003.
- Approval, in accordance with article L. 225-90 of the French Commercial Code, of an agreement relating to a guarantee given by AREVA/COGEMA/COGEMA Resources, Inc., to the Royal Bank of Canada Europe Ltd.
- Approval of agreements referred to in article L. 225-86 of the French Commercial Code.
- Discharge for the members of the Executive Board, the Supervisory Board and the Statutory Auditors.
- Appropriation of earnings for the year.
- Confirmation of directors' fees for the Supervisory Board for fiscal year 2003.
- Setting of directors' fees for the Supervisory Board for fiscal year 2004.
- Ratification of the appointment of a new member of the Supervisory Board.

6.4.1.2. Deliberating as an Extraordinary General Meeting

- Capital increase reserved for employees, in accordance with article L. 225-129 and article L. 225-138 of the French Commercial Code and L. 443-5 of the French Labor Code.

Authority to perform formalities

6.4.2. Notice of meeting

Notices of meeting were properly sent and all documentation and exhibits stipulated by current regulations were made available to you by the statutory deadline.

The management report (financial, social and environmental) is presented in chapter 5 of this annual report.

6.4.3. Resolutions

6.4.3.1. Deliberating as an Ordinary General Meeting

First resolution

Shareholders, deliberating as an Ordinary General Meeting, having heard the Executive Board's management report, the Supervisory Board's report, the Chairman of the Supervisory Board's report on the terms and conditions for preparation and organization of the Supervisory Board's functions and on the internal control procedures that were set up, the reading of the Statutory Auditors' reports, and the additional explanations provided verbally, approve in their entirety the reports of the Executive Board, the Supervisory Board and the Chairman of the Supervisory Board, as well as the balance sheet, income statement and notes to the corporate and consolidated financial statements for the year ending December 31, 2003, as presented.

Consequently, the Shareholders approve the management actions taken and accounted for by the Executive Board, and discharge the members of the Executive Board and of the Supervisory Board as well as the Statutory Auditors of their duties for the past fiscal year.

Second resolution

The Shareholders, deliberating as an Ordinary General Meeting, having:

- reviewed the March 27, 2003, authorization given by the Supervisory Board regarding AREVA's guarantee or counter-guarantee of its subsidiary COGEMA for a syndicated bank loan in the amount of C$305 million (Canadian dollars) granted in November 2000 to COGEMA Resources, Inc.,
- noted the lack of authorization in the form provided under article L. 225-88 of the French Commercial Code on regulated agreements,
- reviewed the Statutory Auditors' special report on the above,

hereby decide, as provided under article L. 225-90 of the French Commercial Code, to ratify expressly the agreement concerning the guarantee included in an instrument entitled "Amendment Letter", governed by British law and executed on February 27, 2004 by COGEMA, COGEMA Resources, Inc. and AREVA for the benefit of the finance parties ("Finance Parties") represented by the Royal Bank of Canada Europe Ltd, as lenders' agent ("Facility Agent").

Third resolution

The Shareholders, having heard the reading of the special auditors' report on agreements referred to in article L. 225-86 of the Commercial Code, state their approval of all of the agreements concluded or continued during fiscal year 2003.

Fourth resolution

The Shareholders, deliberating as an Ordinary General Meeting, noting that a €60,100, 075.10 equalization tax, which is no longer applicable, had been reclassified to equity, and taking into consideration net earnings for the year of €372,444,630.65, hereby decide to appropriate distributable earnings in accordance with the law, as follows:

• Net income for the year	€372,444,630.65
• Legal reserve (fully accrued)	
• Retained earnings	€60,100,075.10
• Distributable earnings (article L. 232-11 of the French Commercial Code)	€432,544,705.75
• Dividend to shareholders:	€219,744,746.10

Subsequent to this allocation, retained earnings are brought back to €212,799,959.65.

The dividend per share and per investment certificate is set at €6.20, plus a tax credit of €3.10 per share and per investment certificate, resulting in actual income of €9.30 per share, to be paid on June 30, 2004.

The Shareholders, deliberating as an Ordinary General Meeting, note that the amount of dividends distributed for the three previous fiscal years and the amount of the corresponding tax credit were as follows:

(in euros)

Exercice	Dividend	Tax credit	Actual income
2000	22.85	11.42	34.27
2001	6.20	3.10	9.30
2002	6.20	3.10	9.30

Fifth resolution

The Shareholders, deliberating as an Ordinary General Meeting, confirm the total annual amount of directors' fees for 2003, representing an additional €29,000 above the €145,000 initially authorized by the Ordinary General Meeting of Shareholders of May 12, 2003.

