DECOMMISSIONING
AND DISMANTLING
Further to the back end of the nuclear fuel cycle including spent fuel storage and reprocessing, the life cycle of nuclear power plants includes decommissioning, dismantling and waste management.

As the leading vendor of nuclear power plants and provider of all front-end and back-end nuclear fuel cycle services including spent fuel storage and reprocessing, and using its experience gained in major D&D projects executed during past decades, AREVA offers dismantling of nuclear facilities up to site recultivation.
Recycling

When unloaded from the reactor, used nuclear fuel still contains about 96% of its original content of useful material. Recycling saves about 25% of natural uranium resources and reduces the radioactive waste volume to be disposed by a factor of five and its toxicity by a factor of ten. Leading in the field of used fuel recycling, AREVA contributes to sustainable and responsible utilization of resources and to safe and ecologically compatible management of radioactive waste.

Transport & Logistics

AREVA is leading in design and manufacture of specialized equipment and packaging for transportation as well as storage of nuclear and radioactive materials. It offers shipping and storage containers compliant with the most stringent requirements in terms of safety and protection at both the front- and back-end of the nuclear fuel cycle. Our different types of packages include industrial waste containers for transport and storage of low active waste up to B type packaging for spent fuel, vitrified high active waste, plutonium or other heavily radioactive sources. Our product line is complemented with other high level waste or spent fuel storage solutions such as spent fuel storage pools or dry vault storage facilities.

Decommissioning and Dismantling

With more than 20 years experience, AREVA manages and realizes decommissioning and dismantling operations of nuclear power plants and fuel cycle facilities. Based on this comprehensive experience, AREVA has developed and now successfully applies most efficient methods and processes improving productivity of dismantling works as well as treatment and packaging of resulting residues.

Recultivation of Sites

Recultivation of sites to “green field” or value development completes the lifecycle of nuclear plants or facilities. Significant development has enabled AREVA to apply state-of-the-art technology and to successfully meet the challenges involved with nuclear site clean-up and restoration.
Safe and efficient decommissioning is essential in managing the end of the lifecycle of nuclear facilities. As the nuclear power plant service provider with overall plant competence, we at AREVA gained most valuable experience in dismantling management and execution worldwide. Our experienced and dedicated staff is available to support our customers in cost-effective execution of their decommissioning and dismantling projects.
Our offer
AREVA’s experienced staff, skilled in the necessary variety of disciplines, is available to assist you in managing and realizing your D&D projects during all phases from preparation to completion:

Concept and licensing planning
Development of appropriate dismantling strategies and scenarios to achieve safe and cost effective completion comprising the development of concepts and strategies related to:
- adjustment of plant organization and staff to post-operation requirements (deregulation)
- licensing procedure
- radiological evaluation and control
- dismantling operations
- utilization of auxiliary facilities, tools and equipment

D&D preparation
Preparation for dismantling such as:
- plant defueling
- detailed radiological characterization including sampling
- decontamination of systems and facilities
- procurement and installation of auxiliary systems and equipment including temporary, mobile operating systems and waste treatment plants

Dismantling
Realization of all the works related to:
- disassembly of plant and equipment including activated heavy reactor components
- decontamination of plant and equipment
- treatment, conditioning, packaging and transport of radioactive waste to storage
- recording, monitoring, surveillance and inspections

Your benefit
- robust execution programs built on extensive experience gained during realization of numerous D&D projects worldwide
- application of cost efficient and highly productive processes, optimized through consequent implementation of state-of-the-art productivity improvement methods such as value stream management (VSM)
- mitigation of collective dose burden following implementation of optimized disassembly procedures
- reduced radwaste generation and consequently less packaging expenses

Grouting of waste packages in the solid waste conditioning facility
Protection of people and environment against radiation come first in each phase of the lifecycle of nuclear power plants. Therefore, decontamination of plant and equipment is important; not only during operation but also in preparation for decommissioning: Effective decontamination reduces both, dose burden to personnel and generation of radioactive waste.

With more than 30 years experience gained in decontamination of operating and decommissioned nuclear power plants, AREVA offers Full System Decontamination (FSD), a most effective process for decontaminating all the components comprising the primary circuit and the most important auxiliary systems of nuclear power plants. Further, AREVA’s FSD technology is successfully used for clean-up all systems of the fuel cycle facilities.

Reducing the sources of radiation mitigates collective doses received from dismantling activities, enhances safety and, in turn, allows for most cost effective utilization of resources.
Our major decommissioning and dismantling projects

AREVA’s strength in competitive solutions as relates to costs, implementation deadlines and efficient project management is based on extensive expertise gained in the management of large and complex nuclear constructions. An extract of the numerous projects successfully completed is given in the following:

References (extract):

**Disassembly and packing**
- Germany: Reactor pressure vessel and internals in the boiling water reactor Würgassen, internals of the reactor pressure vessel in the pressurized water reactor Stade
- USA: Millstone, Rancho Seco, Yankee Rowe

**System decontamination**
- Germany: Stade, Obrigheim
- Sweden: Bärsebäck and many other projects

**Fuel assemblies and waste management**
- Japan: Fukushima
- Great Britain: Dounreay

**Project management support**
- France: Superphénix

**Management and realization of dismantling projects**
- USA: Hanford, Savannah
- France: Marcoule, Carderache
- Great Britain: Sellafield

Internals of the Reactor Pressure Vessel of the Stade PWR were disassembled and packaged.
AREVA supplies solutions for power generation with less carbon. Its expertise and unwavering insistence on safety, security, transparency and ethics are setting the standard, and its responsible development is anchored in a process of continuous improvement.

Ranked first in the global nuclear power industry, AREVA’s unique integrated offering to utilities covers every stage of the fuel cycle, nuclear reactor design and construction, and related services. The group is also expanding its operations to renewable energies – wind, solar, bioenergy, energy storage – to be one of the leaders in this sector worldwide.

With these two major offers, AREVA’s 47,000 employees are helping to supply ever safer, cleaner and more economical energy to the greatest number of people.

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