



RISK

Enterprise Risk Solutions

Alberfield has been helping businesses meet the requirements of Australian and International Risk Standards since 2004.

The Alberfield Risk division provides practical engineering solutions to the requirements of relevant Risk Management Standards and Codes.

Alberfield Risk understands that the needs of your business are unique and will work with you to create a solution that actually works.

What Is Enterprise Risk Management?

Enterprise Risk Management (ERM) is the overall process of managing risks that affect the entire enterprise.

The objective is the delivery of greater levels of certainty in the achievement of your business objectives. ERM is a tool to systematically address the wide variety of threats and opportunities that can impact on your business objectives.

How Does It Work?

The identification and management plan is created by Alberfield. We identify risks using a facilitated process.

Sources of enterprise risk include legal, commercial, financial, health, safety, project, environmental, product, community goodwill, governance, human resources, technology and reputation.

This inclusive approach to risk management establishes a framework for risks to be brought forward, compared and assessed at an appropriate level in the enterprise and for each of the types of risk to be addressed within their own sub-ordinate management system.

The ongoing management of enterprise risks is carried out by the business through a systematic approach established during the process.

What Is Used To Make It Work?

Enterprise Risk Management is achieved by utilising the following integrated assessments.

ERM1 Enterprise Risk Management Systems

Establish system documentation including risk criteria & matrices

ERM2 Enterprise Risk Register and Risk Assessment

Facilitate risk assessment and prepare risk register & report

ERM3 Business Continuity Planning

Preparing business continuity plans.

By understanding and managing the risks in your business you are managing your costs and this leads to better returns for your business.