Sixth resolution

The Shareholders, deliberating as an Ordinary General Meeting, set the total amount of directors' fees for the Supervisory Board at €227,500.

This decision applies to the current year and shall remain in effect unless modified.

Seventh resolution

On the recommendation of the Supervisory Board, the Shareholders, deliberating as an Ordinary General Meeting, ratify the Supervisory Board's June 12, 2003 appointment of Olivier Pagezy as member of the Supervisory Board to replace Olivier Colombani, who has resigned, for the remainder of his predecessor's term, i.e. until the Annual General Meeting called to rule on the financial statements for the year ending December 31, 2005.

6.4.3.2. Deliberating as an Extraordinary General Meeting

Eighth resolution

The Shareholders, deliberating as an Extraordinary General Meeting, having read the Executive Board's report, the Supervisory Board's report and the Statutory Auditors' Special Report, and in accordance with the provisions of article L. 225-129 and L. 225-138 of the French Commercial Code and article L. 443-5 of the French Labor Code:

- grant full authority to the Executive Board to increase the share capital, on one or more occasions, up to a maximum par value amount of €1,000,000.00 by issuing new shares for cash, reserving the subscription of such shares for employees and former employees who are members of a company or a group "corporate savings plan" as this expression is defined in article L. 233-16 of the French Commercial Code;
- cancel, in favor of these employees and former employees, preferential subscription rights of shareholders and investment certificate holders with respect to the new shares to be issued for cash, as provided under this resolution.

This authority is granted for a period of 18 months as of the date of this General Meeting.

The Shareholders, deliberating as an Extraordinary General Meeting, grant full authority to the Executive Board to implement this resolution as required under laws and regulations, and in particular to:

- decide whether the shares should be issued directly to the beneficiaries or through mutual funds,
- determine the terms and conditions for each issue,
- set the subscription price of shares issued for cash, as required by article L. 443-5 of the French Labor Code;
- set the timetable for payment of the subscription price and, if deemed appropriate, the seniority required for employees to participate in the issue, subject to legal requirements;
- record the amount of the subscriptions and, consequently, the amount of the corresponding share capital increase;
- make appropriate amendments to the by-laws and, generally, do all that shall be necessary.

The eight resolution, delegating to the Executive Board the power to increase the capital intended for employees, was submitted to meet the requirements of the Fabius Law, which makes such a proposal compulsory every three years. In agreement with the Executive Board and the Supervisory Board, the General Meeting of the Shareholders voted against said resolution.

6.4.3.3. Authority to perform formalities

Ninth resolution

The Shareholders, deliberating as a combined Annual and Extraordinary Meeting, hereby grant full authority to the bearer of an original, an excerpt or a copy of the present meeting report wfor purposes of filing, publishing and recording same, and for other purposes as he shall decide.

Chapter 7

Recent developments and future prospects

≫ 7.1. Recent developments

January 9, 2004

On January 9, 2004, the AREVA Group sealed an agreement with the Alstom Group finalizing the acquisition of the latter's Transmission & Distribution operations (T&D). The European Commission and other relevant antitrust organizations approved the transaction.

The acquisition price should be €920 million. The division's enterprise value, set at €950 million when the deal was concluded in September 2003, was subject to closing adjustments estimated at €30 million on a preliminary basis. These adjustments will be finalized in May 2004 after conclusion of a control audit performed by AREVA. The purchase was financed entirely with the group's own funds.

With the T&D acquisition, AREVA will broaden its commercial platform and strengthen its strategic position in the energy business. The integration process and operations of this new division are described in paragraphs 4.7 and 5.1.8 of this Annual Report.

January 29, 2004

AREVA's Transmission & Distribution division (T&D) wins two turnkey contracts for a total of €32 million from Algerian company Sonelgaz. These contracts, along with two others awarded to T&D in Algeria in the past 18 months, are part of a program to upgrade the Algerian national electric grid.

February 5, 2004

Swiss power companies KKL and BKW placed four orders with COGEMA Logistics (AREVA Logistics business unit) for new deliveries of used fuel transportation and storage casks as well as transportation services.

