

>25

YEARS OF NUCLEAR  
D&D EXPERIENCE

>20

COMMERCIAL  
AND RESEARCH  
REACTORS ORANO  
HAS EXECUTED  
D&D ACTIVITIES AT  
WORLDWIDE

# Comprehensive D4 solutions

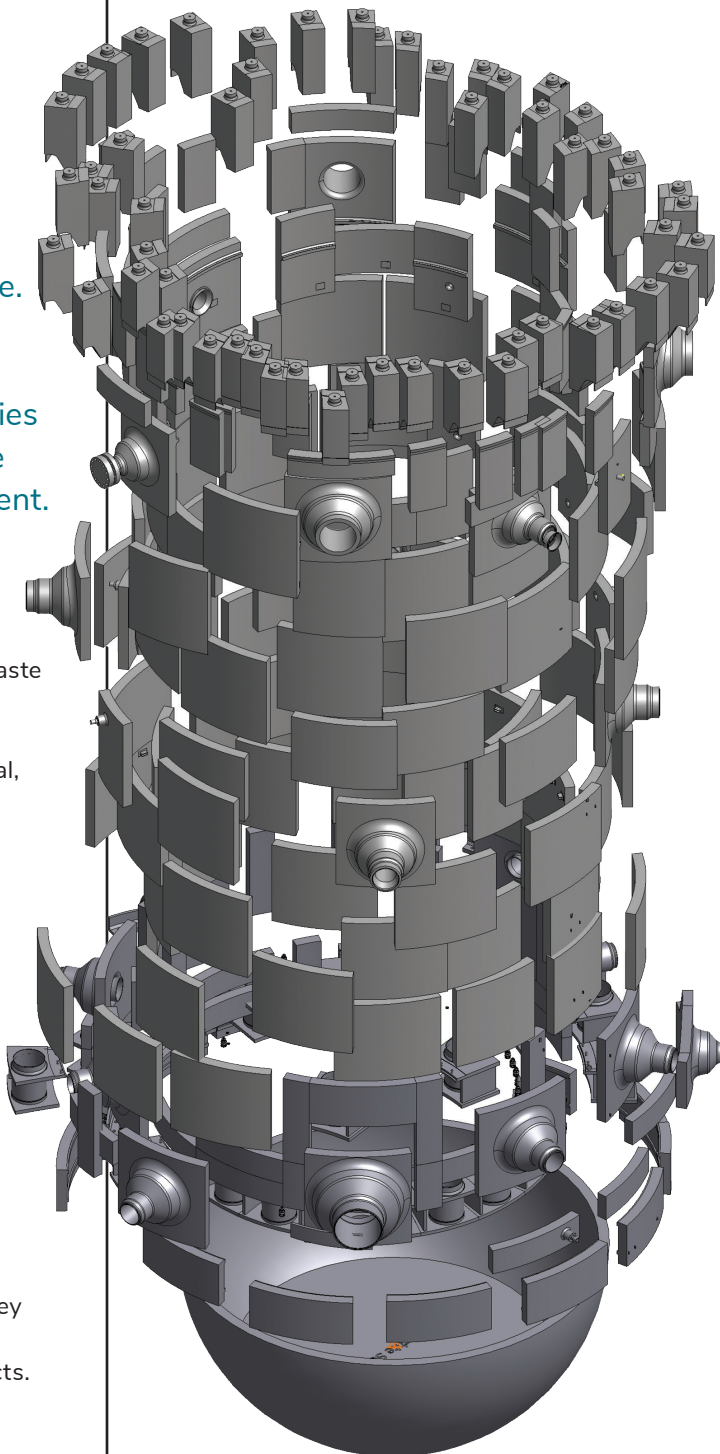
Orano has the capabilities to provide customized and comprehensive deactivation, decontamination, decommissioning and dismantling (D4) solutions to nuclear facilities that have reached the end of their life cycle. Orano has created, adapted and executed decontamination and decommissioning (D&D) strategies for a variety of nuclear fuel cycle facilities, processes and equipment.

With more than 25 years of experience working in challenging radiological conditions during D&D activities, Orano has deployed innovative D&D methods, waste management strategies, and technologies. Orano offers capabilities and lessons learned for waste characterization, retrieval, packaging, transportation logistics, and deactivation and decommissioning.