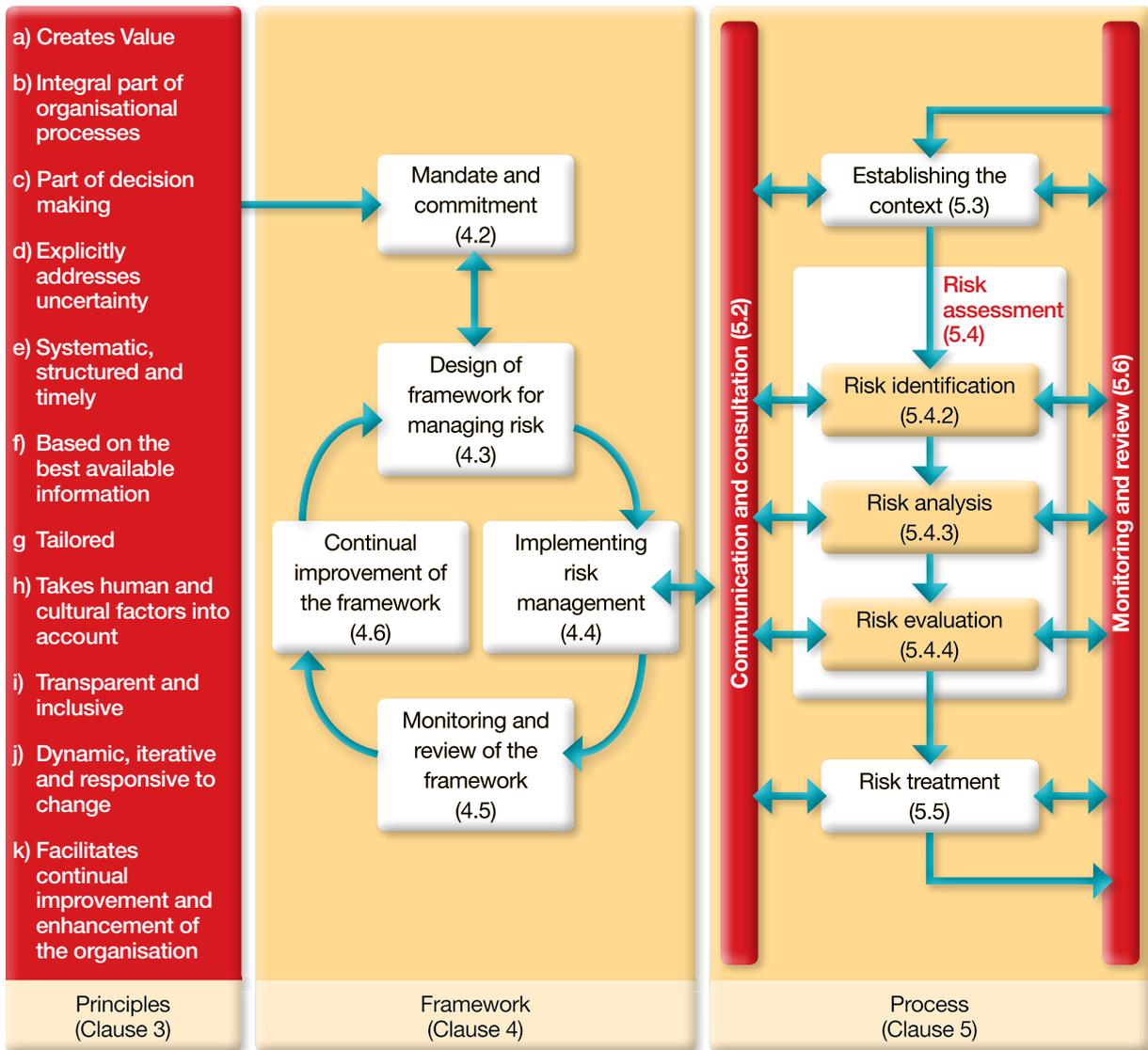


Standard Process

AS/NZS ISO 31000:2009 (Risk Management) and AS/NZS 5050:2010 (Business Continuity) include processes that ensure an effective and standardised result.

Alberfield is committed to the professional use and application of the principles of these international and Australian standards to ensure an appropriate and effective risk management plan is developed for each client.

The Principles, Framework And Process Of Risk Management



Adapted from Figure 1 from AS/NZS ISO 31000:2009. Numbers in brackets relate to clause numbers in the standard.



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Project Risk Solutions

Alberfield has been helping businesses meet the requirements of Australian and International Risk Standards since 2004.

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What is Project Risk Management?

Project Risk Management is about managing risks that could affect a project from its inception until its delivery and handover to the end-users.

The objective is greater levels of certainty in the achievement of the project objectives. These objectives can include: schedule, budget, safety, performance of the delivered facility and end-user satisfaction.

How Does It Work?

The Project Risk Management (PRM) process involves systematic identification, classification and reduction of risks that are unique to your project. This may include all or some of the following: physical, legal, commercial, financial, health, safety, schedule, budget, environmental, community goodwill and reputation risks to a project.

Risk management is about forward planning to ensure that all possible risk facets of the project are assessed to ensure a project is delivered on time, on budget and safely.

What Is Used To Make It Work?

Project Risk Management will help ensure the satisfactory completion of a project on time and on budget.

PRM1 Project Risk Management Systems

- a. Establish system documentation including risk criteria & matrices
- b. Conduct review or audit

PRM2 Project Risk Assessment Matrices and Criteria

Establish risk criteria & matrices.

PRM3 Risk Register

Facilitate risk assessment and prepare risk register & report

PRM4 Regulatory Approvals

- a. Establish regulatory approvals plan
- b. Implement regulatory approvals plan

PRM5 Community Consultation

- a. Establish community consultation plan
- b. Implement community consultation plan

