Chris Mee Group
Health and Safety Consultancy Brochure

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CMSERECRUITMENT part of The Chris Mee Group
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Contents

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Accident Investigation

Effective accident investigation is a key measure in improving your company safety and/or risk management system. The investigation takes two reactive steps.
Step 1 The accurate identification of the accident root cause and contributory factors
Step 2 the identification of control measures that are both effective and practical and hence will prevent a recurrence of the event in the future.
These measures will, if correct, effectively prevent future loss to your organization whether it is human loss (fatalities or injuries) or financial loss (damage to equipment or raw material or product, etc.). The correct implementation of practical corrective measures will ensure the company makes great savings in the future in terms of human and financial costs.
CMSE provide top class support to many clients in Accident & Incident Investigation. CMSE have been involved in both civil and criminal cases over many years. We have worked for both the plaintiff and for the defendant. If CMSE are appointed to investigate your accident or incident we will apply our tried and tested methodology ensuring that you will learn valuable lessons from the investigation thereby preventing a recurrence of similar events and saving your organization from avoidable costs in the future.

In addition to providing expert accident investigators and expert witnesses CMSE also provide excellent accident investigation training courses to your in-house investigators. At CMSE we pride ourselves on the quality and value of our services. The practicality and ease of application of our solutions and control measures is a hallmark of our services.

Services provided by CMSE

CMSE have in the past worked with the HSA, Insurance Companies and others in providing third party independent accident investigation where a serious accident or incident has occurred. Our accident investigation team will provide you with a comprehensive report of our findings following our investigation.

Additional Services

- Completion of IR1 and IR3 prescribed Forms for the Health and Safety Authority
- Representing companies following serious accidents or incidents in dealing with the Health and Safety Authority
- Court attendance in civil claims (employer and employee)
- Court attendance in criminal prosecutions

Applicable Legislation

Under the Safety, Health and Welfare at Work Act 2005, employers have a general duty to report prescribed accidents and dangerous occurrences to the Health and Safety Authority. Accident and Incident investigation is a reactive management tool to ensure that once an accident or incident has occurred that lessons are learnt, the underlying causes both technical and organizational are identified and corrective action is taken to prevent recurrence.

Asbestos Consultancy

CMSE is a leading supplier of Asbestos and related services in Ireland today. Our specialist consultants provide top quality, cost effective solutions to your asbestos problems. We provide surveys, identification advice, removal support, asbestos laboratory analysis, asbestosis information, etc. Our Asbestos Consultants identify and assess the risks posed by asbestos in the workplace in accordance with Irish asbestos legislation and current best practice.

Legislation

CMSE provide independent professional and practical advice on your duties under the Safety, Health and Welfare at Work (Exposure to Asbestos) Regulations 2006 and the Safety, Health and Welfare at Work (Exposure to Asbestos) (Amendment) Regulations 2010.

The Safety, Health and Welfare at Work (Exposure to Asbestos)(Amendment) Regulations 2010 (S.I. No. 589 of 2010) were signed by Dara Calleary, Minister of State at the Department of Enterprise, Trade and Innovation on the 8th December 2010. The Regulations amend the Safety, Health and Welfare at Work (Exposure to Asbestos) Regulations 2006 (S.I. No. 386 of 2006). These Regulations give effect to Directive 2009/148/EC of the European Parliament and of the Council of 30 November 2009 on the protection of workers from the risks related to exposure to asbestos at work.

The Regulations apply to all work activities which transpose persons to risks arising form the inhalation of dust from asbestos or materials containing asbestos. The Regulations provide a single exposure limit value for all work activities where exposure to asbestos dust in the air at a place of work may arise. The Regulations also emphasise the need for adequate training. Those involved in demolition and asbestos removal activities must provide evidence of their ability to do this work in a safe way to ensure the protection of their employees.

Services provided by CHRIS MEE GROUP

- Asbestos Management consultancy
- Asbestos Management Surveys (former Type 2) with comprehensive report
- Asbestos Refurbishment/Demolition Surveys (former Type 3) with comprehensive report
- Project Management of Asbestos Removal
- Carry out Asbestos Air Monitoring
- Issue a site clearance certificate
- Generation of Asbestos removal method statements

Our Asbestos consultants can complete air sampling on site followed by fiber counting under a phase contrast microscope to determine the levels of respirable asbestos fibers present. Our Asbestos consultants can complete bulk sampling on site and have these samples analyzed in a UKAS (United Kingdom Accreditation Service) accredited laboratory.

ATEX Consultancy

CMSE provides a top quality ATEX consultancy and support service to our clients nationwide. We have extensive ATEX experience and a proven track record in providing these services across many industrial sectors. At CMSE we pride ourselves on the quality and value of the professional services that we deliver to our many satisfied customers. We have a reputation for practicality and for ease of implementation. Our ATEX consultants have both process and electrical safety expertise which makes our solutions both legally compliant and beneficial from the perspective of potential cost reductions and savings.

Your legal requirements

The ATEX regulations apply wherever an explosive atmosphere may occur. An explosive atmosphere is a mixture with air, under atmospheric conditions, of flammable substances in the form of gases, vapours, mists or dusts in which, after ignition has occurred, combustion spreads to the entire unburned mixture.

The legal requirements coming from the ATEX Directive are:

- Prevent the formation of explosive atmospheres which may be produced by equipment and by protective systems themselves
- Prevent the ignition of explosive atmospheres, taking into account the nature of every electrical and non-electrical source of ignition
- Halt an explosion immediately and/or limit the explosion flames
- Ensure the appropriate selection of materials
- Prevent potential ignition sources
- Control hazards arising from external effects
- Outline requirements in respect of safety devices
- Integrate safety requirements relating to the system

Employers must:

- Conduct ATEX risk assessments to identify the hazards and risks
- Identify and classify (zone) all hazardous areas
- Take organizational and/or technical measures in order of priority and document the measures in an Explosion Protection Document (EPD)
- Reduce risk so far as is reasonably practicable

CMSE Provides the following ATEX Services

- CMSE has specialist ATEX consultants who can:
- Carry out the required ATEX risk assessments to identify and determine the necessary control measures
- Carry out a Hazardous Area Classification exercise for any location
- Assist with recommending and implementing additional control measures to reduce risk if required
- Generate your EPD to outline the control measures, both physical and organizational, in place and demonstrate compliance with the Safety, Health and Welfare at Work (General Application) Regulations 2007
- Assist with the generation of zoning and hazardous area layout drawings

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Process Safety

CMSE carry out various hazard identification processes such as Hazop, Hazan, Fault Tree Analysis, Event Tree Analysis, Structured What If Technique (SWIFT), etc. We also support the identification of critical equipment now requested by many HSA inspectors on routine site visits.

The main technique used by clients for process safety hazard identification is the Hazop. CMSE provide a tailor-made two day training course for hazop attendees. We also provide experts to chair your Hazop, or Hazop scribes to record the results or expert Hazop attendees to enhance the hazard identification process and to ensure that controls are neither too weak or too onerous and impractical.

Hazop - What is a HAZOP ?

HAZOP is an abbreviation for HAZard and OPerability analysis. It is a hazard identification technique used by a team for the systematic examination of a process or operation. It considers what deviations from the design intention can occur, the causes and the consequences. If the consequences are safety related then action must be taken, to eliminate or minimize the risk.

Benefits of a HAZOP

- Safer plant
- Greater process efficiency
- Systematic Approach exposes hidden hazards
- Helps the understanding of how a plant works and identifies operating problems
- Can lead to fewer start-up problems on major projects
- Can lead to valuable time saving

Irish Legislation

HAZOP is a technique employed to ensure compliance with the OSHA Process Safety Regulations as well as the EPA`s Risk Management Programme (RMP). It is a method of risk analysis to ensure that all precautions have been put in place to render a process as safe as is reasonably practicable.

Services provided by CMSE

CMSE consultants can act as competent persons to carry out an effective HAZOP analysis. Our consultants can provide an effective Hazard and Operability Analysis by acting as:

- Process Safety Expertise
- HAZOP Chair
- HAZOP Secretary
- Process safety review and support
- Chemical safety support
- Fault Tree Analysis
- Event Tree Analysis
- Structured What If Technique (SWIFT)

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Explosion Safety Management

Our consultants will perform Explosion Safety Management Review of your processes and plant that pose an explosion hazard. By carrying out an on-site survey our Process Safety Engineers will identify potential design and operational deficiencies that may lead to an explosion.

The review will include all activities that pose an explosion hazard including; storage, transportation, handling, use, maintenance and disposal activities. We will review all technical and organizational arrangements in place for the management of your explosion hazards. The review will include interviews with employees working on the process plant as, including operators, managers and engineering.

Once the review is completed, a comprehensive report will be issued outlining our findings giving clear recommendations to prevent and mitigate an explosion.

Our review (non- exhaustive) will include the following:

- Storage, use and disposal of flammable substances, gases and solids
- Characteristics of flammable substances, gases and solids
- Hazardous Area Classification
- Explosion Risk Assessments
- Management of Change
- Preventative Maintenance
- Policies & Procedures
- Emergency Procedures
- Training
- Control of Contractors
- Physical Inspection
- Other legislative requirements including Seveso II

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Hazardous Area Classification (HAC)

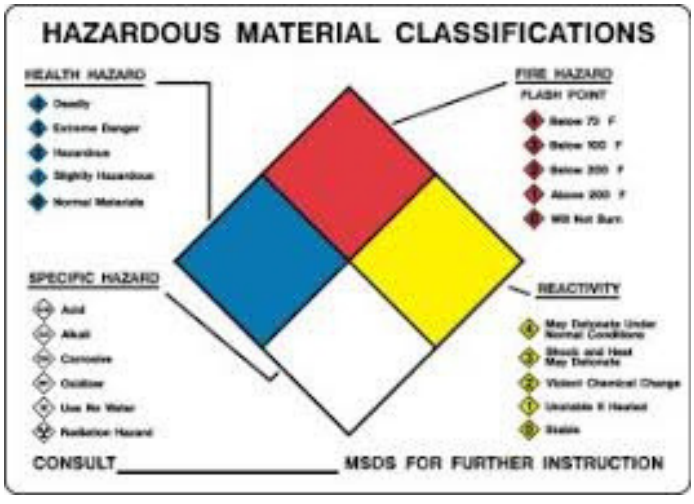
The Safety Health & Welfare at Work (Explosive Atmosphere at Places of Work Part 8) General Application Regulation 2007 specifies a legal requirement on employers to carry out a Hazardous Area Classification and zone areas where an explosion hazard may exist on a continuous basis, during normal operation or in the event of an emergency.

The regulations apply to workplaces where flammable substances, gases or solids (powders) are stored, handled and used. Hazardous Area Classification will be completed in accordance with BS EN 60079 and relevant industry standards and guidelines.