Our capabilities include:

- Planning
- Characterization
- Remediation
- Final status survey (FSS)
- License termination
- Site restoration

Orano developed and deploys our Survey Data Management System (SDMS) for managing the very large volume of data produced by Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM) based site characterization and FSS projects. The SDMS database application is used to produce survey work packages; receive downloads from portable survey instruments

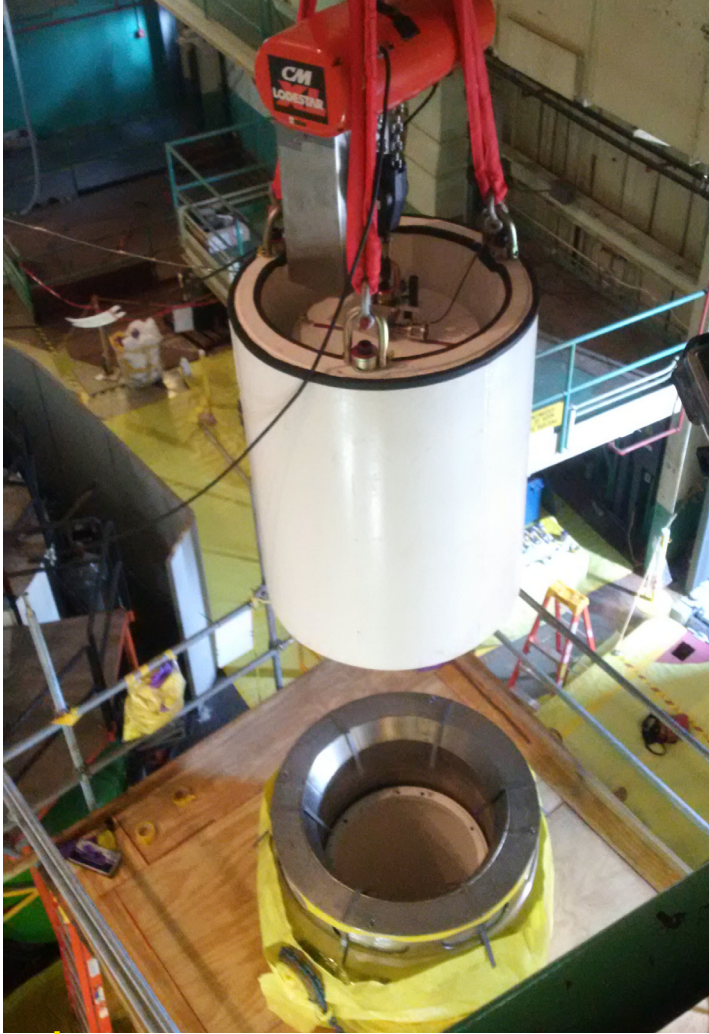


Reactor vessel segmentation



Leah Crider  
+1 910 632 4294  
leah.crider@orano.group

[orano.group/usa](http://orano.group/usa)



Transferring waste from fuel pool to shipping package

and laboratory analysis data; to efficiently organize and capture the links between the different pieces of data.

*The SDMS is designed to be used throughout the decommissioning process—from historical site assessment, scoping surveys and facility characterization to post-remediation, FSS, license termination, and final site and facility closeout.*

The structure and algorithms contained in the Microsoft Access based SDMS tool facilitates implementation of D&D processes endorsed and prescribed in NUREG-1757 and in the MARSSIM.

Over the last ten years Orano has:

- Prepared plans to segment, package, and transport pressure vessel and internal reactor components as part of a major commercial decommissioning and dismantling project, which is currently underway.
- Successfully planned and implemented size reduction and removal of irradiated components with extremely high dose rates from a national laboratory's reactor pool, packaged, and shipped for disposal.
- Provided packaging and transportation services for hundreds of shipments from a national laboratory to licensed disposal facilities without incident and with no violations.
- Successfully performed the full scale historical site assessment and characterization of a two unit commercial nuclear power plant with the characterization surveys being planned and performed with the same processes, protocol and methods as a MARSSIM compliant FSS.