



Industrie Service

**Choose certainty.
Add value.**



Maximising efficiency, increasing safety and availability – at TÜV SÜD, we know what is important for power stations and their systems. We offer qualified support throughout planning, construction, erection and operation.

By applying an integrated approach and managing details, TÜV SÜD supplies intelligent solutions to provide certainty for your success. We know that maximum safety at maximum cost-effectiveness is achievable – and integrated concepts are the key.

Maximising Efficiency of Plants and Power Stations.

TÜV SÜD Industrie Service GmbH







Applying an integrated approach to systems. Managing details.

Designers, manufacturers, constructors and operators of power station systems are all aware that the way to maximise cost-efficiency is to adopt an integrated approach like that applied by TÜV SÜD experts.

At TÜV SÜD, we offer support for power station systems from the outset. We assist you during planning and design. We ensure that approval and licensing processes are thoroughly prepared and run smoothly. During construction, we see to it that systems and components are perfectly aligned. We support you in optimising and maintaining flawless operation, and assist you at a later stage with the modernisation of your plant.

Our familiarity with the life cycle of power stations enables us to ensure early recognition of critical points and targeted process optimisation.

We provide both custom services and solutions for complex interdisciplinary problems.

TÜV SÜD has been in operation for over 140 years, and is one of the leading process partners and service organisations worldwide. Plant manufacturers and operators know TÜV SÜD Industrie Service as a leading international provider of engineering and test services, which, with a staff of over 2,300, evaluates and optimises systems on a daily basis. TÜV SÜD's strengths include unique interdisciplinary engineering know-how and in-depth familiarity with all relevant regulatory requirements. TÜV SÜD's first-class reputation, recognition and standing throughout the world are based on its technical expertise, high demands on economic and ecological project realisation, impartiality and independence – all working for your benefit.

TÜV SÜD.
Choose certainty. Add value.

Rely on impartiality and technical expertise.



TÜV SÜD – precise, comprehensive services for new plants.

At TÜV SÜD, we offer expert assistance from the outset in the planning or design of your new plant. We are your consultants. Your project co-ordinators. Your project managers. Or your qualified engineers. Whatever assignment you commission us to perform, we work with you to develop the solution you require. You benefit from gaining the best possible plant.

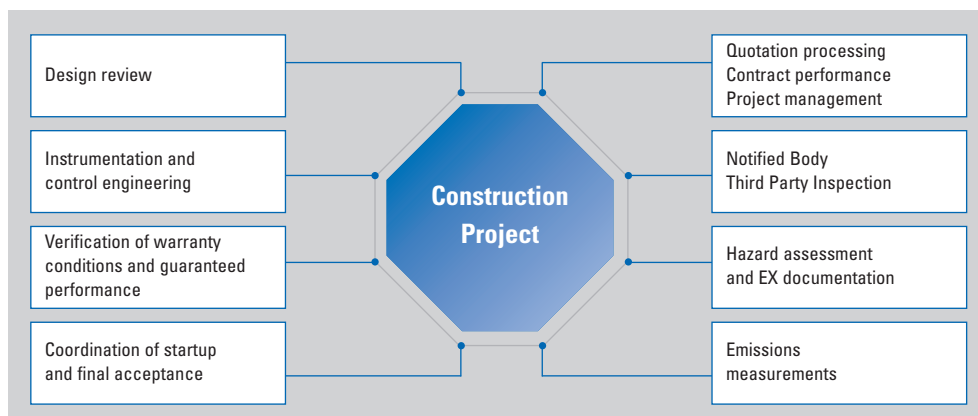
In catering to your requirements, we choose from a pool of first-class experts and build a winning team on your behalf. Whatever your project and whatever the project stage you are at, we provide specialists who contribute their entire know-how.

We offer experience in all disciplines. You can entrust us with consulting and engineering projects equally. We provide individual services but also develop integrated, cross-system solutions. With regard to the planning and design of new plants in particular, we provide experience in the following areas:

- ▶ Thermal power stations (oil, gas, coal)
- ▶ Waste incineration plants
- ▶ Renewable energies, e.g. biomass plants

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Choose certainty. Add value.

Services for construction projects





Choose from these services:

Feasibility study

- ▶ Environmental impact assessment / environmental management

Planning

- ▶ Assessment of layout
- ▶ Basic engineering
- ▶ Tender documentation

System-related solutions

- ▶ Assessment of plausibility
- ▶ I&C engineering
- ▶ Grid calculations and analyses
- ▶ Processes / operation / maintenance
- ▶ Basic and detailed engineering
- ▶ Fuel use, auxiliary fuels
- ▶ Operating and maintenance programmes

Component solutions

- ▶ Planning, design and material schemes
- ▶ Inspection and final acceptance programmes

Quotation review and contracting

Design Review

Site supervision

- ▶ Construction management, expert construction supervision / quality management
- ▶ Expert reports addressing non-conformities
- ▶ Compliance with codes and standards

Monitoring of schedule and inspection

- ▶ Contract compliance
- ▶ Assessment of compliance with codes and standards
- ▶ Assessment of non-conformities

Final acceptance tests prior to startup

- ▶ Final acceptance and test programmes
- ▶ Coordination of final acceptance tests
- ▶ Preparation / evaluation of operating manuals
- ▶ Assessment / inspection of non-conformities
- ▶ Technical mediation

Warranty conditions and guaranteed performance

- ▶ Measuring programmes / campaigns
- ▶ Assessment of plausibility of warranty conditions and guaranteed performance
- ▶ Optimisation
- ▶ Assessment / inspection of non-conformities
- ▶ Technical mediation

TÜV SÜD:
Recognised.
Expert.
Reliable.



