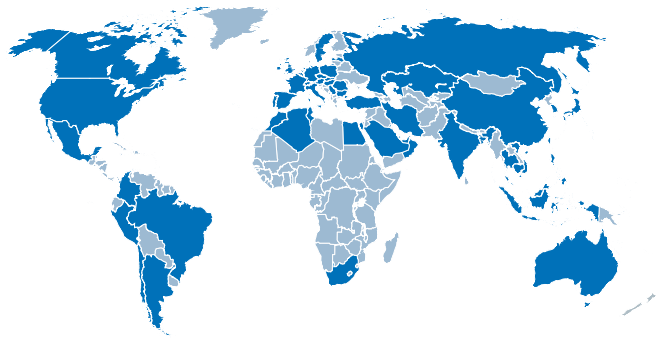


Benefits of Cooperation

TÜV Rheinland provides you the practical know-how and expertise you need to succeed. Our power system analysis services ensure the safe operation and extended lifetime of your power plant assets.

WE OFFER YOU

- More than 140 years of experience in independent asset assessment.
- The capability to cover the whole energy value chain, from the grid over the generator to the turbine and their components.
- Strong network particularly with universities for specific scientific research topics.
- Experts from different fields working to develop the best solution for you.
- Offices in over 60 countries to serve you no matter where you are.



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Power System Analysis

For the safe operation and lifetime extension of power plant assets

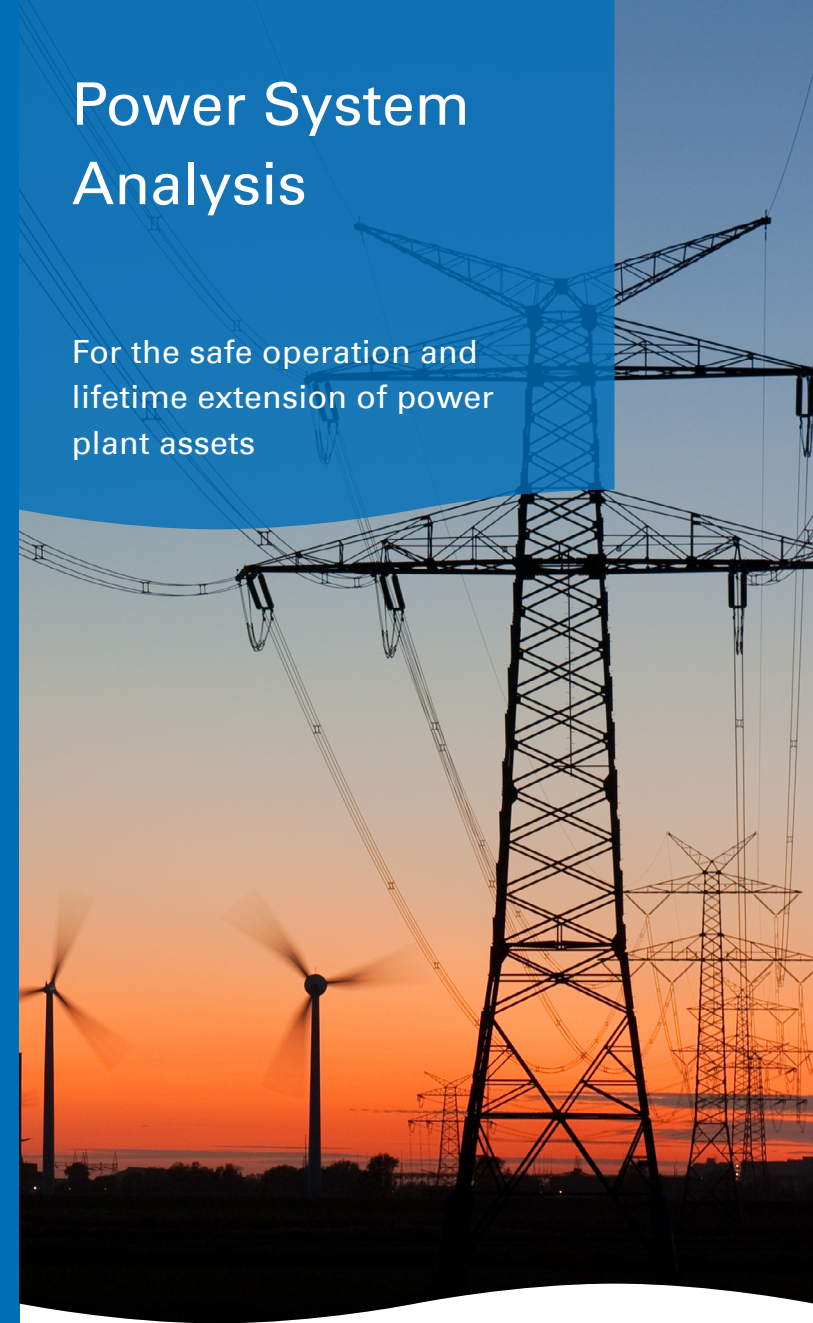


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Empowering Your System

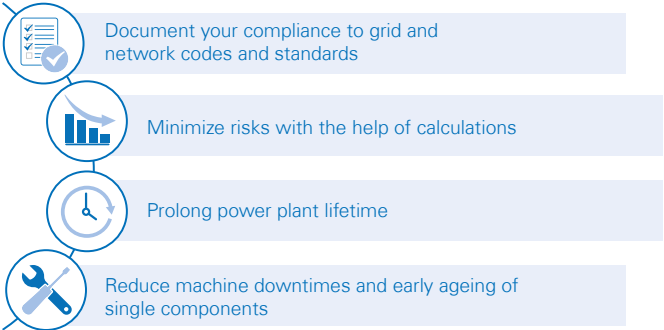
Our service solution to protect the integrity of your assets.

As the European energy system faces a transformation in power generation, plant and network operators must continue to assure the security of supply. Conventional power plants with less synchronous generation can present instability risks due to higher rates of change of frequency (RoCoF). Therefore, network codes such as ENTSO-E now reflect increased renewable sources and operational changes in conventional generation. Changes in frequency affect turbines and generators used in conventional power generation. Trips can damage machines. Repeated events could reduce the projected lifetime of a power plant.

Prevent long outages, extra testing, costly repairs and lost lifetime to protect the integrity and profitability of your assets.

TÜV RHEINLAND - YOUR RELIABLE PARTNER

TÜV Rheinland is a global leader in independent inspection services. Our experts stand for quality and safety for people, technology and the environment in nearly all aspects of life. TÜV Rheinland inspects technical equipment, products and services, oversees projects and helps to shape processes and information security for companies. Its experts train people in a wide range of careers and industries. To this end, TÜV Rheinland employs a global network of approved labs, testing and education centers.



OUR APPROACH

TÜV Rheinland helps you avoid these risks. We conduct comprehensive studies for turbo generators, taking the underlying energy system (electrical grid model, model of generator to grid, turbine shaft line and single components) into account. Based on our results, we establish asset management strategies to prolong power plant lifetime.

METHODOLOGY

- Investigate effect of fault scenarios in the grid on generating units
- Electrical and mechanical analysis to determine power generation units compliant with higher RoCoF standard
- Assess impact for technical lifetime of assets
- Reveal implications and establish measures for operating generating units

CONTACT OUR EXPERTS TODAY!

THE SINGLE SOURCE PROVIDER FOR ACHIEVING YOUR GOALS ACROSS ALL STAGES OF THE PROJECT- AND ASSET LIFE CYCLE