PRM6 Safety in Design

Deliver safety in design plan & training

PRM7 Project Estimate Review

Undertake a project estimate review

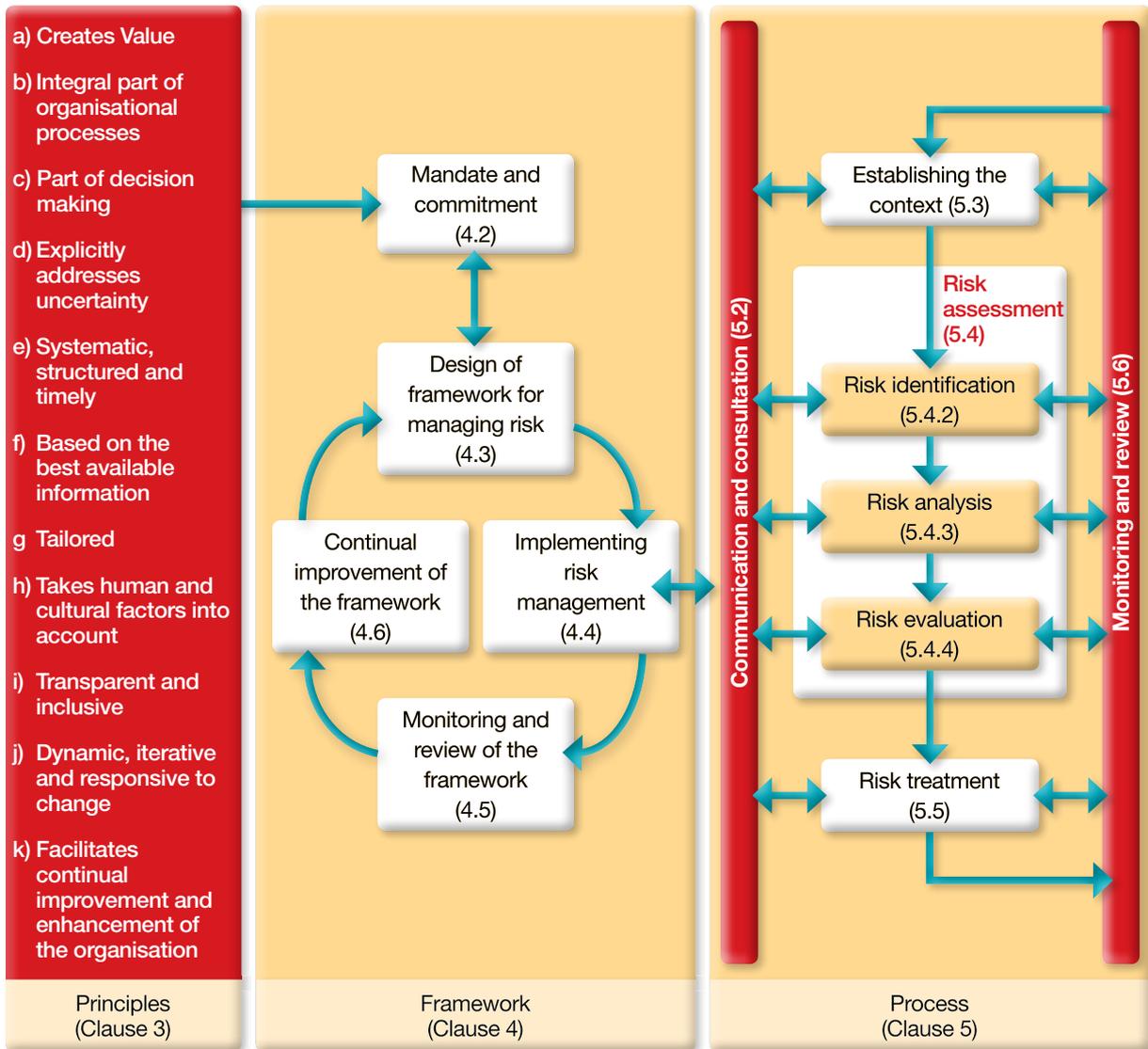


Standard Process

AS/NZS ISO 31000:2009 (Risk Management) includes a process that ensures an effective and standardised end result.

Alberfield is committed to the professional use and application of the principles of this international and Australian Standard to ensure an appropriate and effective risk management plan is developed for each individual project.

The Principles, Framework And Process Of Risk Management



Adapted from Figure 1 from AS/NZS ISO 31000:2009. Numbers in brackets relate to clause numbers in the standard.



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Process Risk Solutions

Alberfield has been helping businesses meet the requirements of Australian and International Risk Standards since 2004.

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What Is Process Safety Risk Management?

Process Safety Risk Management is about managing the inherent hazards of a production process and its equipment so that both personnel (on-site and off-site) and assets are safe from unintended physical risks or from the release of energy or toxic materials.

How Does It Work?

The objective is the delivery of greater levels of certainty in minimising harm to personnel from a production process.

Having a sound approach to process safety risk management is a legal obligation for some “high hazard” facilities. Establishing a proper framework for process safety risks and creating a documented action plan will improve efficiency and occupational safety.

What Is Used To Make It Work?

PSM1 General Management Systems for Hazardous Operations

- a. Establish system documentation
- b. Conduct site assessment

PSM2 Process Safety HAZOP

Facilitate HAZOP and provide report

PSM3 Process Safety HAZID

Facilitate HAZID/risk assessment and prepare risk register & report

PSM4 Major Hazard Facilities

- a. Assess MHF status based on inventories
- b. Establish system documentation

PSM5 Pressure Equipment

- a. Conduct site assessment
- b. Establish system documentation

PSM6 Hazardous Area Classification

Conduct hazardous area classification

DG1-4 Dangerous Goods Storage & Handling

- a. Establish system documentation
- b. Conduct site assessment / audit
- c. Prepare and endorse license application
- d. Conduct risk assessments



