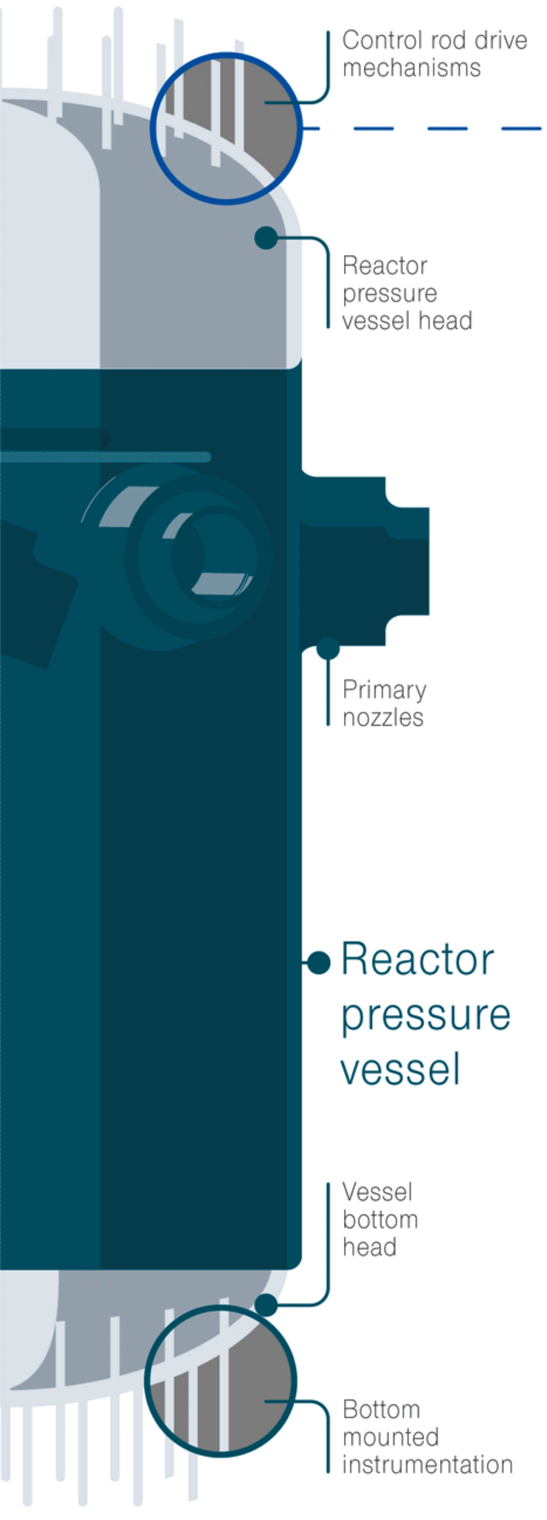
WHAT IS CAVITATION PEENING?

AREVA

This new maintenance technique significantly extends the life of the primary circuit components by improving their material properties and enhancing their resistance to corrosion. It can be applied to pressurized water and boiling water reactors.



What is it used for?

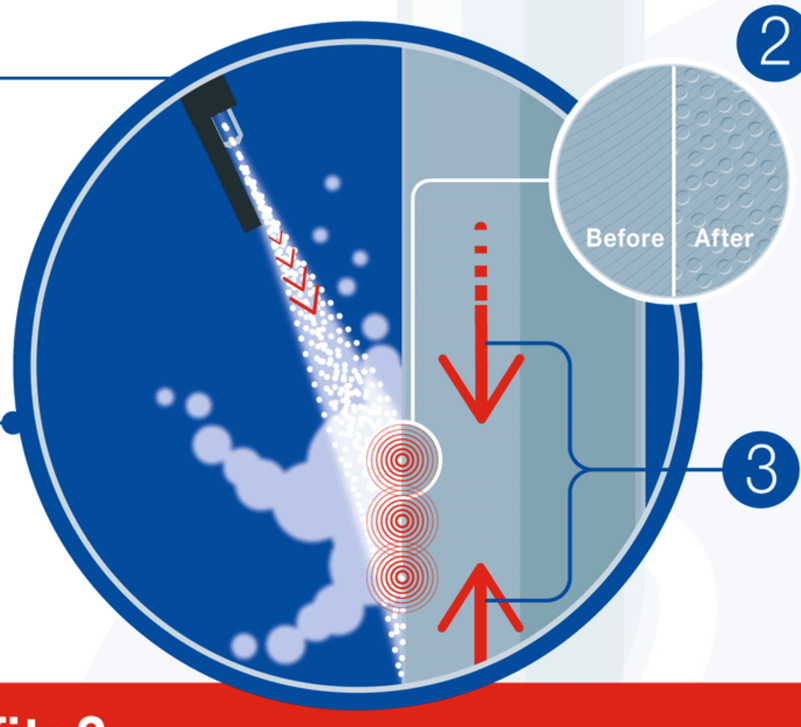
To fight against primary water stress corrosion cracking caused by a combination of three factors:

- **A susceptible material:** Alloy 600
- **Tensile stresses:** At the welded surface during the manufacturing stages
- **A corrosive environment:** Borated water at a high temperature and pressure

How does it work?

1 High pressure water spray generating cavitation bubbles

Example of process application



2 Implosion of cavitation bubbles peening the surface of the component

3 Introduce compressive stresses to offset the tensile stress

What are the benefits?

- **Extend the life of nuclear reactor components**
- **Potential reduction of inspections**
- **Effective method** especially when access to space is limited
- **No risk of damage** to the metallic surface
- **Low impact on outage duration**

agence ide