Under the terms of these contracts, representing a total of €32 million, fourteen used fuel casks will be delivered. This transaction strengthens AREVA's relations with its Swiss customers, who have ordered eight casks in previous years.

February 26, 2004

On February 26, 2004, for the first time ever, AREVA shipped replacement steam generators to the United States for the Prairie Island nuclear plant in Minnesota operated by Nuclear Management Company.

The steam generators, manufactured at the Chalon-Saint-Marcel facility in France, were shipped by river barge then cargo ship across the Atlantic Ocean for installation at the Prairie Island 1 reactor in the fall of 2004.

This shipment is the result of AREVA's first steam generator contract in the US replacement market, which was signed in 2000.

March 8, 2004

AREVA launches its new advertising campaign.

Since its establishment in September 2001, AREVA has made itself known as a world-class industrial group and market leader in its core businesses through the 2001 corporate advertising campaign "Living better through advanced technology" and sponsorship of the *Défi français* for the America's Cup in 2002 and 2003.

March 10, 2004

AREVA's T&D division wins a €33 million turnkey contract from Aluar Aluminio Argentino, the largest aluminum producer in Argentina, to design and install a new electric power supply system at the Puerto Madryn aluminum foundry in Patagonia.

March 17, 2004

Finmeccanica, AREVA and *France Telecom* sign a new shareholders' agreement on March 17, 2004, governing their indirect participating interests in STMicroelectronics, confirming the interest of the Italian and French parties in joint management of their stake in STMicroelectronics NV ("STM"), a publicly traded company listed on the Milan, Paris and New York stock exchanges.

The main provisions of the shareholders' agreement are:

- continued Franco-Italian governance with equal representation of both parties on the supervisory board, subject to retention of minimum participating interests with STM voting rights;
- simplification of disposals of the parties' indirect shareholdings in STM;
- the right to acquire additional STM shares under certain circumstances.

April 2, 2004

AREVA's T&D division wins a €124 million turnkey contract in Dubai with local utility company DEWA (Dubai Electricity and Water Authority). This contract, providing for the turnkey construction of two high voltage substations, is the largest ever won by T&D in the Persian Gulf area. AREVA will supply, install and start up two 400/132 kV substations in the Jebel Ali Free Zone (JAFZA) and in Bukadra (Dubai Emirate).

The new substations will help meet growing demands for power in this economically flourishing region.

April 16, 2004

AREVA's T&D division strengthens its operations in China. The group launched two new production units for high and medium voltage equipment in Suzhou, Jiangsu province. These plants are part of two joint ventures with Suzhou Chuang Yuan group that were created and are majority-owned by AREVA T&D. The plants represent a turning point for the development of Suzhou AREVA T&D Switchgear Co. and AREVA T&D Suzhou High Voltage Switchgear Co., which can now draw on the latest manufacturing processes used in the group's European sites.

≫ 7.2. Future prospects

The group anticipates renewed operating income and ROACE [1] growth in 2004. Management will focus on maintaining a strong balance sheet to support operations and the group's business development commitments, particularly for major projects.

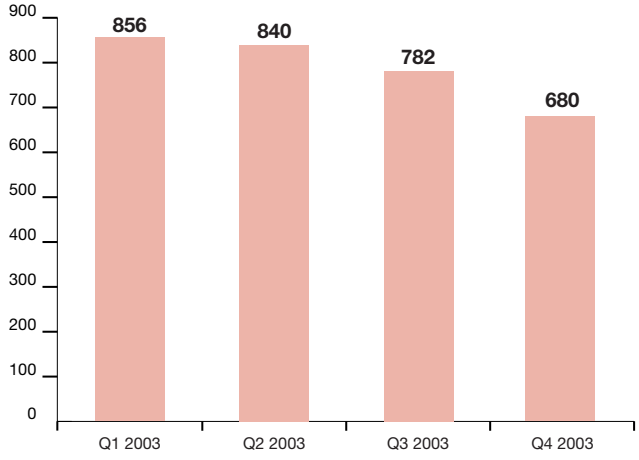
In the Energy business, the group expects the return on nuclear operations to remain at current levels.

The group will endeavor to integrate the T&D division, acquired on January 9, 2004, as quickly as possible. That business had a difficult 2003 and did not reach operating income break-even, as defined by the AREVA group.