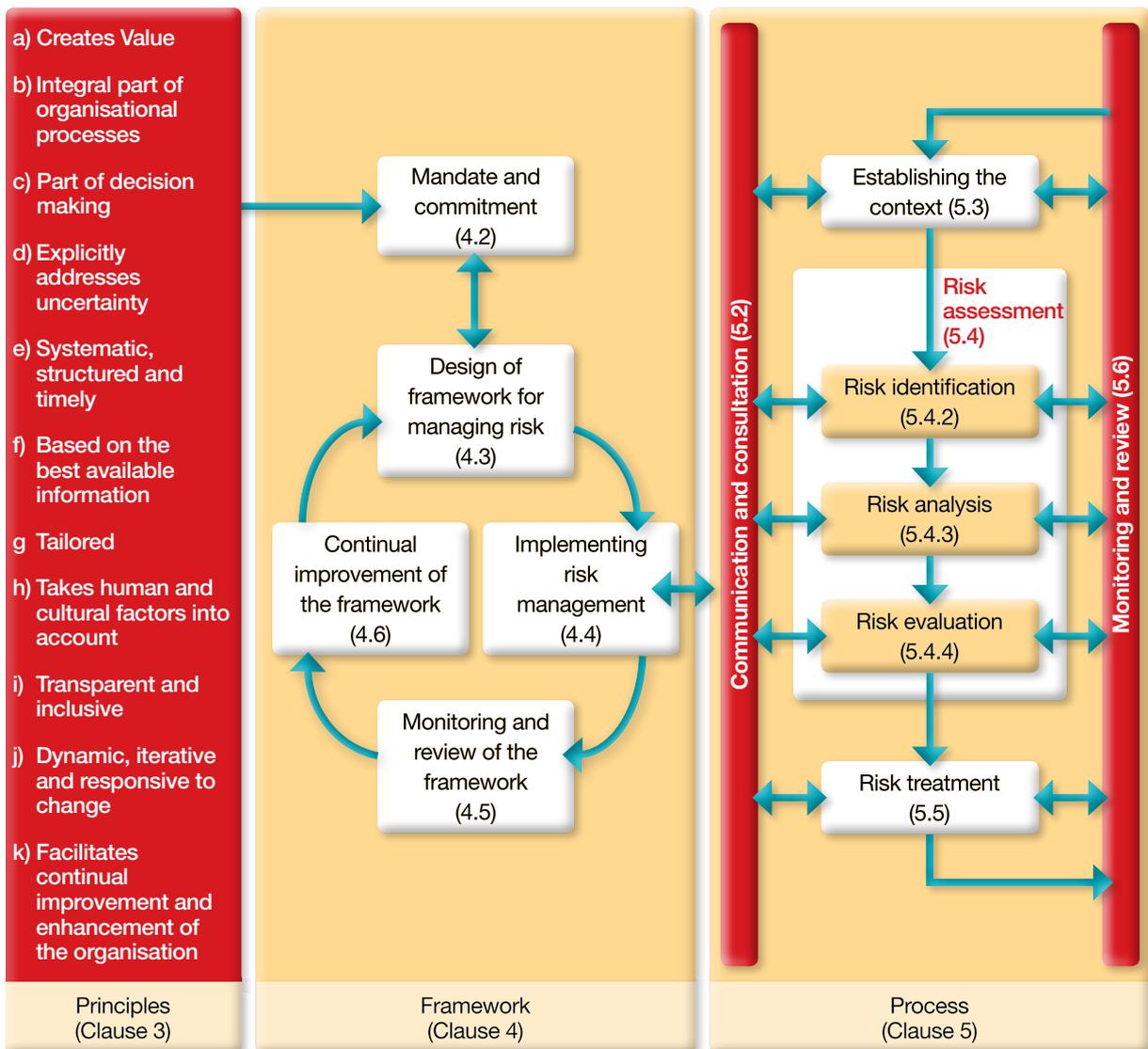
Standard Process

AS/NZS ISO 31000:2009 (Risk Management) includes a sound process to underpin all Process Risk Solutions.

AS IEC 61882-2003 (HAZOP Studies) is used to define all HAZOPS conducted by Alberfield risk.

Relevant Australian Standards and regulatory requirements are used for all specific Process Safety Solutions.

The Principles, Framework And Process Of Risk Management



Adapted from Figure 1 from AS/NZS ISO 31000:2009. Numbers in brackets relate to clause numbers in the standard.



Functional Safety Solutions

Alberfield has been helping businesses meet the requirements of Australian and International Risk Standards since 2004.

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What Is Functional Safety?

Functional Safety is safety achieved by the correct operation of electrical and/or electronic sensors, logic and actuating devices that automatically turn off a process or some electrical or electronic equipment. An example of this is the automatic emergency shutdown of mining equipment to ensure human safety.

How Does It Work?

The Australian Standards AS 61508, AS IEC 61511 and AS IEC 62061 define the requirements of Functional Safety. The most effective way of achieving functional safety is to establish an overall enterprise system and methodology for achieving compliance with the relevant standards.

What Is Used To Make It Work?

Alberfield will create a "Safety Lifecycle" approach, which includes (as relevant to the work scope) a "Safety Lifecycle" Dossier for record keeping and ongoing use by the client. This system will contain the overarching guidelines and processes as well as more detailed procedures for the conduct of each of the various steps of the Safety Lifecycle process (including the SIL Determination & Evaluation method).

