

Integrated Maintenance

Optimized Outage and Maintenance Execution

An integral approach for outage services and recurrent maintenance covering the full range of services including dedicated tools and efficient outage management will save money and time.

Challenge

The primary objective of a nuclear power plant operator is to ensure efficient plant operation while at the same time guaranteeing a high level of plant safety and quality. It is for this reason that regular outages and periodic maintenance programs are in place.

One of the major challenges is to reduce or optimize outage duration and cost but keeping up the required level of nuclear power plant maintenance. Apart from optimized preparation and task planning, the efficient execution of all activities according to outage schedule is a key performance factor. Ad-hoc handling of unplanned events including availability of required resources is a crucial factor as well.

Solution

Our integrated maintenance concept is based upon the most extensive portfolio of nuclear power plant services offered worldwide. We provide a full spectrum of inspection, maintenance and repair activities, combined with outage management services. In doing so, our worldwide experience with in-depth expertise and highly advanced and innovative technology is deployed for the benefit of our customers.

The bundling of individual activities/tasks into larger work packages, already practiced successfully in other branches of industry worldwide, is equally beneficial for nuclear power plant maintenance.

Working together with specialized partners, we integrate plant's individual maintenance modules into packages tailored to customer's needs and capture the best possible use of synergies.

Framatome is a dependable partner to contact regarding optimized nuclear power plant services. Our portfolio encompasses all services – including engineering, outage planning to assess past maintenance performance, as well as the monitoring and diagnosis needed to perform all necessary service tasks.

The deployment of international teams, including local partners, and providing innovative tools and equipment ensures high quality services based on long-term experience and know-how.

Customer benefits

- Optimized outage duration and reduction of maintenance costs
- High plant availability and safety
- Extensive experience and pooling of know-how
- Few interfaces and efficient utilization of resources and tools
- High degree of flexibility with fast response times
- Deployment of highly qualified specialists
- Reduced personnel radiation exposure



Your performance
is **our** everyday **commitment**

Integrated maintenance

Main packages:

- Reactor floor services
- Refueling services
- Steam generator services
- Valves & actuators maintenance
- Pumps & motors maintenance
- Electrical systems maintenance
- Inspection services / NDE
- Monitoring & diagnosis
- Radiology and radiation protection
- Spare parts and obsolescence management
- Outage management
- Outage planning and optimization
- Operational support
- Engineering support
- Risk management
- Task force support



Key figures

More than **30** years of experience in outage and maintenance execution

Minimum of **10** continuous outages performed within each integrated maintenance project

References

Integrated maintenance projects implemented at different NPPs tailored to customer needs with continuous execution over a period of several outages.

Reactor types / designs:

- KWU BWR and PWR
- Framatome PWR
- Westinghouse PWR

NPPs in:

- Europe (Germany, Switzerland, Netherlands, Bulgaria, UK)
- Brazil
- South Africa

BWR: boiling water reactor

PWR: pressurized water reactor reactor

Contact: outage@framatome.com
www.framatome.com

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