TÜV Süddeutschland: Our company profile and references

TÜV Süddeutschland Bau und Betrieb GmbH (TÜV BB), headquartered in Munich, is a 100% subsidiary of TÜV Süddeutschland Holding AG, Munich.

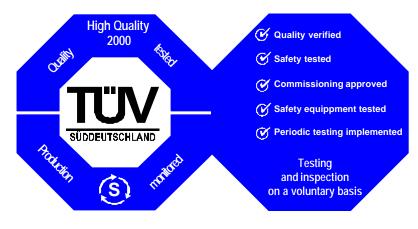
We offer our customers an allround, market-oriented service package for the safe and efficient use of technology. With its 3,200 employees worldwide, TÜV BB is one of Germany's major technical • steam and pressure service providers. Its services focus on the industrial sector. For more information, go to

http://www.tuevsued.de/bau_und_betrieb/

Our references:

Every year, we provide several hundred of customers with technical services in the form of: consultancy, testing and inspection, expert opinions and certification with respect to:

- industrial plants (power stations, refineries, chemical plants, etc.),
- equipment,
- buildings and technical facilities (lifts, escalators, HVAC installations, heatingoil tanks, etc.),
- environmental assessment and consultancy,



We point the way to quality and safety.

With our High Quality Mark, we at TÜV Süddeutschland offer equipment, system and plant manufacturers, users and operators orientation in the test-mark and certification jungle. Our modular system reveals the quality level and real situation at a single glance. To distinguish themselves positively from their competitors is very important for our customers. With our High Quality Mark, we offer our customers a differentiating feature that allows them to stand out from the competition in a positive way, clearly demonstrating:

We offer more than mere standard services in line with the regulations!

- temporary structures • (marquees, amusement rides and other amusement-park facilities),
- fire-protection and safety • strategies,
- occupational medicine and • safety,
- electrical engineering systems,
- certification within the scope of company permits,
- product certification in line • with international directives and regulations,
- planning and implementation of quality-assurance policies,
- review of design • documentation for conformity with order,
- construction guality and • controlling,
- conformity of production and • material testing.
- expert opinions on the value of second-hand machinery,
- fuel cells and hydrogen • plants.



The European Seveso II Directive (96/82/EC)

The Seveso II Directive (96/82/EC) took effect on February 3, 1997. The Directive is binding for all EU Member States and must be incorporated into national law by February 3, 1999 at the latest. Its expanded scope of application now covering the entire company, the extended list of hazardous substances, the now mandatory development of a major-accident prevention policy or safety reports and the required establishment of safety management systems result in new tasks for operators and authorities.

Compared to the old Seveso Directive (82/501/EEC) of 1982, the new Seveso Directive (96/82/EC) has been completely revised.

Since the scope of application previously covering "industrial plants/deposits" has now been extended to "companies" and since a larger number of substances and substance categories have been classified as hazardous, the new Seveso Directive now applies to more companies than ever before. The Seveso II Directive no longer differentiates between production plants and deposits as far as quantity thresholds are concerned.



According to the Seveso II Directive, the operator has to take all actions which are required to prevent major accidents and to restrict the consequences for people and the environment ensuing therefrom. In this context, the requirements pertaining to the organization of the company and to management (safety management system) are given priority. The requirements made on organizational measures (e.g. extent of regulation of the safety management system, contents of safety reports and emergency plans) are described in detail in the Seveso II Directive.

In keeping with the Seveso II Directive, the operator is obligated to prepare a document for the prevention of major accidents and to ensure its implementation by means of a safety management system if the defined quantity thresholds are exceeded.

Companies which reach or exceed the upper quantity thresholds for hazardous substances defined in Annex I, must - according to the Seveso II Drective - prepare a safety report. This safety report must be regularly updated every 5 years or earlier if required (e.g. in the case of new safetyrelated findings).

All companies included in the Seveso Directive's scope of application must prepare internal and external emergency plans. In this context, compared to the old directive, the participation of the general public has been intensified. Now, the general public must be heard on external emergency plans.

TÜV Süddeutschland Bau und Betrieb offers support in answering all questions arising from the Seveso II Directive for your company. As your reliable partner, we offer service packages customized to meet your needs which include the following services: consultancy on the applicability of the Seveso II Directive in your company,

- preparation and updating of safety reports and safety schemes,
- advice on and assistance in establishing a safety management system
- preparation of schemes relating to the prevention of major accidents,
- D preparation of emergency plans,
- risk analyses (e.g. as per the PAAG-/HAZOP procedure, faulttree analysis) and impact assessments,
- consultancy and support regarding information for the general public.

Confidentiality in dealing with our customers and absolute impartiality in the matter itself go without saying as do internal quality assurance measures and the sensible use of state-of-the-art analyses techniques.

Interested in learning more about our services? Call us! We would be happy to provide you with more detailed information.

TÜV Süddeutschland Bau und Betrieb GmbH Industrial Plant Service Safety and Major Accident prevention

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HAZOP Procedure: A common method for identifying risks

Systematic procedures inspire confidence

The HAZOP procedure was developed to systematically search for potential malfunctions at technical plants. The name of this procedure has been derived from the

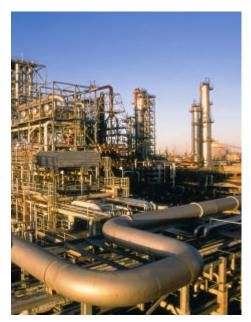
Hazard and

Operability Study

The HAZOP procedure is extremely flexible and can be applied to planned and already existing systems. The systems to be analyzed are not restricted to technical plants alone, but include all types of specific operational sequences.

Increasing complexity of the technology and operational processes, and the large number of legal requirements (e.g. Seveso II Directive), call for interdisciplinary cooperation and result in the necessity of systematic procedures.

The HAZOP procedure is carried out by an interdisciplinary brainstorming team who work together with respective competent experts of the owner/operator.



Team members are selected according to the phase of the project and in line with the questions to be answered by the analysis. In order to ensure that the analysis is carried out efficiently, the brainstorming team should not consist of too many members.

In order to ensure that the analysis is effective, impartial and not too expensive an independent team leader is required when performing a HAZOP study. The main task of the team leader, however, is to ensure that team meetings are systematic and wellstructured, and to motivate the team members to work creatively. In addition, the team leader helps to prepare the analysis and coordinates the compilation of the report thereon.

The HAZOP procedure, which was developed by the English ICI Group of companies, has been successfully applied worldwide to the most varied types of plants. The costs incurred by such a study pay off in a very short time, since by virtue of a lower potential for malfunctions and increased operational safety and availability, the plant operates more efficiently.

We provide support

TÜV Süddeutschland Bau und Betrieb offers consulting services and support for a systematic analysis based on the HAZOP procedure in your company. Take advantage of our services when:

- preparing a systematic analysis as per the HAZOP procedure; consult our experts on the necessary scope of the analysis and selection of the documents to be reviewed;
- appointing an experienced, independent team leader;
- appointing other experts or specialized consultants who may be required;

- carrying out the HAZOP study with the help of modern data processing and presentation techniques;
- compiling a report on the HAZOP study.

We also offer support in the application of other systematic methods such as failure effect analysis, event sequence analysis, fault tree analysis.

Our expertise for your benefit

For many years, TÜV Süddeutschland Bau und Betrieb has been active in the field of plant safety and major accident prevention, both on behalf of operators and owners and on behalf of licensing authorities. We have thus acquired extensive know-how in carrying out HAZOP studies and other systematic analyses.

In keeping with tradition our experts are independent, unbiased and will process your order with the utmost of confidentiality.

Interested in learning more about our services?

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