FNS1 Functional Safety Management Systems

- a. Functional safety management systems
- b. Conduct review or audit

FNS2 Hazard Identification

Identify hazards requiring functional safety review

FNS3 Risk Assessment

Carry out a risk assessment using a Layer of Protection Analysis (LOPA) method to determine SIL levels

FNS4 Safety Integrity Level (SIL) Evaluation

Evaluate SIL achieved by existing or proposed safety functions

FNS5 Prepare Safety Requirements Specification

Prepare safety requirements specification for Safety Instrumented System.

FNS6 Witness Factory Acceptance Testing

FNS7 Assess Modification

Assess modification to Safety Instrumented System (Phase 15 of Safety Lifecycle)

FNS8 Conduct Phase Verification

Conduct Phase Verification as part of Safety Lifecycle process

FNS9 Conduct Functional Safety Assessment

Conduct Functional Safety Assessment as part of Safety Lifecycle process





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The "Generic" Functional Safety Lifecycle

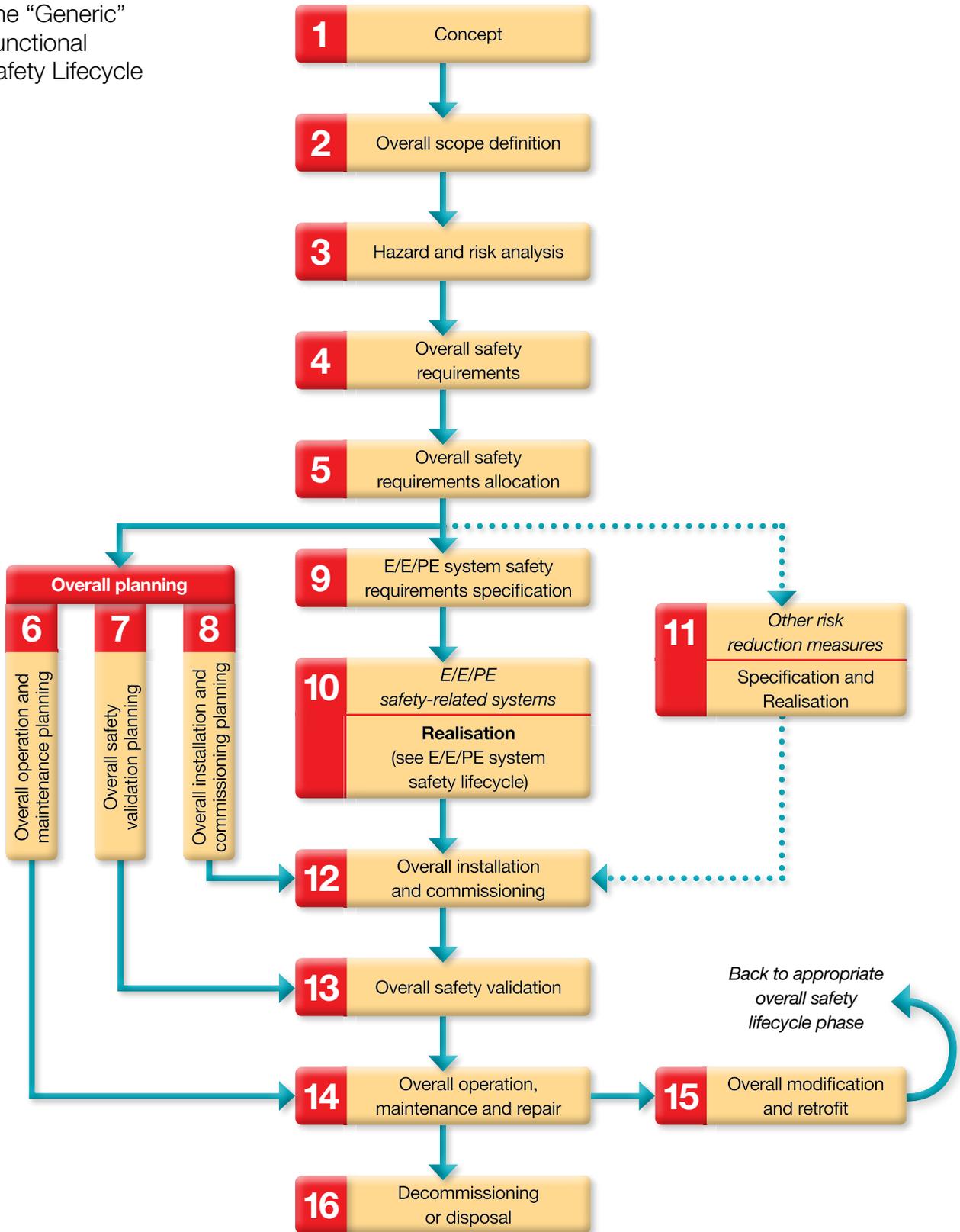


Figure 2 – Overall Safety Lifecycle from AS 61508.1-2011. Sector specific applications (such as the process industries or machinery) may have their own specific flowchart.