Ranked third worldwide in its business sector, the T&D division has world-class technologies and can significantly improve its performance. The group has launched a comprehensive strategic review to refocus the division on its core businesses and markets and boost profitability significantly.

However, given the decline in orders in the second half of 2003, reflecting the Alstom group's difficulties in issuing customer guarantees, the division's operating income could remain in the red in 2004.

Orders received (millions of euros)



As for the Connectors division, the return to operating profitability is expected to be confirmed, even after restructuring expenses.

(1) Return On Average Capital Employed.

≫ Glossary

ANDRA
French National Agency for Radioactive Waste Management. Public body reporting to the ministry of the Economy, Finance and Industry and the ministry for Regional Development and the Environment. ANDRA is independent of waste producers. Set up in 1979, it is an environmental preservation organization providing three main services:
- industrial management of short-lived radioactive waste;
- research into very long-term industrial solutions for long-lived waste;
- keeping an inventory of all waste in France.

ASSEMBLY, FUEL ASSEMBLY
(see "FUEL ELEMENT")

ATOM
Basic component of the chemical elements that form matter. It consists of a nucleus composed of positively-charged or neutral particles (protons and neutrons), orbited by negatively-charged particles (electrons).

BASIC NUCLEAR FACILITIES
(In French INB)
These are nuclear facilities subjected to licensing and administrative review under the provisions of the amended Order 63-1228 of December 11, 1963. These regulations apply to "nuclear reactors, particle accelerators, plants involved in the separation or manufacture of radioactive substances (in particular plants engaged in nuclear fuel manufacturing, spent fuel reprocessing, or radioactive waste conditioning) and facilities intended for the disposal, storage or use of radioactive substances, including waste". The above facilities are only governed by these regulations when the quantity or total activity of the radioactive substances concerned is above a threshold defined according to the type of facility and the radionuclide in question. BNF surveillance is the responsibility of inspectors reporting to the DSIN (Directorate for Nuclear Facility Safety), and the DRIREs (Regional Agencies for Industry, Research and the Environment), under the authority of the ministers for Industry and the Environment.

BECQUEREL (Bq)
(see also "RADIOACTIVITY")
Unit to measure nuclear activity (1 Bq = 1 atomic nucleus disintegration per second). The becquerel is a very small unit. Nuclear activity was previously measured in curies (1 curie = 37 billion Bq).

BURNUP
The total amount of energy released by one unit of mass of nuclear fuel. Often expressed as megawatt-days per metric ton, MWd/t (thermal megawatts).

BURNUP FRACTION
The percentage of nuclei that have disappeared due to fission.

CENTRIFUGE
Enrichment process in which a gaseous mixture of isotopes is spun at very high speed, using the centrifugal force to modify the composition of the mixture.

CLADDING
Sealed metal tube surrounding nuclear fuel to protect it from corrosion by the coolant and prevent the dispersal of fission products. Cladding constitutes a “primary barrier”.

CONTAINMENT AREA
During the construction of a facility designed to house radioactive materials, a series of containment barriers is put up between the materials inside and the environment outside the facility during construction. This creates separate areas called "containment areas".

CONTROL OF NUCLEAR MATERIALS
This function has two aspects: all the provisions implemented by operators to ensure the safety of the materials in their possession: monitoring and accountability, containment, surveillance, physical protection of materials and facilities, protection during transportation, inspection by governmental or international bodies (e.g. IAEA, Euratom) to verify the effectiveness and reliability of the above provisions. In both cases, control is aimed at preventing any subversive activities.

COOLANT
Fluid circulating in the reactor core to remove heat.

CORE
Area in a nuclear fission reactor comprising the nuclear fuel arranged to foster the fission chain reaction.

CRIMPING
Method for permanently attaching a connector to a conductor using pressure to squeeze or shape the crimp barrel (section of the splice or terminal that receives the conductor) around the conductor to establish a good electrical and mechanical connection.

CRITICALITY (ADJ. CRITICAL, SUBCRITICAL, SUPERCRITICAL)

A medium containing a fissile nuclear material becomes critical when neutrons are produced by fission of the material at the same rate as they dissipate through absorption and escape to the outside.

DECOMMISSIONING

Term covering all stages following the shutdown of a nuclear or mining facility at the end of its operating life, from final closure to the removal of radioactivity at the site, including physical dismantling and decontamination of all non-reusable facilities and equipment.

