Technical Support Services to the Manufacturing Industry

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Functional Safety Compliance [IEC61511]
DSEAR/ATEX Compliance
MCERTS Compliance

1.0 Scope

There are specific safety related regulations for the UK onshore processing sectors. The onshore process sector comes under Control of Major Accident Hazards Regulations 1999 (COMAH) regulations which are applicable to the chemical industry, some storage facilities, explosives and any other industries where threshold quantities (as defined by the Regulations) of dangerous substances are kept or used. R&M are able to offer training and advise on what your obligations are and how to apply the relevant regulations to your particular business to aid you in ensuring your compliance with this complex and specialist area.

R&M will give you the tools to enable you demonstrate (as per COMAH requirements) that you have a Safety Management System (SMS) in place as part of an overall management system.

Under the regulations the Operator must demonstrate that they sufficient risk reduction measures (ALARP) to address the hazards with the potential to cause an accident and demonstration of the adequacy of the Safety Management System.

It is accepted that the management of safety, like most other business management, is now a risk based approach and that is the basis of the SMS.

The essence of a Safety Management System is to demonstrate:

- The organisation of personnel involved in major hazard management and provision of training;
- Identification of major hazards, likelihood and severity;
- Operational control including maintenance of plant, processes and equipment;
- Management of change including design of new installations and processes;
- Planning for emergencies;
- Monitoring performance;
- Audit and review of the SMS.

R&M's training will aid you in the design and implementation of such a system.

2.0 IEC 61511 – Functional Safety: Safety Instrumented Systems for the Process Industry Sector

The relationship between hazards and Safety Instrumented Systems (SIS) that automatically shut down processes operations, when an abnormal situation is encountered needs to be determined and verified through a lifecycle management process. Thus a SIS will represent an integral part of an SMS to reduce the risk of accident hazards or mitigate the consequences.

R&M can manage and support the development of the following framework requirements of IEC61508 and IEC61511 to demonstrate a route to functional safety compliance:

- Hazards are identified;
- The likelihood of occurrence is determined;
- Consequences are assessed;
- Safety critical elements protecting persons from hazards are identified;
- Risks are kept as low as reasonably practicable (ALARP);
- Design is appropriate;
- There is an audit trail for the decision making process;
- Modifications/changes are properly designed and controlled;
- Operations do not compromise integrity;
- Performance standards are set;
- Operation against performance standards are verified;
- The integrity of the facility is maintained throughout its lifecycle;
- Performance is reviewed and modifications made where necessary;
- Safety critical roles are identified;
- People in safety critical roles are assessed as competent to perform those roles; and
- Emergency planning.

3.0 DSEAR/ATEX Requirements

This requirement introduces the User in detailed terms to their requirements in accordance with the Dangerous Substances and Explosive Atmosphere Regulations, 2002.

R&M can help lead and support the Operator deliver an integrated management solution aligned to meet all the major duties associated with DSEAR.

DSEAR defines a 'dangerous substance' as;
"A substance or preparation which meets the criteria in the approved classification and labelling requirement for classification as a substance or preparation which is explosive, oxidising, extremely flammable, highly flammable or flammable, whether or not that substance or preparation is classified under the CHIP regulations.

A substance or preparation which because of its physio-chemical or chemical properties and the way it is used or its presence in the workplace creates a risk, not being a substance or preparation as defined above; and any dust, in the form of solid particles, fibrous material or otherwise which can form an explosive mixture with air or an explosive atmosphere, not being a substance or preparation as defined above".

The Worker Protection Directive (ATEX 137) requires employers to protect workers from the risk of explosive atmospheres.

DSEAR complements the Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations (EPS) 1996 as amended which implement Directive 94/9/EC (known as ATEX 95). The 1996 Regulations came fully into force on 1 July 2003 and apply to all types of equipment - not just electrical equipment.

R&M can help lead and support the Operator deliver an integrated management solution aligned to meet all the major duties associated with DSEAR;

- Regulation 1-4
- Regulation 5: risk assessment
- Regulation 6: elimination or reduction of risk
- Regulation 7: area classification
- Regulation 8: accidents, incidents and emergencies
- Regulation 9: training and information
- Regulation 10: identification of containers and pipes
- Regulation 11: duty of co-ordination
- Regulation 12-17

4.0 MCERTS Compliance

MCERTS is the Environment Agency's Monitoring Certification Scheme.

The scheme provides a framework within which environmental measurements can be made in accordance with the Agency's quality requirements.

The scheme covers a range of monitoring, sampling and inspection activities including:

- Effluent flow monitoring inspection

The Environment Agency requires certain process Operators to have their effluent flow monitoring arrangements independently inspected and certified as conforming to their requirements by Sira (the MCERTS Certification Body).

PPC/EPR regulated sites with an effluent flow monitoring requirement in their permit may be required to comply with the MCERTS scheme in order to fulfil their environmental responsibilities.

R&M can provide management and technical support to deliver against the two components for demonstrating compliance:

- Site Inspection- An inspection of the site flow monitoring arrangements to verify the suitability of the flow meter and whether it has been installed, set-up and is operating correctly
- Management System Audit- To ensure that the flow monitoring arrangements are maintained, calibrated and verified adequately between MCERTS inspections, a management system must be established and maintained.