Dangerous Goods Solutions

Alberfield is able to help businesses meet the requirements of state government authorities responsible for managing Dangerous Goods and workplace OHS requirements.

The Alberfield Risk division has in-depth knowledge of Dangerous Goods, safe handling techniques, storage and process system design. Our team can assist your business with the due diligence requirements under Dangerous Goods and OHS legislation.

Alberfield Risk understands that the needs of your business are unique and will work with you to create a solution that actually works for the safe, efficient and compliant storage and handling of fuels and chemicals.

What Are Dangerous Goods Solutions?

Dangerous Goods Solutions are about managing the inherent hazards of dangerous goods stored and handled on a site, including those in process and the associated equipment, so that both personnel (on-site and off-site) and assets are safe from physical risks from the dangerous goods due to the unintended release of energy or toxic materials.

Dangerous Goods management is also about ensuring the site Licence, Manifest, site plans, Emergency Response Plans, site placards, and fire protection are up-to-date.

How Does It Work?

The objective is the delivery of greater levels of certainty in minimising harm to personnel from dangerous goods storage and handling systems and a legally compliant facility and management systems. Establishing a proper framework for dangerous goods safety, and creating a documented action plan, will improve efficiency and occupational safety.

Alberfield's engineers are recognised as 'competent consultants' in the area of endorsing dangerous goods storage facilities and work with authorities, such as WA's Department of Mines and Petroleum.

What Is Used To Make It Work?

DG1 Concept Design Systems for Dangerous Goods

- a. Establish conceptual system design.
- b. Preparation of design, drawings and specifications for specialised storage and handling systems.

DG2 Dangerous Goods Licensing

- a. Assess dangerous goods compliance.
- b. Prepare / endorse documentation for licence applications (prepare Manifests, Emergency Response Plans, Placarding and Site Plans).
- c. Major Hazard Facilities Screening.

DG3 Dangerous Goods Audits

- a. Site inspections to assess compliance with Dangerous Goods, Explosive & OHS Regs & Australian Standards.
- b. Gap analysis and report preparation, including recommendations to minimise risk.
- c. Risk assessments, LOPA and SIL levels.
- d. Preparation of Risk Registers.



DG4 Dangerous Goods Risk Assessments

- a. Process Safety HAZOPs and reports (PSM2).
- b. Process Safety HAZIDs and reports (PSM3).