DECONTAMINATION

Decontamination is a physical, chemical or mechanical operation designed to eliminate or reduce the presence of radioactive or chemical materials deposited on or in a facility, open area, equipment or personnel.

DGSNR
(see also "IRSN")

French General Directorate for Nuclear Safety and Radiological Protection: a government department under the authority of the ministers for Industry, Environment, Health, Labor, etc. Its specific functions are to define and implement policy in the field of nuclear safety (civil applications) and radiological protection and, in particular, verify safety-related provisions in the nuclear sector, contemplated or implemented by operators, and inspect liquid and gaseous effluents and waste discharged by basic nuclear facilities.

DISPOSAL OF RADIOACTIVE WASTE
(See also "STORAGE")

Radioactive waste management operation consisting of disposing of packaged waste in a repository that will ensure safety without time limitation.

DOSE

Measurement characterizing the exposure of individuals subjected to radiation. The term dose is often mistakenly used instead of dose equivalent.

- Absorbed dose: quantity of energy absorbed by matter living or inert) exposed to radiation. It is expressed in grays (Gy).
- Dose equivalent: in living organisms, an absorbed dose has different effects depending on the type of radiation X, alpha, beta and gamma). To take these differences into account, a dose-multiplying factor is used known as the "quality factor") to compute a "dose equivalent".
- Effective dose: sum of weighted dose equivalents deposited on the various tissues and organs by internal and external irradiation. The unit of measurement for effective dose is the sievert (Sv).
- Lethal dose: fatal dose of nuclear or chemical origin.
- Maximum permissible dose: dose that must not be exceeded for a given period of time.

Gray (Gy): unit of measurement for the absorbed dose. The absorbed dose was formerly measured in rads (1 gray = 100 rads).

Sievert (Sv): unit of measurement for the dose equivalent, i.e. the fraction of energy contributed by ionizing radiation and received per kilo of living matter. On the basis of the measured energy dose received (measured in grays), the dose equivalent is calculated by applying various factors according to the type of radiation received and the organ concerned.

Commonly used submultiples are:

- The millisievert, or mSv, equal to 0.001 Sv (a thousandth of a Sv),
- The microsievert, or µSv, equal to 0.000 001 Sv (a millionth of a Sv).

For example, the mean annual dose from exposure to natural background radiation (soil, cosmos, etc.) of the population in France is 2.4 mSv/person.

ELECTRIC CONTACT

Conducting element of a component that connects with a matching element to transfer current.

ELECTRICITY DISTRIBUTION NETWORK

Network that delivers electricity locally to end-users: industries, businesses, service providers, residences, etc. Electricity is distributed at medium voltage (12-24,000 V) and gradually reduced to low voltage at the point of end use (230 V in Europe, 110 V in the United States).

ELECTRICITY NETWORK MANAGEMENT SYSTEM

Systems to optimize electricity flows, prevent equipment overloads, limit losses and analyze outage risks.

ELECTRICITY TRANSMISSION NETWORK

Network for electricity transmission from the power plant to the distribution network. It covers large geographical areas. The transmission network includes high voltage and very high voltage power lines, transformers and switchgear equipment.

ENERGY MARKET MANAGEMENT SYSTEM
Management software for energy markets that allows power generators and distributors to manage their commercial relations more effectively. The software provides strategic planning; deal conclusion, risk management and optimum processing; and customer account management.

ENRICHED URANIUM AND DEPLETED URANIUM
Before it is used to manufacture fuel elements, natural uranium is enriched with 235U (the proportion of 235U is then 3% to 5%) Uranium enriched in 235U is obtained from natural uranium using an isotope separation process. The physical or chemical processes used to produce enriched uranium also produce at the same time uranium that has a lower proportion of 235U than natural uranium: this is known as depleted uranium.

ENRICHMENT
Process used to increase the abundance of fissile isotopes in an element. Naturally occurring uranium is composed of 0.7% 235U (fissile isotope) and 99.3% 238U (non-fissile isotope). To make it suitable for use in a pressurized water reactor, the proportion of 235U is increased to about 3-4%.

EXPOSURE
Exposure of an organism to a source of radiation characterized by the dose received. External exposure: exposure from a radiation source located outside the organism. Internal exposure: exposure from a radiation source located inside the organism.

FISSION
Splitting of a heavy nucleus – generally upon impact with a neutron – into two smaller nuclei (fission products), accompanied by the emission of neutrons and radiation, and the release of a considerable amount of heat. The energy thus released as heat is the underlying principle of nuclear generated electricity.