Our consultants will carry out Hazardous Area Classifications at your site. A Hazardous Area Classification report will be issued, which will consider the following:

- Location & processes handling flammable substances, gases or solids
- Flammable substances and their properties and characteristics
- Source of potential releases and how they can form explosive atmospheres
- Presence, degree and availability of ventilation (artificial and natural)
- Temperature, Pressure and state of the flammable substance in the process
- Grade of release of the substance (continuous, primary, secondary)

We can also prepare CAD Hazardous Area Classification drawings of your works areas.



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Explosion Risk Assessment

The Safety Health & Welfare at Work (Explosive Atmosphere at Places of Work Part 8) General Application Regulation 2007 specifies a legal requirement on employers to carry out an assessment of the explosion risk and document the findings.

The regulations apply to workplaces where flammable substances, gases or solids (powders) are stored, handled and used.

An explosion risk assessment must be carried out for any work activities involving flammable substances. Our Process Safety engineers can perform those explosion risk assessments by completing a visit on site and reviewing:

- **Processes & Tasks**
- **Flammable substances, gases or solids**
- **Potential sources of release**
- **Potential Consequences**
- **Potential ignition sources;**
- **Basis of safety**
- **Recommendations for compliance**

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Explosion Protection Documents

The Safety Health & Welfare at Work (Explosive Atmosphere at Places of Work Part 8) General Application Regulation 2007 specifies a legal requirement on employers to prepare an Explosion Protection Document (EPD).

An Explosion Protection Document outlines how you manage your explosion hazards to meet your regulatory requirements and industry best standards.

Our Safety Engineers at CMSE Consultancy can prepare following consultation and a review of your activities an Explosion Protection Document.

The Explosion Protection Document will include:

- Description of your facility and Processes;
- The substances and their properties that present an explosion hazard;
- Those areas of the site where there is an explosion hazard;
- Those places that have been classified into hazardous zones;
- Explosion risk assessments;
- The technical measures to both prevent an explosion and to mitigate the effects should one occur;
- The organizational measures to protect against explosions including training, instruction, operational procedures, supervision, maintenance, operation of permits to work, co-ordination between employers;
- Selection and use of equipment in explosive atmospheres including Certification or calibration documentation;
- Marking of areas;
- Means of escape;
- EPD periodic review.

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Explosion Accident Investigation

Explosions are rare events thankfully but in the event of an explosion the consequences in terms of loss of life, injury, plant damage, environmental impact and business impact can be significant. It is important that in such situations that the explosion is investigated and the root cause/s is determined to prevent recurrence.

Our Safety Engineers at CMSE Consultancy can carry out an independent investigation if an explosion accident has occurred on site. The investigation will include an examination of process and human factors that might be contributory to the explosion.

To explosion investigation will consider the following

- Review of similar explosions
- Lead up to the explosion
- Explosion event
- Process and substances involved
- Accounts of witnesses
- Evidence from field inspection
- Analysis of evidence
- Previous indicators
- Key Technical Findings/ failures
- Key Organisational Findings/failures
- Safety system deficiencies, system malfunctions and hazardous conditions will be identified.
- Specific recommendations, to prevent recurrence of the accident, including both operative and protective measures.

On completion of the explosion investigation a comprehensive report will be issued to the Company.

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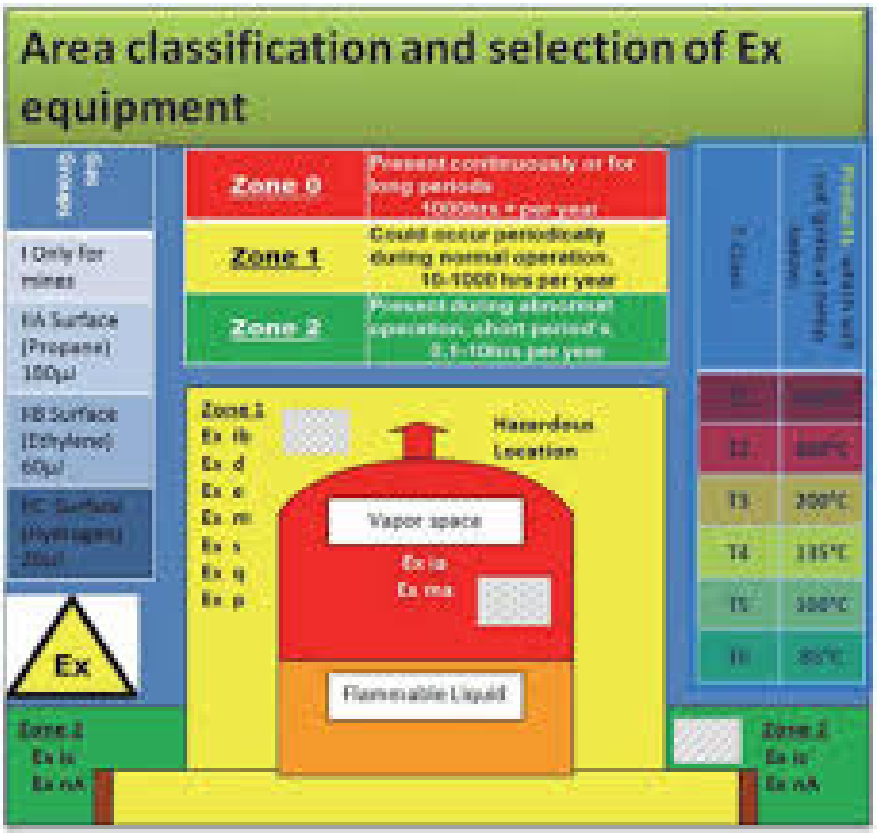
Equipment Selection in Classified Explosion Areas

Directive 94/9/EC applies to equipment and protective systems intended for use in potentially explosive atmospheres. The suitability of mechanical and electrical equipment intended for use in potentially explosive atmospheres is determined according to its group and category.

Our Safety Engineers at CMSE Consultancy can advise you having taken in to consideration the work environment, classified hazardous areas, flammable substances, gas or solid used, auto-ignition temperature and minimum ignition temperature what Explosion equipment specification is required to prevent the ignition of a potential explosive atmosphere.

Our Safety Engineers at CMSE Consultancy can complete workplace surveys and advise on suitability of existing equipment installed in Hazardous Classified Areas.



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Process Safety Review (incl. Basis of Safety Reports)

At CMSE Consultancy, our consultants will perform Process Safety Review of your high-risk and safety critical processes. The major objective of process safety management (PSM) of hazardous processes is to prevent unwanted releases of hazardous chemicals or explosion/fires especially into locations that could expose employees and others to serious hazards.

An effective process safety management program requires a systematic approach to evaluating the whole chemical process. Using this approach, the process design, process technology, process changes, operational and maintenance activities and procedures, non-routine activities and procedures, emergency preparedness plans and procedures, training programs, and other elements that affect the process are all considered in the evaluation.

Our Safety Engineers at CMSE Consultancy will review and consider;
- Process
- Equipment
- Basis of safety
- Employee involvement in process
- Process Hazard Analysis
- Pre-start up safety checks
- Non routine tasks
- Mechanical integrity
- Inspection & Testing
- Management of Change
- Procedures
- Training
- Contractor control

Once the review will be performed, a report will be issued giving detail of existing control measures, basis of safety to be implemented, recommendations and actions required to achieve the highest standard level in process safety.

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Layer if Protection Analysis Study (LOPA)

LOPA is developed in response to a requirement within the process industry to be able to assess the adequacy of the layers of protection provided for an activity.

Examples of layers of protection used in the LOPA study are:

- Process
- Process Design
- Alarm, Operator Action
- Automatic Action (Safety Instrumented System, Emergency Shutdown, Automatic Fire Suppression)
- Active / Passive protection in place
- Plant Emergency Response

At CMSE Consultancy, will estimate and evaluate the risk by defining all the existing layers of protection and also giving recommendations of basis of safety to be implemented.

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Quantifiable & Qualitative Risk Assessment

Our experienced consultants are proficient in the development and performance of multiple quantifiable and qualitative Risk Assessment techniques.

Failure Mode & Effect Analysis (FMEA)
Failure Mode & Effect Analysis is based on:
• How severe is the effect on the customer?
• How frequent is the cause likely to occur?
• How probable is detection of the cause?
• RPN = Risk priority number in order to rank concerns

Systematic What If Technique (SWIFT) Study
- The Structured What-If Technique (SWIFT) is a systematic team-oriented technique for hazard identification
-Developed to identify hazards in chemical process plants. It addresses systems and procedures at a high level.
- SWIFT considers deviations from normal operations identified by brainstorming, with questions beginning "What if...?" or "How could...?". The brainstorming is supported by checklists to help avoid overlooking hazards.

Fault Tree Analysis (FTA) Study
FTA is a top-down approach for analysing pre-event failures with systems in development, beginning with the top event (the potential failure), then determining all the ways it can occur. Similarly, post-event failures can be analysed to find the root cause of the failure.

Event Tree Analysis (ETA) Study
Event tree analysis (ETA) is an analysis technique for identifying and evaluating the sequence of events in a potential accident scenario following the occurrence of an initiating event.
The objective of ETA is to determine whether the initiating event will develop into a serious accident or if the event is sufficiently controlled by the safety systems and procedures implemented in the system design.

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Cause-Consequences Analysis

Cause-consequence analysis [Nielson 1975] combines the hazard identification and quantification methodology of Fault Tree Analysis with Event Tree Analysis. The technic can be scheduled in six stages:

1) Select the event or type of accident
2) Identify the safety functions that influence the course of the incident resulting from the event.
3) Develop the accident path resulting from the event (ETA Study)
4) Develop the initiating event and the safety function failure event to determine their basic causes (FTA Study)
5) Evaluate the accident sequence minimal cut sets
6) Document the results and detail possible recommendations.

Maintenance and Operability study (MOP)

Investigates the hazards related to the maintenance of plant items. The technique can be used to identify hazards, or poor design leading to hazards, during the maintenance of the various plant items. With MOP study, each process item is analysed by asking the following questions:

- Can the equipment be properly isolated for maintenance?
- Can the equipment be properly drained for maintenance?
- Are there plans to deal with mechanical failure of equipment?
- Are there plans for critical spare parts to be available?

Task Analysis

Task analysis is a systematic method for analysing a task in terms of its goals, operations and plans. The task is a set of operations/actions required to achieve a set goal.

This technique takes into consideration the following data:

- The general operating procedure including job descriptions, process diagrams, and operating manual.
- Output from a hazard review.
- A number of interviews with people who have experience of the process and plant.
- Observations of the general operation of the plant.

Task Analysis tries also to address some relevant questions as:

- What actions do the operators perform?
- How do operators respond to different cues in the environment?
- How any errors might be recovered, or any deviations be controlled?
- How do operators plan their actions?