TÜV SÜD – efficient project management.

Whether you plan to build a new plant or expand, convert or modernise an existing one – you can count on us, the experts at TÜV SÜD Industrie Service.

Focusing on all applicable statutory and regulatory requirements, state-of-the-art manufacturing methods and testing programmes which are significant for the operational stage, we accompany your project from A to Z. We ensure that risks are recognised and managed from the outset. We increase the availability of your plants, mobilise safety and output

reserves and contribute proactively to boosting plant efficiency.

Specialists with experience in all relevant disciplines (process engineering, design, I&C engineering, instrumentation and control or mechanical engineering) are at your side, ensuring an integrated approach.

Our experts have in-depth familiarity with the state-of-the-art and statutory requirements throughout the world.

TÜV SÜD. Choose certainty. Add value.





Choose from these services:

Feasibility study

- ▶ Assessment of technical condition
- ▶ Energy audit
- ▶ Assessment of conditions by way of NDEs, measurements, etc.
- ▶ Determination of remaining service life
- ▶ Assessment of plausibility
- ▶ Assessment of detailed programmes
- ▶ Changes in plant layout
- ▶ Fuel change (gas / coal or coal / gas)
- ▶ Environmental impact assessment / environmental management

Tender documentation

- ▶ Special additional services, e.g. specifications, design review, protection and operation programmes, establishment of old / new interfaces, etc.

Quotation review and contracting

Design Review

Site supervision

- ▶ Construction and QM management
- ▶ Expert reports addressing non-conformities
- ▶ Compliance with codes and standards

Monitoring of schedule and inspection

- ▶ Contract compliance
- ▶ Assessment of compliance with codes and standards
- ▶ Assessment of non-conformities

Final acceptance tests prior to startup

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Warranty conditions and guaranteed performance

- ▶ Measuring programmes
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- ▶ Technical mediation

**Efficient.
Effective.
TÜV SÜD.**



TÜV SÜD – smooth, zero-failure plant operation.

Globalisation and deregulated markets have resulted in increased competition and massive cost pressure. Success is invariably linked with cost cutting and quality assurance. Nevertheless, compliance with national and international regulations is a must.

You need to be able to rely on an experienced, interdisciplinary partner that is among the best of its kind when it comes to plant optimisation. Availability, fitness for purpose, ease of operation and maintainability as well as service condition are only some of our areas of focus when providing services for power stations.

In a risk-oriented approach, we examine the overall system to reveal possible weaknesses and analyse their effects on the operation and remaining service life of the plant.

Aimed at ensuring quality while reducing costs and efforts, we develop solutions

for cost-effective plant optimisation and monitor their implementation.

Your benefits:

- ▶ Acceptance test programmes which are ideally adjusted to each other and focus on the relevant units
- ▶ Test-interval management tailored to the plant in question
- ▶ Customised servicing and maintenance programmes
- ▶ Integrated hazard assessment in line with applicable codes and standards
- ▶ Operational programmes
- ▶ Rehabilitation and optimisation schemes
- ▶ Damage reports
- ▶ Smooth overall functionality of your plant

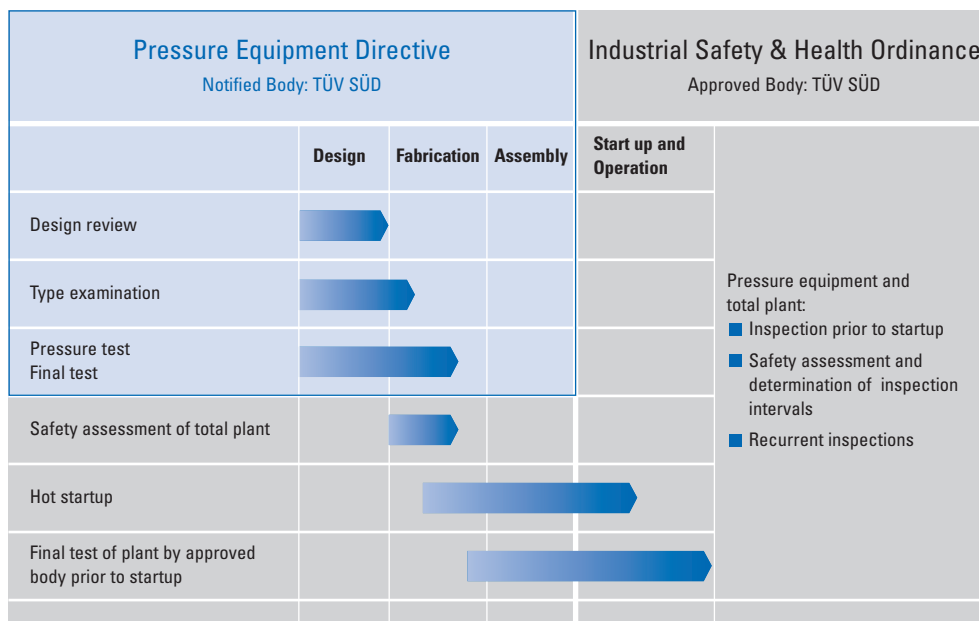
Rely on experts familiar with all relevant techniques, disciplines and plants. It goes without saying that we comply with all established regulatory requirements. Just contact us.