FISSION PRODUCTS
Fragments of heavy nuclei produced by nuclear fission (splitting of 235U or 239Pu nuclei) or subsequent radioactive decay of nuclides formed during this process. All fission fragments and their decay products are called “fission products”. In reprocessing plants, they are separated by extraction with a solvent after dissolving the fuel in nitric acid, then concentrated by evaporation and stored before being packaged as a vitrified product placed in a stainless steel canister.

FLEX
Interconnection system for flex strips.

FUEL ASSEMBLY
Bundle of fuel rods filled with uranium or MOX pellets. The core of a reactor contains from 100 to 200 fuel assemblies, depending on the reactor type.

FUEL CYCLE
The combination of industrial operations involving nuclear fuel. These operations include uranium ore mining and processing, uranium conversion and enrichment, fuel fabrication, used fuel treatment, recycling of recovered fissile materials, and waste management. The fuel cycle is said to be “closed” when it includes used fuel treatment and recycling of fissile materials recovered by such treatment. The fuel cycle is said to be “open” (also called the “once-through” cycle) when used fuel is placed in a repository without treatment.

FUEL ROD
Metal tube about 4 m long (about 13 feet) and 1 cm in diameter (2/5 of an inch) filled with about 300 pellets of nuclear fuel.

GASEOUS DIFFUSION
Process for separating molecular species in gaseous form that uses the difference in the velocity of these molecules, due to their different mass and dimensions, and thus the different rates at which they pass through a semi-permeable membrane. This is how the uranium hexafluorides 235UF6 and 238UF6 are separated, causing enrichment in 235U for nuclear fuel.

HIGHLY ENRICHED URANIUM (HEU)
Highly enriched uranium. Under the “Start” treaties, the USA pledges to sell the SWU contained in the HEU resulting from disarmament and guarantees that until 2013, the natural UF6 in the HEU be recovered by a consortium of which AREVA is a member.
For the group, the UF6 recovered is equal to 2,000 metric tons of mined uranium per year.

IAEA
International Atomic Energy Agency International organization under UN control, whose aim is to promote the peaceful use of nuclear energy and check that nuclear materials in the possession of users are not diverted for military use.

INES

INES (International Nuclear Event Scale) is an international scale used to define the severity of an event occurring in a nuclear facility. It was designed by an international group of experts brought together by the International Atomic Energy Agency (IAEA) and the Nuclear Energy Agency (NEA) of the OECD. It was set up at international level in 1991. Like the scales used in the field of seismology seismology or avalanches, for example, this scale serves as a tool for informing the media and the general public. Events are classified by increasing order of severity from level 0 to level 7. Following a favorable decision issued on 24 June 1999 by the CSSIN (French consultative council for nuclear safety and information), the Nuclear Safety Authority decided to widen the scope of the INES scale to include the classification of incidents or accidents concerning the transportation of radioactive materials for a trial period of one year. As an example, the Chernobyl accident was a level 7 event.

IRSN
(see also "DGSNR")

Institute for Radiological Protection and Nuclear Safety. Organization set up to carry out research and appraisal activities in the fields of nuclear safety, human and environmental protection and transportation safety. IRSN provides the DGSNR (see this term) with technical support.

ISO STANDARD

International standards. The ISO 9000 standards series defines quality organization and management system requirements to demonstrate the quality of a product or service based on customer requirements. ISO 14000 standards recommend environmental organization and management system requirements to prevent any pollution and lessen the impact of a given activity on the environment.

ISOTOPES

Elements whose atoms have the same number of electrons and protons, but a different number of neutrons. Uranium, for example, has three isotopes: 234U (92 protons, 92 electrons, 142 neutrons), 235U (92 protons, 92 electrons, 143 neutrons), and 238U (92 protons, 92 electrons, 146 neutrons). A given chemical element can therefore have several isotopes with a differing number of neutrons. All of the isotopes of a given element have the same chemical properties, but different physical properties (mass in particular).

ISOTOPIC ABUNDANCE

Ratio of the number of atoms of a given isotope of an element to the total number of atoms of this element contained in a material. It is expressed as a percentage.