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Predictive Human Error Analysis (PHEA)
PHEA allows complex tasks to be analysed in detail. The technique applies hierarchical task analysis to split the complex tasks into component parts. Assesses the consequences of the hazards. The technique examines the consequences of the human errors if they occur within the process.
PHEA analyses the tasks systematically considering:
- Task type
- Error type
- Task description
- Consequences
- Recovery
- Error reduction strategy
Our professionals, will also carry out other quantitative and qualitative techniques as:
- Layer of Protection Analysis (LOPA) Study
- Consequential Modelling Study
- Checklists
- Safety Audit

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Hazard Identification (HAZID) and Hazard & Operability Studies HAZOP

Hazard Identification (HAZID) and Hazard & Operability Studies (HAZOP)

Hazard and Operability Analysis (HAZOP) is a structured and systematic technique for system examination and risk management.

It is based on a theory that assumes risk events are caused by deviations from design or operating intentions. Identification of such deviations is facilitated by using sets of "guide words" as a systematic list of deviation perspectives.

A Hazard Identification (HAZID) Study is the process of identifying hazards in order to plan for, avoid, or mitigate their impacts. The strategy and steps to follow is very similar to HAZOP technique but, different key words are used to carry out the analysis.

Our Process Safety Engineers have the relevant experience to perform those studies, analysing the elements of the process, deviations, possible causes and consequences. They will provide you also with the actions to be completed in order to reduce the risks.

A full report of the study will be issued underlining the following aspects:
- Identification of the deviations through the guide words.
- Documentation of consequences and causes.
- Protection, detection and indicating mechanisms.
- Actions and recommendations to follow to reduce risks.
- Follow-up of the actions to be implemented.
- Re-study of any part of the process if needed.

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Seveso II (COMAH) Compliance Audits

The Control of Major Accident Hazards (COMAH) Regulations ensure that businesses:
"Take all necessary measures to prevent major accidents involving dangerous substances"
"Limit the consequences to people and the environment of any major accidents which do occur"

Their main aim is to prevent and mitigate the effects of those major accidents involving dangerous substances.

At CMSE Consultancy, we will make sure that your business comply with COMAH regulations by auditing and analysing the following areas and capacities:

- Dangerous substances present.
- Technical and organisational preventive measures in place, as emergency response, External Emergency Plans, fire suppression systems, safety operation procedures.
- Features and elements in the workplace to mitigate the effect of a major accident.

By carrying out an on-site walk-through inspection an in-depth review of the plant our Process Safety Engineers will identify possible lapses in the legislation compliance and they will ensure that the plant and the equipment, as well as the operating and maintenance procedures, meet the COMAH requirements.

Once the audit will be performed, a report will be issued giving detail of existing control measures, basis of safety to be implemented and actions required to comply with COMAH directives.

Seveso III (COMAH) Compliance

CMSE Consultancy can assist you in preparing for Seveso III implementation in 2015. We can offer the following services (in addition to the above Seveso II):

- Implications of new regulation for your site lower or upper tier
- System for classification of materials
- Information for public consultation
- Emergency plan preparation

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Seveso II (COMAH) Inventory Assessements

The Control of Major Accident Hazards (COMAH) Regulations ensure that businesses:
"Take all necessary measures to prevent major accidents involving dangerous substances"
"Limit the consequences to people and the environment of any major accidents which do occur"

Their main aim is to prevent and mitigate the effects of those major accidents involving dangerous substances, such as chlorine, liquefied petroleum gas, explosives and arsenic pentoxide which can cause serious damage/harm to people and/or the environment. The COMAH Regulations treat risks to the environment as seriously as those to people.

Sites generally enter into scope of the COMAH Regulations in one of two ways:
a) A business decides to expand and increase its inventory of dangerous substances;
or
b) External factors result in one or more of the COMAH qualifying thresholds being met or exceeded (for example, reclassification of a substance as dangerous to the environment).
CM Group Safety engineers will perform inventory assessments for the COMAH site and will develop a report with the following information:

- Details of dangerous substances present (or likely to be present*) on site;
- Quantity and physical form of those dangerous substances;
- Brief description of site activities related to the dangerous substances;
- Features of the environment which could lead to a major accident on the site;
- Elements of surrounding environment which could make the consequences of a major accident worse.
*** 'Likely to be present' – eg inventory variations which may occur because of seasonal demand, fluctuations in business activity etc, or dangerous substances which may be present sometimes but not at other times. Also includes dangerous substances which may be generated during the loss of control of an industrial chemical process.**

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COMAH Pre-Construction Safety Report

Preparation of COMAH Pre-construction Safety Report for clients who are planning new sites under the COMAH Regulations. This work will include:

- Liaising with various authorities
- Inventory of hazardous substances
- Assessment of Potential for Major Accident to the Environment
- Major-Accident Hazard Identification
- Risk Assessment & Consequential Modelling

- Basis of Safety – plant design

COMAH Safety Report

Preparation of COMAH Safety Report (including MAPP) to form the basis of safety for the operation of a COMAH site to include:
A description of the Management Systems which will be in place to prevent and mitigate a Major Accident Hazard. The Safety Report will include the risk assessment approach to the mitigation and management of the potential accident scenarios. It will be comprehensively cover procedures to ensure compliance with relevant standards for design, fabrication, installation, operation and maintenance of chemical warehousing of flammable, toxic and other hazardous substances. Develop SMS including process safety e.g. PTW, PPM of safety devices

Human Factors Assessment
Gap analysis to ensure human factors appropriate to risks are included in SMS etc. as per HSE SRAG.

Emergency Planning Off-Site
The outcome of the Hazard Identification and Risk Assessment will inform the measures required to prevent and mitigate potential emergencies in the form of loss of containment, fire and explosion. This will include detection of loss of containment, fire detection, fire-fighting, segregations and compartmentalization, fire resistance and spill / fire water containment.

Emergency Planning On-Site
The outcome of the Hazard Identification and Risk Assessment will inform the measures required to prevent and mitigate potential emergencies in the form of loss of containment, fire and explosion. This will include detection of loss of containment, fire detection, fire-fighting, segregations and compartmentalization, fire resistance and spill / fire water containment.

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Major Accident Prevention Policy (MAPP) Preparation

All establishments that are subject to the COMAH regulations must have a Major Accident Prevention Policy (MAPP) document on site.

The Control of Major Accident Hazards (COMAH) Regulations ensure that businesses:
"Take all necessary measures to prevent major accidents involving dangerous substances"
"Limit the consequences to people and the environment of any major accidents which do occur"

Our Process Safety Engineers at CMSE Consultancy, will gather all the relevant information for the preparation of the MAPP document, as training records, your own internal site inspection records, audit reports, operating procedures, risk assessments and they will develop the referred document.

The Major Accident Prevention Policy (MAPP) document will be issued highlighting the following aspects:

- Roles and responsibilities of personnel at all levels involved in the management of the major hazards
- Training. Arrangements for selecting personnel and providing training to ensure they are competent to work with a major hazard.
- Planning and implementing Hazard identification and risk assessments
- Procedures and instructions for safe operation
- Design and modifications of installations
- Identification of foreseeable emergencies and the preparation, test and review of emergency procedures.
- Measuring compliance
- Review and audit

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Consequential Modelling

By performing and carrying out consequential modelling at CMSE Consultancy, we will assess the impacts of the changes in life cycles of the processes.

Based in modelling the technology (or process) actually affected by a change in demand and also taking into account the co-product allocation, Consequential Modelling can be develop in four phases:

- Phase 1: Goal and functional unit definition, where functional unit is the type and amount of product assessed.
- Phase 2: Life cycle inventory: compilation and quantification of inputs and outputs in all the involved processes.
- Phase 3: Life cycle impact assessment', carried out on the basis of the life cycle inventory data obtained.
- Phase 4: interpretation, where the data from previous phases is analysed and conclusions and recommendations are determined.

Supported by a competent software in Consequential Modelling, our professionals will accomplish your requirements and expectations.

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Safety Integrity Level (SIL) Determination

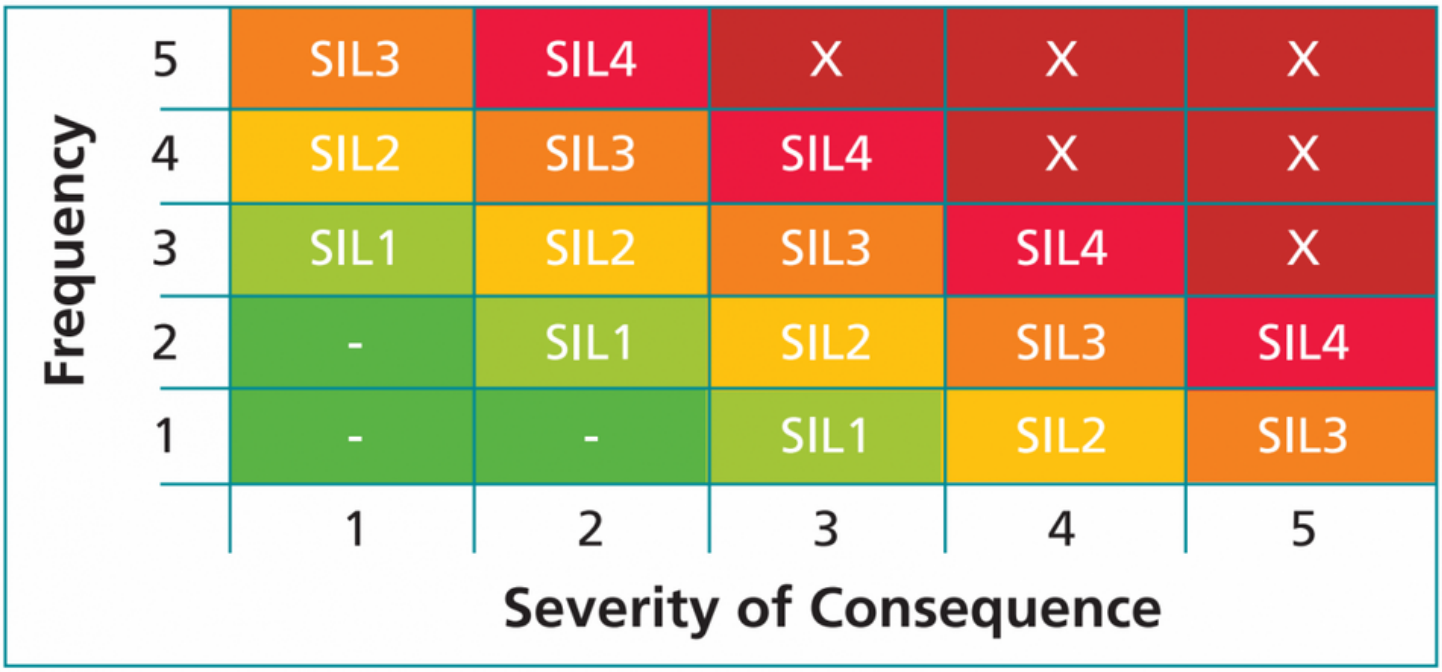
The International Electrotechnical Commission is the organisation which develops and sets international standards in electrotechnical engineering areas. In 1997 the IEC published the standard IEC 61508, Functional safety of electrical/electronic/programmable electronic safety-related systems.