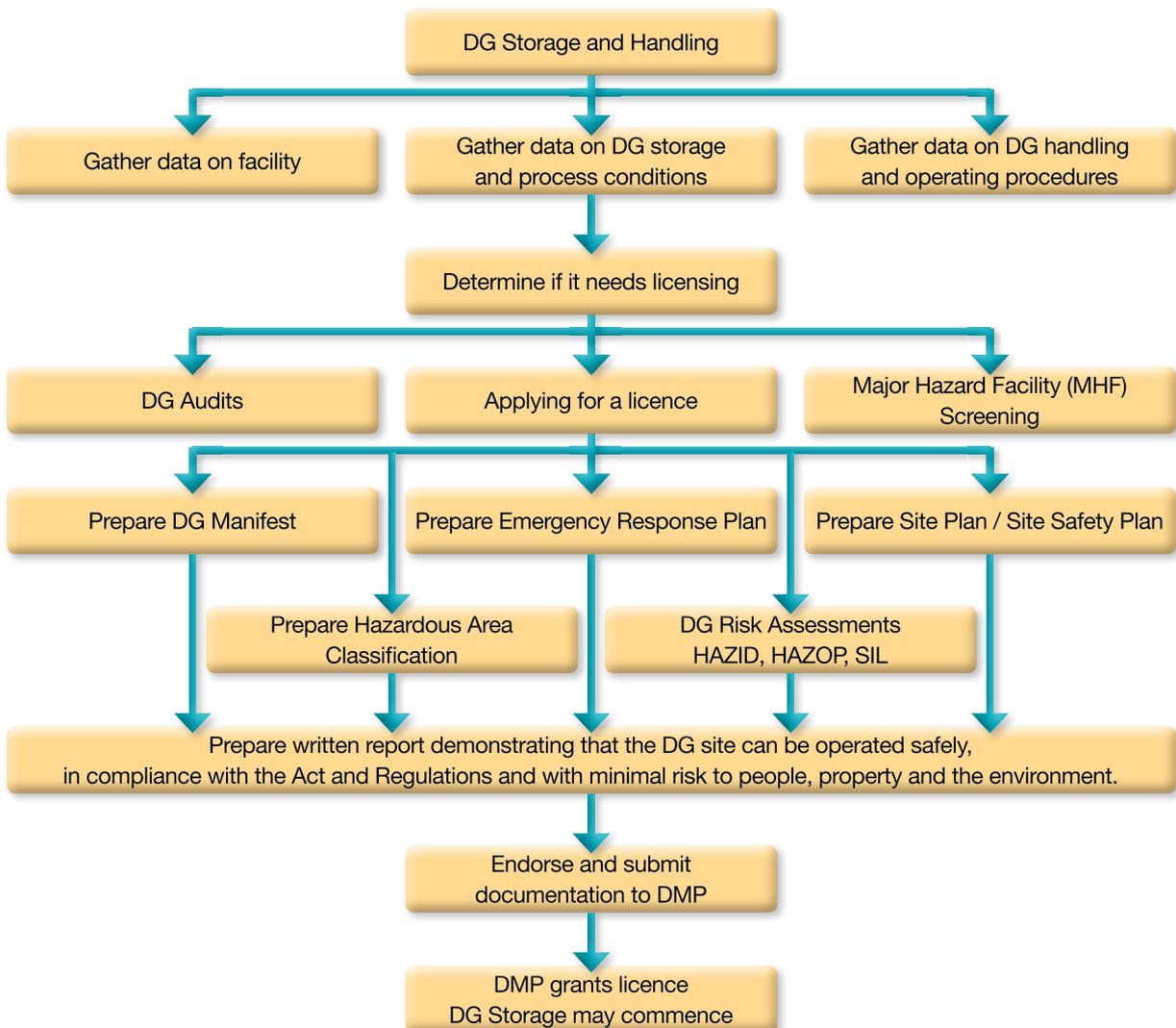
DG5 Major Hazard Facilities

- a. Assess MHF status based on inventories.
- b. Establish Safety Case documentation

PSM6 Hazardous Area Classification

- a. Determine hazardous area classification for dangerous goods storage and process systems.
- b. Prepare system documentation.

General Dangerous Goods Licensing Process



Hazardous Area Classification Solutions

Alberfield is able to help businesses meet the requirements of Australian Standards related to the classification of Hazardous Areas due to the presence of combustible and flammable gases, liquids and dusts.

The Alberfield Risk division has detailed knowledge of Hazardous Area Classification and the risks that these areas pose. Our team can assist your business by providing knowledge of the related risks at your facility, to classify the areas in accordance with Australian (or relevant International) standards and advise on the measures and management systems required to ensure continuing safety.

Alberfield Risk understands that the needs of your business are unique and will work with you to create a solution that actually works.

What Are Hazardous Area Classification Solutions?

Hazardous Area Classification is about defining the extent, nature of and probability of an explosive atmosphere being present in and around equipment that contains combustible or flammable gases, liquids or dusts. These details are documented in drawings and written documents for client use.

This is a first and essential step to determining the requirements of equipment that shall be installed in the Hazardous Areas.

The objective is a legally compliant facility and related management systems. Establishing a proper framework for Hazardous Area safety, and creating a documented action plan, will improve efficiency and occupational safety.

How Does It Work?

Alberfield's engineers are recognized as 'competent' in the area of classifying Hazardous Areas (with competence certified to the Australian Qualifications Framework reference UEENEEM015B).

Standard Process

The primary standards used by Alberfield in classifying Hazardous Areas are the relevant Australian Standards:

- AS/NZS 60079.10.1:2009 ("Explosive gas atmospheres")
- AS/NZS 60079.10.2:2011 ("Combustible dust atmospheres").

Where additional or specialised coverage of an application is better achieved using an international standard, then these may be used. Typical international standards employed include:

- API 505 (a US standard)
- IP 15 (a UK standard).



What Is Used To Make It Work?

HAC1 Classify Hazardous Areas

- a. Establish location and facility details based upon client provided details.
- b. Preparation of designs, drawings and documents to classify any Hazardous Areas.

explosive atmospheres and need for Hazardous Area classification and related compliance.

- b. Gap analysis and report preparation, including recommendations to minimise risk.