LEACHING

Process for extracting certain compounds contained in powdery, permeable or porous medium, using a suitable solvent that flows naturally through the material to be processed. This method can be applied directly to highly fragmented soil (in situ leaching), or to material that has been extracted, broken up and placed on a suitable area (heap leaching). This process is used to extract metal elements, including uranium. The same process is involved when rainwater runs through a mass of waste and extracts certain components from it.

MOX

("Mixed oxides") A mixture of uranium and plutonium oxides used to make certain nuclear fuels.

NATURAL URANIUM (UNAT)

Naturally occurring radioactive element in the form of a hard, gray metal, found in several ores, pitchblende in particular. Natural uranium comes as a mixture composed of 99.28% fertile 238U, and 0.71% 234U.

NUCLEAR FUEL

Nuclide that releases energy when it is consumed by fission inside a reactor. By extension, any product containing fissile materials that yields energy in a reactor core by sustaining the chain reaction. A 1,300 MW PWR contains about 100 tons of fuel, periodically renewed in sections.

NUCLEAR SAFETY
(see also "SAFETY ANALYSIS REPORT")

In the nuclear industry, nuclear safety covers all the measures taken at every stage of the design, construction, operation and final shutdown of a facility to ensure operational safety, prevent incidents, and limit their impact.

- Fundamental safety rules (RFS): rules applying to basic nuclear facilities stipulating the requirements to be met under French law.
- General operating rules (RGE): document defining the prescribed operating range of the facility and identifying functions important for safety. It describes measures to be taken if facility performance is outside the normal operating range.

PACKAGING

Fuel packaging: special packaging for used fuel to prepare it either for interim storage or for placement in a repository.

Waste packaging: operation consisting of converting waste into a form suitable for transport and/or storage and/or final disposal.

- Very low-level radioactive waste (vinyl, cleaning rags, etc.) is placed in steel drums.
- Low- and medium-level waste is first compacted to reduce its volume as much as possible, then encapsulated in a special material (concrete, bitumen or resin) to form solid blocks capable of withstanding environmental conditions.
- High-level waste is encapsulated in glass, i.e. vitrified. The vitrified waste is placed in stainless steel canisters.

PLUTONIUM

Chemical element with the atomic number 94 and conventional symbol Pu. Plutonium 239, a fissile isotope, is produced in nuclear reactors from uranium 238.

PROTECTION SYSTEM

Combination of equipment used to detect and eliminate defects or other abnormal operating conditions in electrical networks.

RADIATION, IONIZING RADIATION (see also "RADIOACTIVITY")

Electromagnetic waves (such as radio waves, light waves, UV or X-rays, etc.), and particles (electrons, protons, and neutrons) or groups of these particles. The energy of these waves or particles is respectively proportional to their frequency and velocity. These types of radiation act on irradiated objects by stripping electrons from their atoms, leaving ionized atoms (electrically charged) in their wake, whence the generic name of IONIZING RADIATION.

RADIATION PROTECTION (see also “RADIOACTIVITY”)

Term commonly used to designate the branch of nuclear physics concerned with protecting people from ionizing radiation (also referred to as “health physics”). By extension, the term covers all of the health measures taken to protect members of the public and workers from such radiation and to comply with laws and regulations.

RADIOACTIVE WASTE

Non-reusable by-products of the nuclear industry. The four classes of waste are based on radioactivity levels:

- very low-level waste (VLLW);
- low-level waste (LLW) from industrial operations and maintenance, such as gloves, overshoes, face masks, etc., which make up 90% of the waste sent to licensed repositories;
- medium-level waste (MLW), such as dismantled production equipment, measurement instrumentation, etc. (8%);
- high-level waste (HLW), mainly fission products that have been separated during used fuel treatment and recycling operations (2%).

RADIOACTIVITY

Emission by a chemical element of electromagnetic waves and/or particles caused by a change in its nucleus. Emission can be spontaneous (natural radioactivity of certain unstable atoms) or induced (artificial radioactivity). Radioactivity has several forms:

- Emission of alpha particles (combination of 2 protons and 2 neutrons), called “alpha radiation”. The particles making up alpha radiation are helium 4 nuclei that are highly ionizing but not very penetrating. A single sheet of paper stops them.
- Emission of electrons, known as “beta radiation”. The particles making up beta radiation are electrons with a negative or positive charge. A few meters of air or a single sheet of aluminum foil can stop them.
- Emission of electromagnetic waves, known as “gamma radiation”. Electromagnetic radiation is similar to light and X rays. Thick, compact materials (concrete, lead) are needed to stop it. All of these different types of radiation are grouped under the general heading of “ionizing radiation”. The radioactivity of an isolated quantity of an element gradually decreases over time as the unstable nuclei dissipate. The half-life is the time required for the radioactivity of a radioactive substance to decrease by half.