The IEC 61508 specifies 4 levels of safety performance for a safety function. These are called safety integrity levels (SIL), being SIL1 lowest and SIL4 the highest level of safety integrity.

At CMSE Consultancy will analyse the consequences, frequency and exposure to the risks, possibility, and probability of the unwanted occurrence in order to determine the levels.

A report will be issued to the client with the following contents:

- Identification and quantification of the risks
- Safety Instrumented System (SIS) requirements
- Definition the Safety Integrity Levels (SIL)
- Determination of the risk reduction to reach an acceptable level



Behavioural Based Safety

CMSE is recognized as an industry leader in the area of Behavioural Based Safety (BBS) Programmes. Our specialists have extensive experience in BBS Programmes having worked in the area for many years. We provide practical support, training and solutions to our clients.

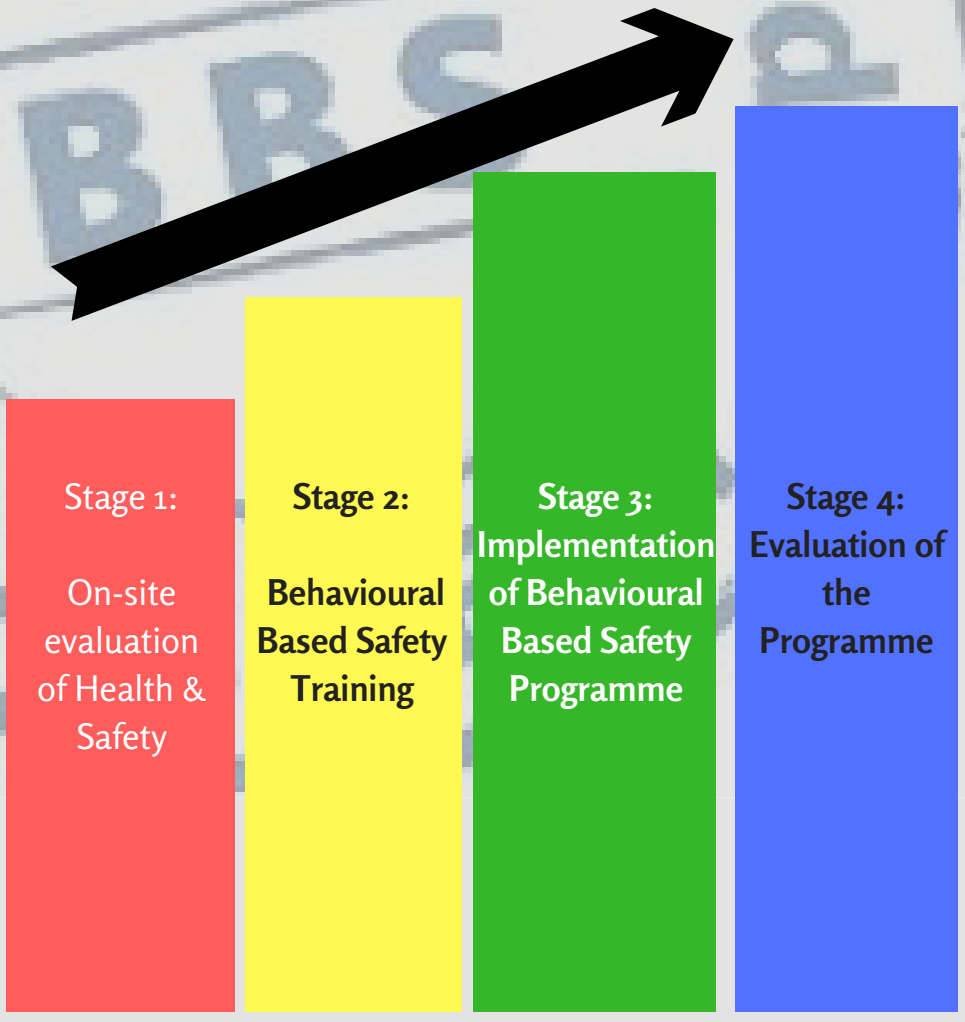
Why use a Behavioural Based Safety Programme or System?

Behavioural Based Safety (BBS) systems came about to reduce accidents and their resultant costs. The costs can be human costs (in the form of death or injury to YOUR staff!) or financial costs (in the form of damage to equipment, raw material, product, etc.).

Accident causation studies (including ones at Du Pont, Heinrich and Kletz) highlight the fact that up to 96% of all accidents and incidents are caused by human error, with only 4% due to unsafe work conditions. So Behavioural Based Safety focuses on worker behaviour and human factors rather than limiting itself to the traditional approach of engineering safeguards. The aim is to change behaviour and foster a positive, open safety culture. This in turn leads not only to reduced injuries and illness but will also to improved morale, quality, performance and productivity.

CMSE Behavioural Based Safety Services

The programme involves front line staff carrying out planned routine behavioural safety observations audits/tours. It involves immediate one-to-one feedback on the observation with the person involved. The observations feedback focuses on both positive and negative behaviours observed. At CMSE we use the following four-stage process:



Business Continuity Planning (BCP) and Crisis Management

CMSE is a leading provider of Crisis Management and Business Continuity Planning (BCP). Our specialists provide quality services in these areas for a very large range of clients including GSK, Pfizer and many more. Our specialists will provide you with strategies, plans, training and practical solutions for your particular situation.

Crisis management is about responding to an immediate emergency situation and then ensuring that the recovery process is effective. This response includes but is not limited to the creation of a process and procedures for dealing with worst case scenarios – those major unpredictable events that threaten to harm your organization, your stakeholders or the general public. It can also include very detailed Business Continuity Planning (BCP).

CMSE Crisis Management Training Exercises

CMSE will develop customized crisis management training sessions with our clients. We will also run realistic and relevant in-house simulation exercises. On completion of these exercises we carry out hot de-briefing conferences and gather feedback from the management team. A crisis management exercise report then identifies strengths, weaknesses and areas for improvement.

CMSE Crisis Management Services

- Evaluation of the crisis management emergency plan, enable continuous improvement of your organization's business continuity management competence and capability
- Prepare management for dealing with a crisis
- Ensure the crisis management team has identified what resources are needed and how they should be used
- Assess to ensure that each manager is consistent in his/her approach to the implementation of the procedures
- Demonstrable business continuity and crisis management competence and capability
- Verification that the business continuity plan (BCP) and business continuity management (BCM) strategies are workable, effective, up-to-date and fit for purpose

Training or awareness of individual's involvement in using the BCM plan(s)

- Rehearsal of roles, leading to familiarization of team members with their roles, accountability, responsibility and authority in operation of the BCP
- Testing of the technical, logistical, operational and administrative aspects of BCP
- Verify that the BCP incorporates all organizational mission critical activities.
- Increase awareness of BCM emergency procedures and its significance
- Identify shortcomings and required improvements, leading to action points
- Amend business continuity plan/ emergency plan
- Requirement for testing and auditing of BCP

Ergonomic Consultancy

CMSE is a leading provider of ergonomic services including risk assessments, DSE assessment reviews, task assessments (work rotation studies) and Repetitive Strain Injuries (RSI) assessments. CMSE delivers cost effective, practical services to our clients nationwide in these services.

It is now widely recognized that while accidents and ill health have costs - often hidden and underestimated - effective workplace ergonomic management actually contributes to business success.

Relevant legislation

Under the Safety, Health and Welfare Act, 2005, all employers are required to provide a safe place of work and safe systems of work for all employees and others who may enter the place of work.

CMSE Services Include

Our ergonomic consultancy services include reviews of:

- Tasks and their impact on the body - work rotation studies - RSIs
- The conditions of the working environment (lighting, noise, temperature, relative humidity)
- The individual who is completing the task

Besides carrying out a comprehensive ergonomic assessment, our consultants draw up a written report including key recommendations.

Fire Risk Assessment

CMSE is a leading provider of services in the areas of fire risk assessments and fire design and certification. Our experienced fire safety consultants provide a fully personalized and customized service, practical advice and assistance. CMSE provides fire safety consultancy services such as

- Fire Certificate Applications
- Identify fire hazards and related fire design issues
- Carry out fire risk assessments
- Offer practical advice on the control of such issues in accordance with current legislation and best practice in fire related design

Relevant Irish legislation

Under Ireland`s Safety Health and Welfare at Work Act 2005, every employer must identify the hazards in his or her workplace, including the fire risks. These hazards must be assessed and presented in a written format as a Fire Risk Assessment. Companies must also comply with specific fire legislation including the Fire Services Act 1981 and 2003, the Building Regulations and various Codes of Practice.

Detailed fire certificate applications must also be submitted for all buildings under the Building Control Act, Building Regulations and Fire Safety Legislation, Part B (Fire) of the Building Regulations 2006 and Associated Codes of Practice. We liaise with the fire authorities for our clients in this process, in order to ensure the best outcome for our clients.

CMSE range of services

Our fire safety consultant will visit your premises, review your fire safety documentation and thoroughly assess all buildings, equipment and processes. In consultation with you, we then identify areas for improvement. During this risk assessment our consultant can carry out any of the following:

- Identify the fire hazards in your workplace
- Review emergency escape routes
- Review emergency lighting, fire alarm and fire-fighting equipment
- Review all fire safety documentation, e.g. emergency plans and fire register
- Highlight non-compliance with building regulations or fire safety legislation
- Highlight where fire training is required to ensure compliance
- Prepare a Fire Safety Report with clear recommendations and priorities

Additional fire safety services

CMSE fire safety specialists can also assist you to:

- Prepare Fire Safety Certificate applications
- Prepare fire protection drawings
- Provide fire safety advice to project design teams
- Ensure compliance with Part B (Fire) of the Building Regulations 2006 and Associated Codes of Practice
- Assess and design smoke ventilation systems

Fire Safety Engineering Services

Fire Safety Audit Reports: The fire safety audit is prepared by carrying out a physical survey of the building to establish compliance with fire safety certificates granted and the compliance with the fire services act 1981 (2003). The fire safety audit report will review all active and passive fire safety measures employed in the building including fire safety management systems, identify non compliance concerns, and provide cost benefit solutions, action plan and order of magnitude costs for compliance.

Fire Safety Certificates & DAC Certificates: fire safety certificates, revised fire safety certificates and regularizations certificates are prepared based upon the findings of the fire safety audit including AutoCAD drawings to ensure compliance with Part B of the building regulations. In some instance a DAC certificate may be required and will be prepared by CMSE.

Design: a full design services is provided as follows:
(a) Design of fire alarm to IS 3218:2009 with supporting drawings.
(b) Design of emergency lighting to IS 3217:2008 with supporting drawings.
(c) Design of fire compartments with supporting drawings
(d) Fire modelling for complex buildings including basement car parks.
(e) Smoke extraction systems and fire damper design.

Order of magnitude Cost: the fire safety audit will have an order of magnitude costing included and a project budget will be prepared at design stage, after tender and during the course of the fire safety up grade project.

