



STEAG Energy Services GmbH

Quality Assurance

As professional partners of our customers, we at STEAG Energy Services GmbH develop customized, systematic programs for Quality Management (QM) and technical Quality Assurance (QA), and implement them jointly with the project owners.

Both in new-build projects and in retrofits and major inspections, suppliers and manufacturers are faced with tight deadlines and high cost pressure, which can have an adverse impact on the quality of the plant and thus on the plant's long-term performance. Effective quality assurance aimed at detecting quality issues at the earliest possible stage, assessing potential consequences and initiating appropriate countermeasures is therefore a crucial factor in successful project completion.

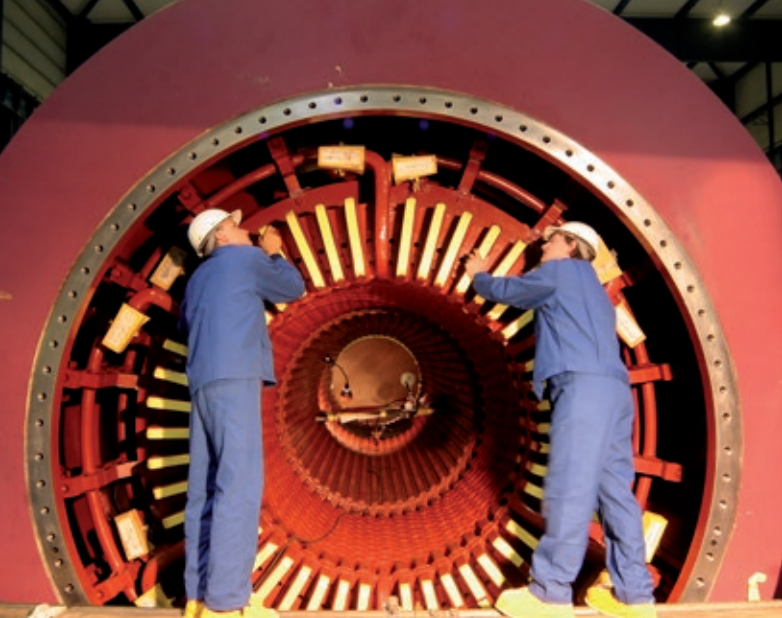
We invite you to benefit from our international network and the extensive experience we have gained in quality assurance work for a multitude of projects performed by our own company and projects successfully handled for outside customers.

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We supply quality assuring engineering services for the planning, construction, operation and optimization of power plants around the world. For more than 30 years now, we have been providing optimum solutions from a single source, for various generation technologies:

- Hard coal fired power plants
- Lignite fired power plants
- Gas and steam turbine combined cycle plants
- Gas turbines and engines
- Wind turbines
- Biomass fueled power plants
- Solar-thermal power plants
- Cogeneration plants and district heating systems

Our QM and operational QA experts have in-depth knowledge and extensive project handling experience as regards the relevant European and international codes of practice (e.g. DIN EN and European directives, ISO, ASME, etc.). This enables them to ensure conformance with the standards as a prerequisite for obtaining the official permits required for operation of your plant. Within the scope of quality assurance we can also advise your O&M staff on periodic inspections, material evaluations, retrofits and maintenance, and provide support during implementation of all such work.

STEAG Energy Services GmbH is able to cover and closely monitor all relevant steps throughout the entire process chain, as the owner's representative.

Our services include for instance:

- Specification of the quality requirements for your project
- Evaluation of bids/assessment of bidders and suppliers
- Assistance in contract awarding procedures/technical clarification with bidders
- Auditing of suppliers and manufacturing workshops
- Coordination of in-process inspections in the manufacturer's works and at the construction site

- Coordination of external experts and third parties providing services on behalf of the owner
- Evaluation, control and management of non-conformances, and development of suggestions for solutions
- Conducting of kick-off meetings at the manufacturer's works, prior to commencement of fabrication of critical major components
- Conducting of pre-erection kick-off meetings at the site, prior to commencement of site work on critical major works
- On-site support for inspections, supervision and inspection during manufacture in the workshops, transport, field erection, commissioning and operation
- Controlling of conformance with the specifications for quality and workmanship of parts, components and systems relevant to safety and availability
- Quality assurance monitoring of welding work, e.g. for structural steelwork or pipework, monitored by our experienced welding engineers and welding inspectors
- Progress control/expediting for critical components
- Planning of and support for periodic inspections
- Performance of and support for non-destructive testing executed by our DIN EN ISO 9712 Level II qualified personnel
- Condition assessment and life-time monitoring
- Consulting on material issues, for instance issues concerning the use of alternative or improved materials
- Condition assessment of heavy duty corrosion protection systems (rubber lining, enamel coating, plastic lining and coating, GRP)
- Failure and damage analysis

Please feel free to choose the supporting services you need for your specific project. We will be pleased to provide a detailed offer for our services, both as an individual one-off solution or as a comprehensive service package.