TÜV SÜD. Choose certainty. Add value.

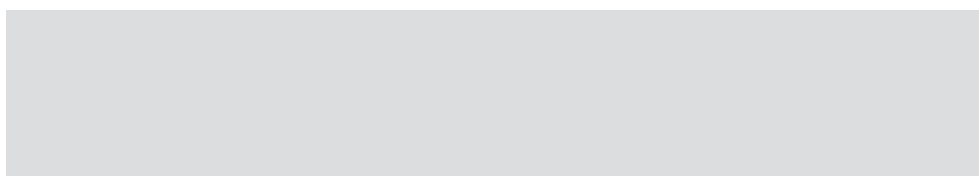




Interaction of regulations in fabrication and operation*



* This flowchart is only an example. We ensure smooth project realisation and final testing of your plants in line with the regulatory requirements of the country in question.



Cost-efficiency.
Availability.
Safety.



From layout to construction and operation – our services in brief:

- ▶ Planning / engineering support
- ▶ Licensing management
- ▶ Safety and accident analyses
- ▶ Monitoring of construction and assembly
- ▶ Start-up support
- ▶ Test programme development and realisation
- ▶ Functional testing
- ▶ Tests and inspections in the design phase
- ▶ Coordination of regular inspection and maintenance activities
- ▶ Life testing and forecasts of remaining service life
- ▶ Plant assessment and valuation
- ▶ Construction management for conversion measures
- ▶ Third-party assessment of manufacturers and suppliers
- ▶ Solutions for material and welding problems including corrosion protection
- ▶ Expert damage reports
- ▶ Preparation of rehabilitation and maintenance programmes
- ▶ Development, support and realisation of verification processes for warranty and guaranteed performance
- ▶ CHP expert reports and evaluation of CO₂ emissions
- ▶ Technical mediation and moderation as verifier
- ▶ Risk analyses
- ▶ And many other services

TÜV SÜD is your qualified partner throughout and beyond the European Union.

TÜV SÜD is an approved testing, supervisory and certification body (Notified Body 0036) and cooperation partner of an authorised inspection authority. You thus have the opportunity of acquiring both the CE mark and ASME CODE acceptance from a single source.

In addition, our testing laboratories are accredited as per ISO/IEC 17025:2000.





Key benefits offered by co-operation with TÜV SÜD:

1 You rely on a qualified partner

You gain a partner who is familiar with all relevant engineering disciplines and has decades of international experience – particularly in power station and plant engineering, piping and process control engineering.

2 You create scope for action

A single point of contact (SPOC) is in charge of co-ordinating your projects, thus facilitating co-operation, increasing process transparency and eliminating interface problems.

3 You save time

TÜV SÜD experts know exactly what needs to be done when, and what to look out for. This ensures on-time completion.

4 You cut costs

Thanks to professional project support, costly re-work has already been eliminated in the project runup stage. This ensures planning certainty, reduces outage time and increases your return on investment.

5 You gain legal certainty

TÜV SÜD experts are actively involved in the design of regulations, codes and standards. This enables you to rely on the safety and statutory compliance of your plants.

6 You ensure impartiality

TÜV SÜD stands for impartiality and cost-efficiency in all corners of the world.

7 You rely on a strong brand

TÜV SÜD offers a first-class reputation throughout the world.



Industrie Service



www.tuev-sued.com

In the age of globalisation, power stations are produced in international teamwork. In this context, both local market situation and international codes and standards must be taken into account. For TÜV SÜD Industrie Service, this is part of day-to-day business.

With over 130 TÜV SÜD locations in Europe, the Americas and Asia, TÜV SÜD Industrie Service is represented in all major economic regions of the world. Our specialists are expert partners for planners, designers, constructors, component manufacturers and operators in all corners of the world.

Co-operation with TÜV SÜD Industrie Service, an approved testing, inspection and certification body recognised for all relevant national and international standards, opens the door to sales markets. **Call us. We are happy to advise you.**

TÜV SÜD.

Choose certainty. Add value.

TÜV SÜD Industrie Service GmbH

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