Tendering: All upgrade works necessary after the design process will be tendered and reviewed by CMSE and recommendations made to the client. The tender document, system specifications and drawings will be prepared by CMSE.

Project managing of the fire safety upgrade works: on completion of the tender process and appointment of contractors, CMSE will project manage the fire safety up grade works to handover stage supplying the client with weekly programme of works and weekly budget reviews.

Handover and sign off of project: on completion of the project a safety file and opinion on compliance with the building regulations will be handed over to the client.

Legionella Risk Assessment

CMSE carries out detailed Legionella Risk Assessments that both identify and assess the risk of exposure to Legionella bacteria in your workplace. The assessment will identify the work activities and locations of the exposures and will of course list precisely any necessary precautionary control measures both interim and long term.

The Legionella risk assessment includes such specific items as follows:

- Identification of the possible sources of Legionella Bacteria
- Sampling of water systems to assess risk of Legionella Bacteria
- Calculate the risk of potential Legionella Bacteria contamination
- The identification of particular means by which exposure to Legionella bacteria can be prevented
- If prevention is not reasonably practicable, the particular means by which the risk from exposure to Legionella bacteria can be controlled

Applicable Irish Legislation

The Safety, Health and Welfare at Work (Biological Agent) 1994 state the requirements for controlling biological agents. Requirements include:

- Risk assessments should be carried out to assess the Legionella risk on all hot and cold water systems
- Exposure should be prevented where a risk is identified
- Implementation of an effective Legionella Control Programme
- Adequate training and instruction should be provided with respect to risks and precautions

What is Legionella?

Legionella is gram negative bacterium, including species that cause Legionellosis or Legionnaires' disease, most notably L.pneumophilia. Legionnaires disease poses the greatest risk to people who are elderly, ill or immunocomprimised. Legionella transmission is via aerosols, and insulation of mist droplets containing the bacteria. Common source include:

- Cooling towers
- Domestic hot and cold water systems
- Emergency shower heads and showers
- Taps and water storage tanks
- Other water systems

A number of factors are required to create a risk of Legionella including; presence of the Legionella bacteria, water change rate, degree of exposure, presence of the numbers of people who may be at risk of exposure, water temperatures, total microbial count, enclosed or open systems.

The purpose of a Legionella risk assessment is to enable decisions to decide the risk to health and the necessary measures to prevent/control the risk from exposure to Legionella bacteria.

CMSE is a leading provider of Machinery Safety Support to many clients nationally. Our specialists provide practical advice, training and machinery solutions to support your particular needs. Our team work to legislative requirements and benchmark against industry best practice.

Machinery Safety

Services provided by CMSE

CMSE consultants provide the following non-exhaustive list of machinery related services:

- CE Compliance and review of relevant directives and standards.
- Equipment Hazard analysis and risk assessment.
- Creation of safety concept and generation of a safety design review.
- Evaluation of compliance with the Essential Health and Safety Requirements (EHSR).
- Compiling legally required documents for CE Marking including technical construction files, etc.

CMSE can also review the machinery and its interface with the production process. We also involve operations and maintenance personnel to identify their main safety concerns. This type of assessment includes:

- A risk assessment of both mechanical and non-mechanical hazards on individual machines.
- Assessment of the existing risk reduction measures.
- A review of the viability of upgrading the safety of the machine.
- Prioritized recommendations on approach to improve current status.

Applicable Irish Legislation

Legislation relating to machinery safety has evolved rapidly over recent years. Under the Safety, Health and Welfare at Work (General Application) Regulations 2007, Chapter 2 of Part 2: Use of Work Equipment, an employer is required to ensure "any work equipment provided for use by employees at a place of work complies, as appropriate, with the provisions of any relevant enactment implementing any relevant Directive of the European Communities relating to work equipment with respect to safety and health."

The European Communities (Machinery) Regulations 2008 (S.I. No. 407 of 2008) requires that a CE` mark be affixed to the machinery and the supplier is required to issue a Declaration of Conformance, unless the machinery is to be incorporated into other machinery, in which case it directs that the CE mark shall not be affixed.

- It is a requirement for all machinery that a Technical File can, or for some machines, must, be compiled. In practice this often means compiling it as a project progresses.
- Complying with applicable mandatory Essential Health and Safety Requirements (EHSRs) from a long list given in the directive.
- Undertaking the correct conformity assessment procedure.

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Machinery Risk Assessment in accordance with

ISO 12100

Our Safety Machinery Experts (Pilz TUV Nord Certified) can assist you in completing Machinery Risk Assessments with in accordance with the directive EN ISO 12100.

Our Safety Engineers at CMSE Consultancy, will gather all the relevant information on site to carry out the machinery risk assessment that will include:

- **Description of the machine**
- **Operating modes of the machine**
- **Safety features of the machine**
- **Description of the work station and the environment**
- **Evaluation of Hazards (noise, vibration, substances, ergonomics)**
- **Personal Protective Equipment**
- **Identify Risk Reduction measure for compliance**
- **Advise on Safety Distances in accordance with ISO 13857**
- **Advise on Machinery Safety Control systems in accordance with ISO 13849-1 and IEC 62061**

We will guide you to make sure that your machinery comply with guarding and protective systems directives in the European Union.

Occupational & Environmental Noise

Workplace (Occupational) and Environmental Noise Assessments

CMSE is a leading provider of Workplace Noise Assessments to clients for many years. Our specific deliverables in this area include quantitative noise risk assessments, Noise Monitoring, Measurement and reporting. Our specialist consultants have many years of practical experience and expertise in assessing your needs in terms of current Noise Legislation.

At CMSE we pride ourselves on the quality and value of the services that we provide our clients. Our Noise Consultants will identify and assess the risks posed by noise in your workplace and environment in accordance with all current Irish noise legislation and current best practice.

Relevant Legislation

The main relevant legislation covering the control of noise in the workplace is the Safety, Health and Welfare at Work (General Application) Regulations 2007, Chapter 1 of Part 5: Control of Noise at Work. Under these regulations, when employees are likely to be exposed to noise at work above the lower exposure action value, an employer is obliged to carry out a detailed Noise Risk Assessment, completed by a competent person.

If any employee is likely to be at risk from noise, the employer must establish and implement a programme of technical and organizational measures to reduce exposure. Personal protective equipment (ear plugs or ear muffs) is always a last resort to reduce exposure if no other measures have been successful at reducing the exposure to noise.

CMSE Services

CMSE provides independent professional and practical advice on your duties under these regulations. Our Occupational and Environmental Noise Assessment services include:

- Comprehensive noise surveys (occupational and environmental monitoring)
- Comprehensive noise report with key recommendations
- Noise consultancy to ensure legislative compliance
- Noise awareness training

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ISO 45001 Services

CMSE is a leading provider of ISO 45001 and Safety Management Systems in the Irish workplace. We work with many clients to gain ISO 45001 for them. Our services include the initial Gap Analysis and improvement plan, risk assessment standardization, assisting you in preparation for the pre-audits and certification audits, internal auditor training, maintenance of the certification once it is in place and anything else you need to get and maintain the certification.

Specific Services provided by CMSE

- Gap analyses on your current situation against OHSAS and ISO standards, legislation and codes of practice
- We can deliver top quality Internal auditor training and/or mentoring
- Supporting your implementation of an effective hazard identification/ risk assessment programme and development of appropriate risk controls.
- Developing business specific objectives, targets and management programmes, supported by performance measurement and review mechanisms that instill a continuous improvement ethos
- Providing training on complete systems implementation or on individual sections of a specific safety management standard. These can be either generic or client specific
- Developing internal and external inspection/ audit schedules to ensure continuing progress and improvement. Alternatively we can conduct routine or random audits on your behalf.
- Supporting you from start to finish to achieve accreditation to the BS OHSAS 18001:2007 standard

Good Safety Management Systems are Holistic and Integrated

A well implemented safety management system will not only reduce injuries and illnesses, but can also improve morale and productivity - especially if integrated with other business systems. With our multi- disciplinary systems team, we encourage a holistic and integrated approach to risk management. We can also integrate your safety management system with other systems such as ISO 9001:2008, IS14001:2004 and IS393:2005.

Legislation and Social Responsibility

- The legal onus is now firmly on organizations to prove that they manage their activities in a manner that effectively preserves the health, safety and welfare of employees and anyone else these affect - from contractors and customers to visitors and the public. Additionally, companies are coming under increasing pressure from corporate bodies, customers and suppliers to implement procedures that demonstrate social responsibility.
- In this context, we guide organizations through implementing procedures for continuous improvement in managing health and safety, using formalized safety management systems such as:
- ISO 45001
- BSi OHSAS 18001:2007
- ILO-OSH
- BS8800:2004
- HS(G)65

Occupational Hygiene Services

CMSE is a leading provider of professional air quality monitoring in workplaces for many years. Our expert hygienists carry out monitoring covering different work locations, activities and conditions. CMSE will benchmark your workplace against the current legal exposure limits and industrial best practice.

Occupational Hygiene is the recognition, evaluation and control of factors that may affect the health and well-being of people at work, including chemicals and dust. The main reason for completing Occupational Hygiene Monitoring is to determine the level of hazardous substances in the work environment.

CMSE Services

CMSE provide independent professional and practical advice on your duties under this legislation. We pride ourselves on the quality services that we deliver to our clients. Our Occupational Hygienists will identify and assess the risks posed by dust, gas, vapours and chemicals in the workplace in accordance with the Chemical Agents legislation.

The services we provide include:

- Comprehensive Air Quality (Dust, Gas, Solvent, Vapour) Occupational Monitoring
- Samples analyzed by a UKAS Accredited Laboratory
- Comprehensive Occupational Hygiene Monitoring Report
- Occupational Hygiene Consultancy to ensure legislative compliance
- Assessment of the effectiveness of current control measures
- Making recommendations to reduce exposure

Relevant Irish Legislation

Under the Safety, Health and Welfare at Work (Chemical Agents Regulations) 2001, employers are obliged to complete a risk assessment when employees are likely to be exposed to hazardous substances at work. Employers are also obliged to implement a programme of technical and organizational measures to reduce this exposure in accordance with the 2010 Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001(S.I. No. 619 of 2001).

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PSCS and PSDP Services

CMSE is a leading provider of Project Supervisor Design Phase (PSDP) and Project Supervisor Construction Stage (PSCS) services in Ireland today. In addition to the PSCS and PSDP services CMSE specifically work with clients to advise and assist them in their duties under the 2006 Construction Regulations.

CMSE also supply carefully selected PSDP and PSCS safety consultants and safety officers to clients on most large projects. Clients include M&W ZANDER, Alstom, ESBI, GlaxoSmithKline, Pfizer Ireland, Bristol Myers Squibb, ESB Networks and many, many more. Effective implementation of the Irish Construction Regulations can SAVE the client money.

CMSE Construction Regulations Services

CMSE provides three main services under the 2006 Construction Regulations.

