REFERENCE CASE POWER PLANT

Services during Decommissioning and Dismantling of a German Nuclear Power Plant

After several years in operation, the authorization to decommission the Mülheim-Kärlich nuclear power plant was granted in 2004 and deconstruction began. For this challenging project, the nuclear power station required reliable and expert organization. This is why the power plant owners entrusted TÜV Rheinland to provide comprehensive services throughout the decommissioning and dismantling phases.

Basic Facts	
Client	Mülheim-Kärlich nuclear power plant
Timeframe	Since 2004
Project location	Mülheim-Kärlich, Rheinland-Palatinate, Germany
Main services	▪ Safety analysis during decommissioning and dismantling ▪ Monitoring of the phasing-out of the plant ▪ Inspections of the deconstruction of plant systems and components
Involved regulations/standards	Nuclear regulations from the German Nuclear Safety Standards Commission (KTA)

Initial situation and requirements

The nuclear power plant of Mülheim-Kärlich, situated near Koblenz in the region of Rheinland-Palatinate in Germany was a pressurized water reactor with an electrical output of over 1.300 MW. After several years of operation, it is usually hardly feasible to modernize and operate many nuclear power plants, thus decommissioning and dismantling concludes a facility lifecycle. To that end, the German nuclear power plant, in operation since 1986, was granted authorization of decommissioning in 2004.

Power plants cannot be simply dismantled with a wrecking ball. Some nuclear station's parts may be contaminated with toxic residues from decades of operation and must be disposed of carefully and properly. This is why the Mülheim-Kärlich nuclear facility chose to rely on TÜV Rheinland's extensive experience in the field of nuclear power to provide a comprehensive range of services during the decommissioning and dismantling phases, ensuring full safety and proper progress of the project.

Solutions, results

The Mülheim-Kärlich nuclear power plant has a long history with TÜV Rheinland. First, we continuously provided safety analysis services during the various licensing stages, from construction to operation of the facility. As the expert organization according to the German Atomic Energy Act and knowing at best the plant's specific requirements and conditions, TÜV Rheinland emerged once again as the most reliable partner to accompany the project through decommissioning and deconstruction.

Deeply involved in the deconstruction of the Mülheim-Kärlich nuclear power plant, our experts offered comprehensive solutions and support from the large TÜV Rheinland portfolio of services for decommissioning and dismantling power plants. We began by providing expert analysis of the application to amend the decommissioning authorization and prime dismantling phase. Our experts then monitored the phasing-out of the plant, including inspections, evaluations and periodic tests. We further analyzed the safety of the measures involved in dismantling activities, that is, deconstruction and disassembly of the plant; ensuring on-site radiation protection, occupational health and safety and fire prevention and implementing measures needed to protect the phasing-out system.

Drawing on over 20 years of extensive experience and broad knowledge in providing expert evaluation of the shutting down, decommissioning and deconstruction of nuclear power plants, we provided the Mülheim-Kärlich facility with efficient solutions and comprehensive services to ensure 100% safety throughout the entire dismantling project.

Did you know?

The construction of the Mülheim-Kärlich nuclear power plant started in 1975 and cost 7 billion DM (about 3.6 billion Euros). The facility's first current production occurred on March 14th 1986.

Read more about our services during decommissioning and dismantling of power plants.

Benefits for the client

TÜV Rheinland supported the Mülheim-Kärlich nuclear power plant by providing:

- Neutral and reliable services during decommissioning and dismantling.
- Extensive experience in nuclear energy projects and quality and safety issues.
- Tailored services and efficient solutions from a single source.

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About TÜV Rheinland:

Founded more than 140 years ago, TÜV Rheinland is a global leader in independent inspection services, ensuring quality and safety for people, the environment, and technology in nearly all aspects of life.

We inspect technical equipment, products and services, oversee projects and help to shape processes for companies around the world. Since 2006, we have been a member of the United Nations Global Compact to promote sustainability and combat corruption.

We offer you extensive energy sector experience, providing specialized solutions for all types of power plants – traditional, renewable and nuclear – from early stages of authorization and construction all the way through to operation and decommissioning.

During decommissioning and dismantling of nuclear power plants, we can provide clients with a wide range of services including expert analysis of deconstruction plans and evaluation of radiation protection, procedures qualification, waste flow management and control and waste disposal, consultancy, as well as support for approval procedures.

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