

Risk management for the chemical, petrochemical and process industries

The Lloyd's Register Group provides a wide range of safety and risk assessment services to the chemical, petrochemical and process industries worldwide.

Our services assist operators to reduce the likelihood of hazardous incidents which can result in loss of life, damage to property or loss of production.

LLOYD'S
REGISTER
SERVICES

Services to help your business

Whether you require assistance with hazard management, risk assessment, advice on safety management systems or an independent audit of specific systems or operations, we are here to help.

The Lloyd's Register Group offers a flexible service tailored to individual needs through which clients can maintain ownership and involvement in any assessment carried out. Our service can cover any phase of a project from conceptual design, through detailed design to commissioning, operation or decommissioning.

The Lloyd's Register Group has extensive experience in hazard and risk assessment, development of safety management systems (SMS), including performance monitoring and independent audit. We can also offer specialist services related to design ergonomics and aspects of human behaviour in plant safety.

Methods and techniques we can apply include:

- hazard identification and analysis
- consequence and frequency analysis for fires, explosions, toxic releases, etc, covering human harm and environmental effects
- risk assessment
- identification of risk reduction measures and cost-benefit analysis
- safety management systems development including emergency response plans
- independent safety audits
- preparation of safety reports
- human factors assessment
- safety critical systems assessment including software assurance
- availability analysis and maintenance management studies.



LRQA, a service provider and member of the Lloyd's Register Group, can also assist with certification of environmental management systems.



The benefits

In choosing the Lloyd's Register Group to assist you in risk management, you can be assured of a service which provides:

- a high quality service tailored to meet your specific needs
- wide experience and expertise covering all aspects of risk management
- in-depth understanding and experience as an independent safety auditor of petrochemical and industrial facilities
- specialist knowledge in areas of new technology, and high integrity systems
- access to the Lloyd's Register Group's technical expertise worldwide, giving you contact with local expertise and knowledge regarding regulatory requirements and conditions.

If you need assistance with safety and hazard management, the Lloyd's Register Group has the expertise and international experience to meet your needs.

The risk-based approach

The Lloyd's Register Group has extensive experience in the risk-based approach to hazard management of industrial operations. Such an approach will identify those hazards which will have the most significant impact on an operation and help them to be eliminated or controlled. As a result, resources can be directed towards hazard management in the most appropriate and cost effective manner.

Legislative requirements now exist in many countries for a systematic risk-based approach to the control of industrial plant safety and protection of the environment. Where legislation does not exist, the risk-based approach is being increasingly

used on a voluntary basis due to its ability to provide a holistic view of system safety.

The risk-based approach to safety encompasses a range of complementary activities, each of which contributes to the overall process of hazard management. These activities include hazard identification, assessment of frequency of occurrence and the human and environmental consequences of incidents, evaluation of risk and identification of risk reduction measures.

To ensure that hazards are effectively managed throughout the life of the plant, it is also essential that an effective SMS is in place. A SMS will include overall safety policy, apportionment of responsibilities for safety and detailed procedures such as permit-to-work systems and emergency planning.

For further information please contact

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