1. Project Supervisor Design Process (PSDP) Services

CMSE provide top quality Project Supervisor Design Process (PSDP) Services. We supply safety consultancy teams to clients as Alstom, M&W ZANDER, GlaxoSmithKline (GSK), Pfizer Ireland Ltd and many more. Our construction consultants provide practical safety design inputs and solutions at the earliest stage in the design process - this early safety design intervention minimizes costs to the client.

CMSE have a reputation for generating significant savings because of our policy of early intervention in design safety issues. We have several case studies to demonstrate such savings. CMSE provide effective safety expertise to assist designers, architects, project managers etc, in fulfilling the PSDP and Health and Safety Coordinator roles. The practicality and ease of application of our solutions is the hallmark of our services.

2. Project Supervisor Construction Stage (PSCS) Services

CMSE provide top quality Safety Consultants and Safety Officers for Construction Projects nationally and internationally. These carefully selected safety consultants and safety officers ensure practical compliance with the Project Supervisor Construction Stage (PSCS) requirements. We have supplied both consultancy and Safety Officer teams to M&W ZANDER, GlaxoSmithKline (GSK), Alstom, Pfizer and many more.

CMSE have a reputation for practicality during the construction phase and for work arounds to ensure schedule is not affected while at the same time not impacting safety. The key to our approach is good planning. We use simple tools such as field Risk Assesments and standardized Method Statements. At CMSE we pride ourselves on the quality and value of the services that we provide to our clients.

3. Legislative Compliance Services for the Client

The person or entity who commissions a project has many duties and responsibilities under the 2006 Construction Regulations. CMSE is unique in that we are the only company to provide the "Client" with advice and solutions since 1996. The interpretation of the legislation is key in practical compliance. CMSE are experts in this service area.

Applicable Irish Legislation

Under the Safety, Health and Welfare (Construction) Regulations 2006 new duties and responsibilities have been placed on PSDP in order to improve the health and safety in the construction industry by engaging all the participants in a project from conception to completion. The duties of the PSDP are to:

- Identify hazards arising from the design or from the technical, organizational, planning or time related aspects of the project.
- Where possible, eliminate the hazards or reduce the risk.
- Communicate necessary control measures, design assumptions or remaining risks to the PSCS so they can be dealt with in the Construction Safety and Health Plan.
- Ensure that the work of designers is coordinated to ensure safety.
- Organize co-operation between designers.
- Prepare a written safety and health plan for any project where construction will take more than 500 person days or 30 working days or there is a Particular Risk and deliver it to the client prior to tender.
- Prepare a safety file for the completed structure and give it to the client
- Notify the Authority and client of non-compliance with any written directions issued
- The PSDP may issue directions to designers or contractors or others.

Other Specific CMSE services as required under the Irish Construction Regulations

- Meeting with and advising the client on the client's duties and responsibilities under the Regulations and the Safety, Health & Welfare Act 2005.
- Attending Design Team meetings and liaising with Design Team leader, as required, to fulfil the duties of PSDP under the Regulations, recording health & safety issues, and ensuring that particular hazards and risks are addressed in an appropriate manner.
- Preparation of a brief overall Design Safety Review to be issued to the Client summarizing the risk assessments of all the designers (and the actions arising there from).
- Preparation of a Preliminary Health & Safety Plan for the construction of the project.
- Assisting the client in assessing the competency and sufficiency of resources of Contractors to act both as Project Supervisor (Construction) Stage and as Contractors if requested.
- Attending site and site meetings during the construction phase, as required, fulfilling the duties of PSDP under the Regulations.
- Preparation of a Safety File and issuing the PSDP Safety File to the Client.

Safety Auditing

CMSE is a leading provider of Safety Auditing Services for clients all over Ireland. We cover both General Health and Safety Audits and Construction Site Health and Safety Audits. Our specialists provide practical reports that indicate clearly the hazards identified and the controls required to minimize the risk. All audits lead to actions and control measures that MUST be implemented.

CMSE has extensive experience of carrying out audits of many different systems and locations, etc. These include but are not limited to:
Safety Management Systems (OHSAS18001), Environmental Management Systems (ISO 14001); Construction projects (PSDP duties/PSCS duties), Company work locations,
Confined spaces, Energy Consumption, Carbon Emissions

Applicable Legislation

The Safety Health and Welfare at Work Act 2005 requires employers "to manage and conduct work activities in such a way as to ensure, so far as is reasonably practicable, safety, health and welfare of his or her employees". The Construction Industry is one of the high risk sectors in Ireland that result in significant numbers of injuries and fatalities. The Safety Health and Welfare (Construction) Regulations 2006 place new demands on Clients, Designers, Employers and Contractors. Conducting Health and Safety Audits is a proactive health and safety management tool to ensure the management of health and safety at work and legal compliance

Services provided by CMSE

1. Safety Management Systems Audits (OHSAS18001),
2. Environmental Management Systems Audits (ISO 14001);
3. Construction projects Audits (PSDP duties/PSCS duties),
4. Construction Project Environmental/Safety Audits

CMSE Safety Consultants will conduct an audit of the work site, review all organizational arrangements and documentation. On completion of the audit a detailed written report outlining the findings of the audit will be issued. The audit report will prioritize corrective actions and recommendations. A detailed Construction audit may include a review of the following documents and systems (non-exhaustive);
- PSDP Role - PSCS Role
- Client Role - Preliminary Health & Safety Plan(s)
- Construction Health & Safety Plan(s) - Systems of work
- Method Statements - Risk Assessments
- Existing Site Safety Audits - Permits
- Safety Induction - Tool Box Talks
- Training Records - Safety File

Safety Statements

CMSE have extensive experience in nearly all sectors so whether you work in the farming sector, the industrial sector, the services sector, the public sector or any other sector you can be assured of a top quality service from CMSE.

Safety Statements are essentially a snapshot or photograph of your current safety management
system. Would you put up on view a bad picture of your business? Obviously you would not - you want the picture to be both an accurate picture and a good picture. CMSE guarantee you a top quality, "personalized", legally compliant Safety Statement. Some providers just offer a generic Safety Statement document - they just change the name on the document and that does NOT comply with the law.

The legal requirements

Under Section 20 of Ireland`s Safety Health and Welfare at Work Act 2005, employers are required to prepare a written Safety Statement for their company. This statement is effectively a company`s documented Health and Safety Management programme for ensuring the safety, health and welfare of all its employees while at work.

CMSE Services

We provide a personal service that involves one of our consultants visiting your premises to review your location, operations, equipment, etc. The site visit ensures that our consultant accounts for all the potential hazards and risks that your employees may be exposed to during the course of their duties and that all appropriate risk assessments are developed. We then prepare a company specific, fully compliant, comprehensive Safety Statement to meet your requirements.

Supplementary information

The Health and Safety Authority (HSA) has outlined that the key points in the formulation of a Safety Statement are to:

- Involve management up to the highest level in a clear programme of action
- Engage all stakeholders in the formulation and consultation process
- Stimulate action to ensure compliance with the statutory safety and health provisions
- Identify hazards and prioritise remedial action based on the risk of injury to exposed persons
- Ensure safety measures are kept in place and monitored on a regular basis
- Identify and assign clear responsibilities in relation to safety and health matters
- Ensure systematic follow-up of problems, once identified
- Ensure that competent resources are assigned to safety and health
- Gain the commitment of all persons in the workplace

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CMSE is a leading provider of Risk Management services. An essential part of our consultancy service is to advise our customers on their manner of conducting business, the implications and potential risks that may occur, and the approach required to dealing with these risks. Risk Management is essentially the method of measuring and assessing risk and creating strategies to control it.

CMSE Risk Management Services

- The design and implementation of risk management control systems including the ISO 14000 and 18000 standards
- Occupational health and safety consulting to all industry sectors
- Environmental consultancy
- Project Supervisor Design Process (PSDP) and Construction Safety Support
- Fire Safety Management

Business Continuity Planning and Crisis Management
Crisis management is about responding to an immediate emergency situation and then ensuring that the recovery process is effective. This response includes, but is not limited to, the creation of a process and procedures for dealing with worst case scenarios – those major unpredictable events that threaten to harm your organisation, your stakeholders or the general public. It can also include very detailed Business Continuity Planning (BCP).

Environmental Services
CMSE provides the best quality and value in Environmental consultancy, Environmental management services, DGSA, etc in Ireland today. The services range from environmental consultancy and energy auditing to setting up environmental management services and ISO 14001.

PSCS and PSDP Services
CMSE is a leading provider of Project Supervisor Design Phase (PSDP) and Project Supervisor Construction Stage (PSCS) services. In addition to the PSCS and PSDP services CMSE specifically work with clients to advise and assist them in their duties under the 2006 Construction Regulations. CMSE also supply carefully selected PSDP and PSCS safety consultants and safety officers to clients on most large projects. Clients include M&W ZANDER, Alstom, ESBI, GlaxoSmithKline, Pfizer Ireland, Bristol Myers Squibb, ESB Networks and many, many more.

Safety Training Services
CMSE is a leading provider of Health and Safety training courses at venues all over Ireland. At CMSE we pride ourselves on the quality and value of all the training courses that we provide. Our instructors are practical, highly qualified and experienced in their respective training areas. We are FETAC approved and accredited by NEBOSH, IOSH, FAS, REIA, SEI, Canadian Standards Association, Road Safety Authority and many more. We now also provide a professional distance learning solution. See our E- learning page.

Safety Auditing Services
We cover both General Health and Safety Audits and Construction Site Health and Safety Audits. Our specialists provide practical reports that indicate clearly the hazards identified and the controls required to minimise the risk. All audits lead to actions and control measures that MUST be implemented. CMSE are well known in industry for our practical control measures and safety systems.
We have extensive experience in carrying out audits on many different systems and locations, such as Safety Management Systems (OHSAS 18001), Environmental Management Systems (ISO 14001), Construction Projects (PSDP/PSCS Duties), Company Work Locations, Confined Spaces, Energy Consumption, Carbon Emissions, etc.

Fire Risk Assessments Services
CMSE is a leading provider of services in the areas of fire risk assessments and fire design and certification. Our experienced fire safety consultants provide a fully personalised and customised service, practical advice and assistance. CMSE provides fire safety consultancy services such as Fire certificate applications, Identify fire hazards and related fire design issues, Carry out fire risk assessments, Offer practical advice on the control of such issues in accordance with current kegislation and best practices in fire related design.

