



Choose certainty.  
Add value.

## Nuclear power plant operation

Ensure safety and security at all times.

### Your challenges

As global energy demand increases, safety remains a prerequisite for all types of power generation. Particularly in the case of a nuclear power plant (NPP), the safety of workers, the public and the environment is of utmost importance. Supervisory authorities are responsible for monitoring NPP operation to ensure safety and reliability. Developers and operators need to prove that systems, structures and components are able to fulfil safety requirements. Compliance with national and international safety and security standards is vital. In addition, operators must ensure that they have the right skills and experience to maintain safe and reliable plant operation.

### What services does TÜV SÜD provide for NPP operation?

TÜV SÜD supports authorities monitoring NPP operation by preparing reports and providing technical expert opinions as well as other safety-related assessments. Developers and operators benefit from our guidance and

support on operational procedures and documentation, safety reviews, technical modifications, and in-service inspection and maintenance.

### Why are these services important for authorities, developers and operators?

Partnering with an independent technical expert that is familiar with the relevant regulations and standards supports authorities to ensure that all safety and security requirements are fulfilled. An impartial partner also increases public trust in the safety of NPPs.

TÜV SÜD helps developers and operators avoid and mitigate future operating problems through safety assessments, documentation review and guidance, and on-site inspections. This facilitates timely modifications, improvements, optimised maintenance and inspections, and control throughout the plant lifetime, including long-term operation, ensuring increased safety, security and availability of NPPs.



## Our services for nuclear power plant operation

- **Functional test / in-service inspection**  
TÜV SÜD reviews the test specifications, manages inspections and tests, and evaluates the test results.
- **Maintenance**  
We provide assessment of maintenance concepts for accuracy and compliance, ongoing verification of concepts after modifications, and supervision of functional tests taking into account risk-informed approaches.
- **Integrated plant inspection**  
Our experts inspect the overall plant as well as special facilities, discussing any irregularities with the operator to determine subsequent strategies.
- **Incidents**  
We assess the evaluation, root cause analysis and prevention measures generated by operators to confirm that they are correct, plausible and appropriate.
- **Experience feedback**  
We review the correct evaluation and modification after notices from external reporting systems.
- **Ageing management**  
TÜV SÜD provides advisory for the set up and application of ageing management, which covers ageing of components or buildings, fatigue assessment and decisions regarding replacement.
- **Safety management**  
We accompany operators during the set up and application of safety management, and assist in an advisory role.
- **Reactor core**  
Our services include safety assessments of core design, inspection of core loading, and inspection and assessment of new fuel elements and fuel element manufacturing.
- **Commissioning**  
We support cold and hot commissioning with review of test specifications set by the operators.
- **Operating manual**  
TÜV SÜD reviews and consults on operational procedures and documentation containing all general

provisions for plant operation including severe accident management guidelines.

## Your business benefits

- **Minimise risk** – by consulting TÜV SÜD to identify risks during NPP operation and focus on solutions to ensure the lowest possible risk.
- **Benefit from complete solutions** – with our one-stop service that covers the entire plant lifecycle to help meet regulatory requirements for safe and secure operation.
- **Gain an expert partner** – with the capabilities of almost 1,000 highly qualified nuclear experts.
- **Access global support** – with TÜV SÜD's expert staff in numerous international markets, providing in-depth local knowledge and best practices.

## Why choose TÜV SÜD?

TÜV SÜD is an independent third-party organisation that provides impartial and objective consulting on NPPs. We offer end-to-end nuclear energy consultancy that begins with licensing and continues through to nuclear waste disposal and decommissioning.

Our world-class expertise includes extensive knowledge of national and international standards and regulations. With our international reach, we draw upon global best practices whilst taking into consideration the special needs of your local area.

## Choose certainty. Add value.

TÜV SÜD is a premium quality, safety and sustainability solutions provider that specialises in assessment, testing, inspection, auditing, certification, training and knowledge services. Represented in over 800 locations worldwide, we hold accreditations in Europe, the Americas, the Middle East and Asia. By delivering objective solutions to our customers, we add tangible value to businesses, consumers and the environment.

## Related services

TÜV SÜD provides the following related services:

- Licensing for nuclear power plants
- Design and construction of nuclear power plants
- Safety assessment of nuclear installations
- Radiation protection
- Nuclear waste management
- Nuclear decommissioning