RADIONUCLIDE

Any radioactive substance. There are only a few naturally-occurring radionuclides, including some heavy elements (thorium, uranium, radium, etc.) and some light elements (carbon-14, potassium-40, etc.). The others, more than 1,500 in all, are created artificially in the laboratory for medical purposes or for use in nuclear reactors as fission products.

REACTOR, NUCLEAR REACTOR

System in which controlled nuclear reactions are conducted, producing heat that is used to make steam. The steam activates a turbine, which drives an electric generator. Different reactor types use different fuel, moderators (to control the reaction) and coolants (to remove heat used to generate power). The pressurized water reactor (PWR) currently used by EDF uses slightly enriched uranium fuel and pressurized light water as the moderator and coolant.

- Boiling Water Reactor (BWR): nuclear reactor in which boiling pressurized water is used to remove the heat from the reactor.
- Pressurized Water Reactor (PWR): nuclear reactor moderated and cooled by light water maintained in the liquid state in the core through appropriate pressurization under normal operating conditions.

RESIDUAL HEAT
In a shut down nuclear reactor or used fuel assembly, the heat released by the radioactivity of the nuclear fuel and other materials.

RESIDUE
Non-reusable material remaining after a physical or chemical operation. In the field of reprocessing, the term has a more specific meaning and covers all waste that has undergone packaging.

SAFETY ANALYSIS REPORT (SAR)
Report describing the design of a facility and the construction measures implemented to ensure safety. This report also presents a risk analysis. The preliminary safety analysis report, written during the preliminary design stage, contains a general description of the facility. It sets out to identify risks, define safety options, list safety principles, and justify the choice of site. It is used to support the application for a building permit, under the provisions of the 1963 Order. The intermediate safety analysis report is submitted to support the application for an operating license. It describes the facility as completed and is used to verify that the facility has been built in accordance with the safety principles set out in the preliminary safety analysis report.

SHIPPING CASK
Packaging specially designed to ensure total containment of certain radioactive materials (spent fuel, vitrified waste, etc.) during their transportation, and to withstand any accidents.

STORAGE (see also "DISPOSAL")
Temporary storage of radioactive waste.

STORAGE POOL
Pool in which used fuel is stored after removal from the reactor to allow the assemblies to lose most of their radioactivity through radioactive decay. The water shields personnel from the radiation emitted by the used fuel.

SWU (Separative Work Unit)
The production of an enrichment plant is expressed in separative work units, or SWUs. This unit is proportional to the amount of uranium processed and is used to express the work involved in separating a fissile isotope.

TRANSFORMER STATION (Substation)
Interface between sections of a power network that operate at different voltages. In the substation, voltage is transformed and electricity supply flows are controlled.

TREATMENT
Treatment of used fuel to extract fissile and fertile materials (uranium and plutonium) for recycling purposes and to package the different types of waste into a form suitable for disposal. Fission products and transuranics are vitrified.

URANIUM
Chemical element with the atomic number 92 and conventional symbol U, which has three natural isotopes: 234U, 235U and 238U. The only naturally occurring fissile nuclide is 235U, which is why it is used as a source of energy.

URANIUM HEXAFLUORIDE (UF6)
The uranium contained in nuclear fuel must be enriched in fissile 235U. Enrichment is achieved by gaseous diffusion or by advanced centrifuge. For this purpose, the uranium is first converted into a gas called uranium hexafluoride.

VITRIFICATION
Process used to solidify concentrated solutions of fission products and transuranic elements separated during used fuel treatment by mixing them with a glass matrix at high temperature.

YELLOW CAKE
"cakes" of 80% uranium concentrates.

ZIRCONIUM
Transition metal, like titanium, discovered in 1824 by Berzélius. Zirconium has the atomic number 40 in the periodic table of the elements. It is the alloy base in the cladding of light water reactor fuel elements, chosen for its mechanical strength and corrosion resistance in high temperature water combined with its very low thermal neutron absorption.

≫ Notes

A business corporation (société anonyme) with an Executive Board and a Supervisory Board capitalized at €1,346,822,638
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