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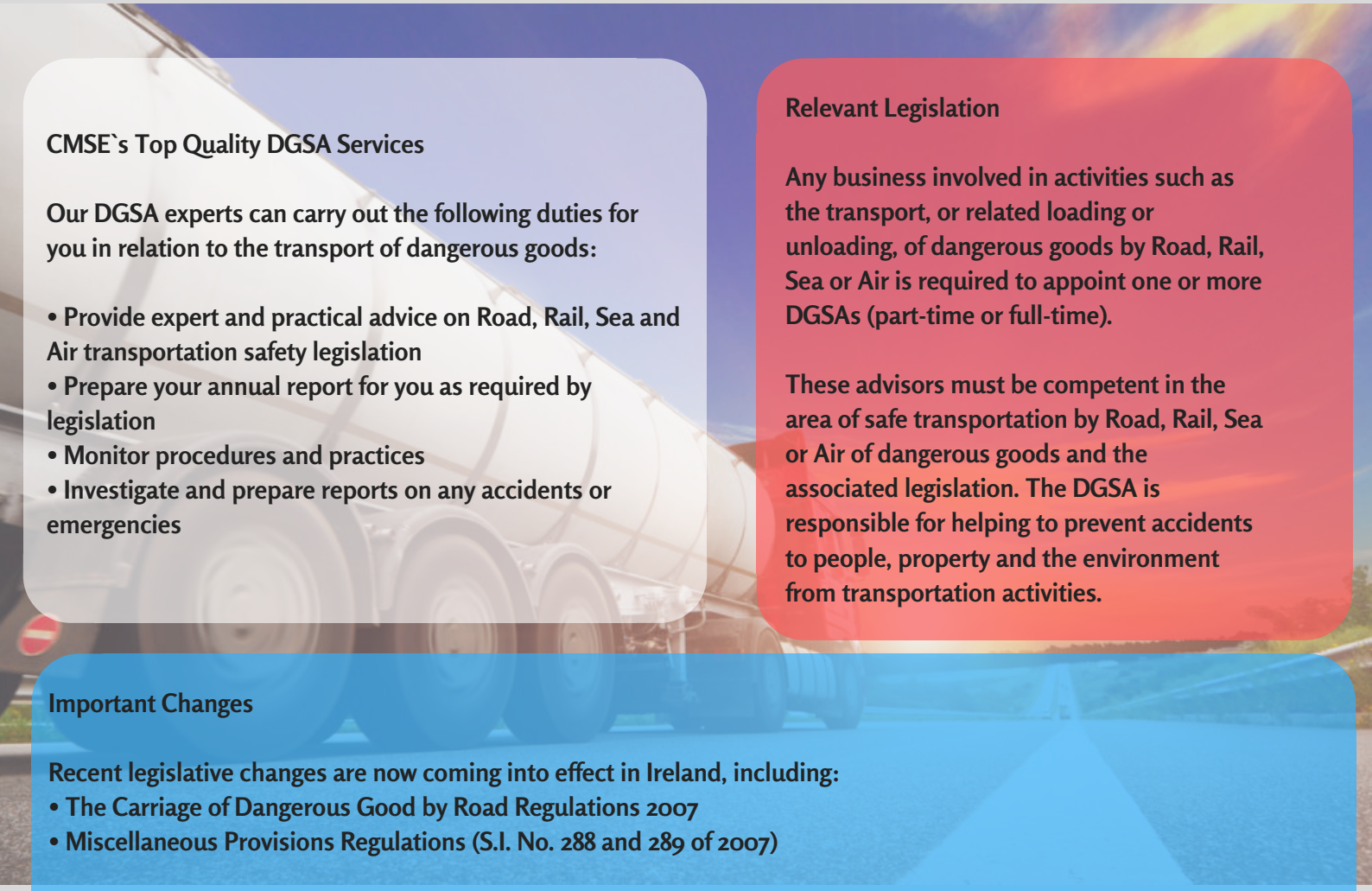
DGSA and ADR

CMSE is a leading provider of Dangerous Goods Safety Advisors (DGSA) and ADR services. Our experts play a vital role in helping our clients to ensure safe transportation of dangerous goods by Road, Rail, Sea and Air. CMSE provides DGSA and ADR experts to clients both nationally and internationally.



CMSE`s Top Quality DGSA Services

Our DGSA experts can carry out the following duties for you in relation to the transport of dangerous goods:

- Provide expert and practical advice on Road, Rail, Sea and Air transportation safety legislation
- Prepare your annual report for you as required by legislation
- Monitor procedures and practices
- Investigate and prepare reports on any accidents or emergencies

Relevant Legislation

Any business involved in activities such as the transport, or related loading or unloading, of dangerous goods by Road, Rail, Sea or Air is required to appoint one or more DGSAs (part-time or full-time).

These advisors must be competent in the area of safe transportation by Road, Rail, Sea or Air of dangerous goods and the associated legislation. The DGSA is responsible for helping to prevent accidents to people, property and the environment from transportation activities.

Important Changes

Recent legislative changes are now coming into effect in Ireland, including:
- The Carriage of Dangerous Good by Road Regulations 2007
- Miscellaneous Provisions Regulations (S.I. No. 288 and 289 of 2007)

These regulations apply to the carriage of dangerous goods by road in tanks, bulk, packages including the packing, filling, loading and unloading of dangerous goods in relation to their carriage.
The 2009 revision of ADR Regulations will introduce a big change to the instructions in writing, both in terms of the content and who is responsible for supplying them.

Among the key changes:
- The driver / carrier has to provide instructions in writing
- The instructions must be in a language that the vehicle crew can understand
- There will be one set of instructions to cover all dangerous goods
- The complete written instructions will be included in the ADR 2009 text

Since 1st July 2009, the new instructions in writing must be used at all times when hazardous goods are transported by road.

Environmental Impact Assessment

CMSE is a leading provider of Environmental Impact Assessments (EIAs). These are required for certain developments as part of planning applications. CMSE project manages the EIA process with a team of suitably qualified experts as required by the project.

Where a proposed development is found to create an adverse impact on the environment, mitigation measures will be needed to minimise this impact. CMSE project manages ecological survey techniques including:

- Mapping of habitats
- Identification of protected species or signs of their presence
- Providing a report of results and conclusions, with appropriate recommendations for any necessary further investigation or actions

We also ensure that the common problems found with EIA / EIS are avoided by regular quality checks and continued focus on the project.

`Below Threshold` Works

In some instances an EIA may not be required due to the scale and nature of the development. An environmental report or feasibility study can be carried out in the early planning stages to determine the developments environmental impact at a particular site, without going into the detailed assessment required for an EIA / EIS.

CMSE has carried out suce `below threshold` projects, using in-house suitably qualified experts, and we also develop Environmental Reports, Environmental Risk Assessments and Feasibility Studies.

ELRA Advisors

CMSE is a leading provider of Environmental Liability Risk Assessments (ELRAs). CMSE follows a systematic approach to the assessment and management of environmental liabilities for full compliance with your IPPC and Waste Licence conditions.

- Environmental Liability Risk Assessment (ELRAs)
- Residual Management Planning (CRAMP or RMP) and
- Financial Provision (FP)

We carry out risk assessments in the initial screening of the ELRA process, helping to reduce the requirement to carry out a full ELRA and RMP reports and make financial provision. We advise high-risk facilities on how to reduce their risk profile through risk management in order to reduce the costs of making financial provisions.

The CMSE Benefits

CMSE has practical experience of delivering successful ELRA and CRAMP programmes. The benefits include:

- Reduced potential for environmental damage as the result of accidents
- Minimising residual / long-term impacts from manufacturing and waste management facilities upon closure
- Forward finalcial planning for environmental liabilities
- A reduction in the financial provision required

Environmental Liability Directive

CMSE helps companies to achieve compliance with additional ELRA requirements to each AER under the Environmental Liability Directive. The directive requires businesses to take preventative measures to avoid damage occuring, and imposes strict liability on those who cause environmental damage (damage to biodiversity and water resources and land contamination that causes significant risk of harm to human health). It covers the operation of installations under:

- The IPPC Directive (integrated pollution prevention and control)
- The Waste Framework Directive
- The Landfill Directive
- The Waste Incineration Directive

The Environmental Liability Directive will also apply to activities under the proposed Extractive Industry Waste Directive. Under the directive, licensees must as part of their AER (Annual Environmental Report) provide an annual statement about preventative measures and measures in place in relation to the underwriting of costs for remedial actions following anticipated events (including closure) or accidents / incidents.

Following the closure or planned stoppage for more than six months of all or part of a sites licensed activity, holders of IPPC and Waste Licences have various responsibilities in terms of decommissioning or closing the site, and in planning this process.

EMAS and ISO 14001

CMSE assists private and public sector clients in achieving the relevant ISO 14001 or EMAS standard. We assess the likely impact on your business of environmental and social issues, new regulations, consumer concerns, and supply chain issues. We then help you to develop appropriate policies and management systems to manage these business risks. Our Environmental Management Systems (EMS) team will prepare your submission and work through the management system accreditation process to help you achieve the standard.

Eco Management and Audit Scheme (EMAS) and ISO 14001

Under the EU`s Eco Management and Audit Scheme (EMAS), companies and other organisations commit themselves to evaluate, manage and improve their environmental performance. ISO 14001 acts as a stepping stone in moving towards EMAS.

Phased Introduction

Instead of implementing full EMS such as ISO 14001 or EMAS, some businesses prefer to achieve accreditation in a staged or phased way, minimising interruption to core activities. Phased introduction of an EMS is suitable for manufacturing SMEs and may be grant-aided. CMSE can assist and provide guidance on these grants. Such an EMS could also include the Green Dragon System. A phased approach to EMS typically consists of achieving the following series of levels:

- Quantifying material inputs and outputs (water, waste, air and noise emissions)
- Establishing a register of relevant environmental legislation and compliance requirements
- Identifying significant environmental impacts
- Developing and establishing an environmental programme and appropriate operational controls for site activity
- Ongoing review and modification for continuous improvement and meeting the committments laid down in a company Environmental Policy Statement

Saving Costs and Reaping Benefits

Certified systems such as EMAS or ISO 14001 may not realise tangible benefits if they are poorly set up and implemented, or merely left as a plan to gather dust on a shelf. At CMSE, our EMS team has extensive experience in preparing and implementing practical systems. Our goal is to facilitate the companies we work with in developing an EMS that will drive both environmental and business performances - achieving real savings and real benefits.

IPPC Licensing

CMSE is an expert in preparation of Integrated Pollution Prevention Control Licences. CMSE can work in close collaboration with your managers to prepare your licence application submission and complete the process.

The aim of a licence is to prevent or reduce emissions to air, water and land, reduce waste and use energy and resources as efficiently as possible. An IPPC licence is a single integrated licence, and is issued by the Environmental Protection Agency. It covers all emissions from the facility, and controls the environmental management of the site and all related operations.

CMSE`s Environmental Services

CMSE will organise and manage for you the following:

- Permit application project management
- Site condition baseline investigations
- Completion of full IPPC permit applications
- Support with regulatory issues, forms and guidances
- Full site condition report services
- Follow-on support to ensure permit compliance

We can also assist businesses who want to convert from an IPC licence to an IPPC by working through the environmental liability risk assessments process with them.

AER Reports

IPPC licence holders must submit an Annual Environmental Report (AER) to the EPA by March 31st each year. This is a report of the environmental performance of the activity for the previous year as required by the licence, along with the programme of work for the coming year to ensure compliance. CMSE offers independent assistance in the preparation of AERs for all businesses.

Activities That Require An IPPC

Categories of activity needing an IPPC licence include:

- Minerals and other materials
- Energy
- Metals
- Mineral fibres and glass
- Chemicals
- Intensive agriculture (poultry and pigs)
- Food and drink
- Wood, paper, textiles and leather
- Fossil fuels
- Cement
- Waste (recovery or disposal in a facility connected or associated with an IPPC activity)
- Surface coatings

A wide range of "Other Activities" including testing of engines, manufacture of printed circuit boards, production of lime in a kiln and manufacture of ceramic products.

Waste reduction and management are now seen as crucial in all business sectors. CMSE is now recognised as one of the best providers of expertise in this area nationwide.

CMSE Waste Management Services

Our environmental consultancy waste management services include:

- Waste licence applications to the Environmental Protection Agency (EPA) for waste handling facilities
- Waste permit applications to local authorities
- Implementation of waste management systems
- Waste audits
- Advice on waste management and waste treatment options

Risk Management ISO 31000

This course provides knowledge and understanding to help your organisation manage their risk.

It reviews how and why your organisation should develop, implement and continuously improve a framework with the purpose of integrating the process for managing risk into the overall governance, strategy and planning, management, reporting processes, policies, values and culture

Course Overview

Once implemented and maintained, ISO 31000 the management of risk enables your organisation to increase the likelihood of achieving objectives, encourage proactive management, be aware of the need to identify and treat risk throughout the organisation. The course teaches how improvements in the identification of opportunities and threats can be achieved as a result of having a risk management framework in place as well as ensuring that compliance with relevant legal and regulatory requirements and norms are met.

In addition, it is a reliable basis for decision making and planning, improving controls, enhancing health and safety performance, as well as environmental protection, minimise losses and improve organisational resilience.

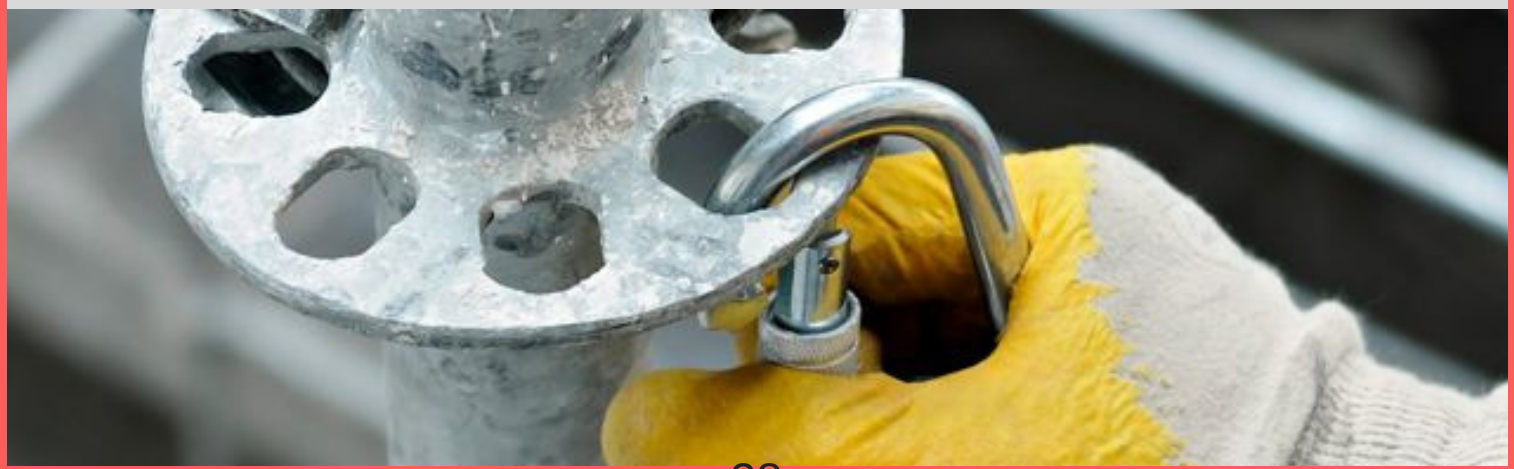
Target Audience

- Individuals responsible for developing risk management policy within the organisation
- Individuals accountable for ensuring that risk is effectively managed within the organisation as a whole or within a specific area, project or activity
- Individuals who need to evaluate their organisations effectiveness in managing risk
- Developers of standards, guides, procedures and codes of practice that, in whole or part, set out how risk is to be managed within the specific context of risk documents

Course Objectives

Upon completion of this training, you will be able to:

- Your organisation will have a current, correct and comprehensive understanding of its risks
- Your organisations risk should be within its risk criteria
- Your organisation will have the ability to utilise risk management performance assessment as an integral part of the overall organisation`s performance assessment and measurement system



Energy Management Systems ISO 50001

Based on ISO 50001:2011 this two-day course provides guidance on how to implement an energy management system. The course enables practitioners to build the necessary systems and processes to improve energy efficiency, help reduce consumption and their associated costs and improve overall energy performance in their organization`s operations.

An experienced energy management practitioner will serve as an expert resource and instructor as you review the requirements of the standard with a focus on the practical demands of the implementation process. Case work and provided resources will help you to gain an appreciation of the various strategies and tactics you can employ to deal with various constraints and typical roadblocks that need to be addressed during the implementation process.

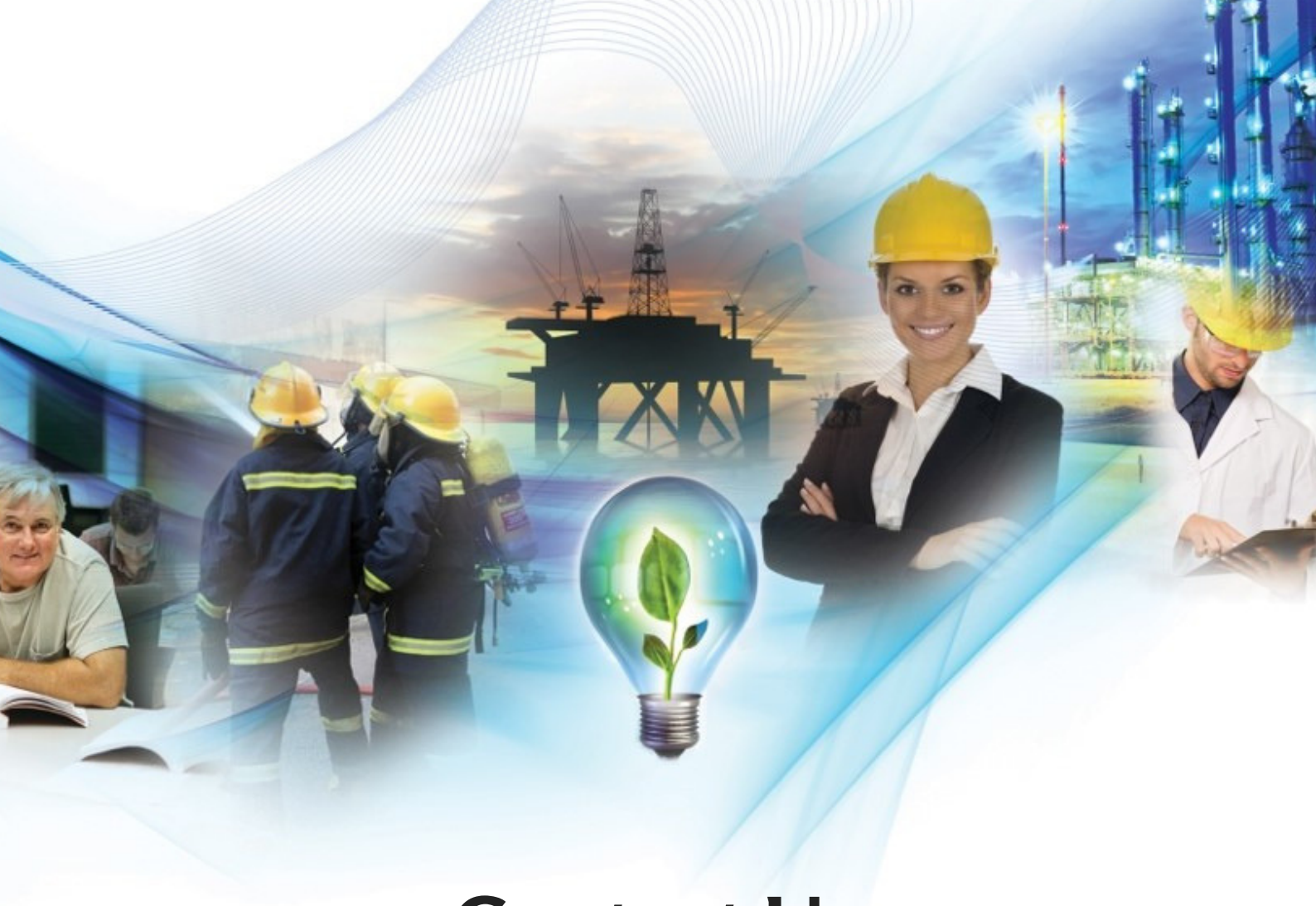
Target Audience

- Practitioners who want to implement an energy management system or those with responsibility for energy management in their organization
- Practitioners responsible for improving energy performance and energy efficiency
- Energy managers (operations managers, plant managers, facility managers)
- Those responsible for coordination of specific elements or aspects of energy systems (engineering, integrated processes, environmental)
- Energy System Auditors (Internal / External-Professional Service Providers)
- Energy Providers (Utilities) - understanding customer needs and managing energy efficiency support programs

Course Objectives

Upon completion of this training, you will be able to:

- Develop a plan to implement and ISO 50001 based Energy Management System
- Use provided resources to support the implementation of ISO 50001
- Develop energy policies and processes
- Define and develop baseline energy performance indicators
- Create appropriate measures and internal benchmarks for improving energy performance



Contact Us

Please do not hesitate in contacting us for further information:

CMSETRAINING part of The Chris Mee Group

CMSERECRUITMENT part of The Chris Mee Group

CMSECONSULTANCY part of The Chris Mee Group

CARBONACTION part of The Chris Mee Group

CORK OFFICE

Euro Business Park,
Little Island, Cork.
Tel: +353 (0)21 497 8100
Email: info@cmse.ie

DUBLIN OFFICE

Ballymount House,
Parkway Business Centre,
Ballymount Cross, Dublin 24
Tel: +353 1517 5270
Email: info@cmse.ie

FIRE TRAINING CENTRE

U1, Portgate Ind. Park, Raffeen,
Ringaskiddy, Co. Cork.
CallSave: 1850 315 415
Email: info@cmse.ie

LONDON OFFICE

16 St Martin's Le Grand,
St Paul's, London, EC1A 4EN
Tel: +44 207 397 8500
info@carbonaction.co.uk

www.cmse.ie | www.carbonaction.co.uk