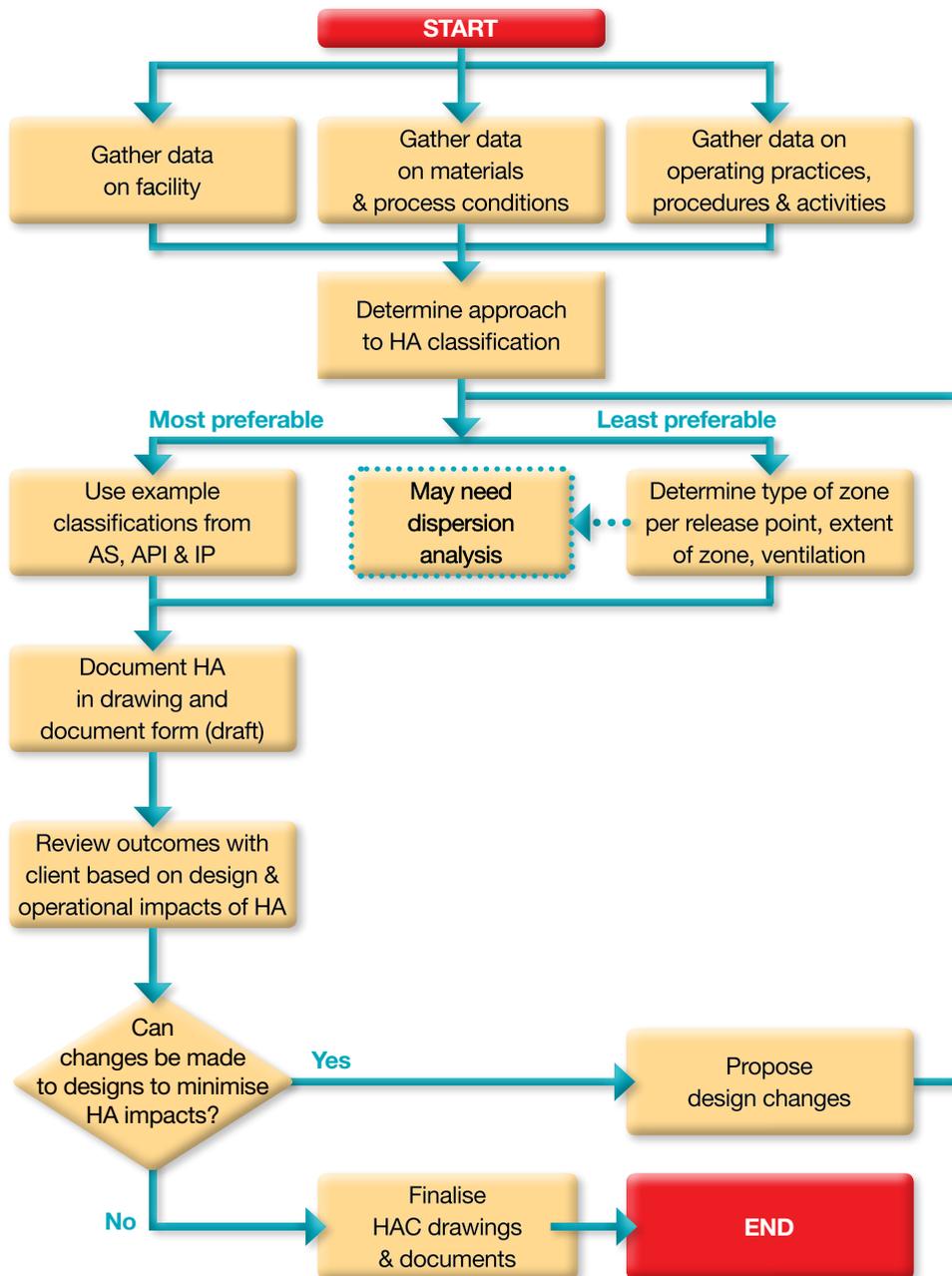
HAC2 Hazardous Area Inspections

- a. Site inspections to assess risks posed by

HAC3 Hazardous Area Management Systems

- a. Determine and document relevant management systems necessary to ensure continuing safety of operations and maintenance in Hazardous Area.

General Hazardous Area Classification Process



Environmental Risk Solutions

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What Is Environmental Risk Management?

Environmental Risk Management is about managing the potential harm to an environment that could be compromised through the activities of a project or an enterprise.

How Does It Work?

Having a systematic approach to environmental risk management establishes a proper framework for establishing, comparing and prioritising environmental risks in a timely manner at an appropriate organisational level. A management plan is formulated to identify each potential risk with a documented action plan for their management.

What Is Used To Make It Work?

ENV1 Risk Management System/Approach

- a. Establish system documentation including risk criteria & matrices
- b. Conduct review or audit

ENV2 - Risk Assessment Matrices and Criteria

Establish risk criteria & matrices

ENV3 - Risk Register

Facilitate Risk Assessment and Prepare Risk Register & Report

ENV4 - Regulatory Approvals

- a. Establish regulatory approvals plan
- b. Implement regulatory approvals plan

ENV5 - Community Consultation

- a. Establish Community Consultation Plan
- b. Implement Community Consultation Plan

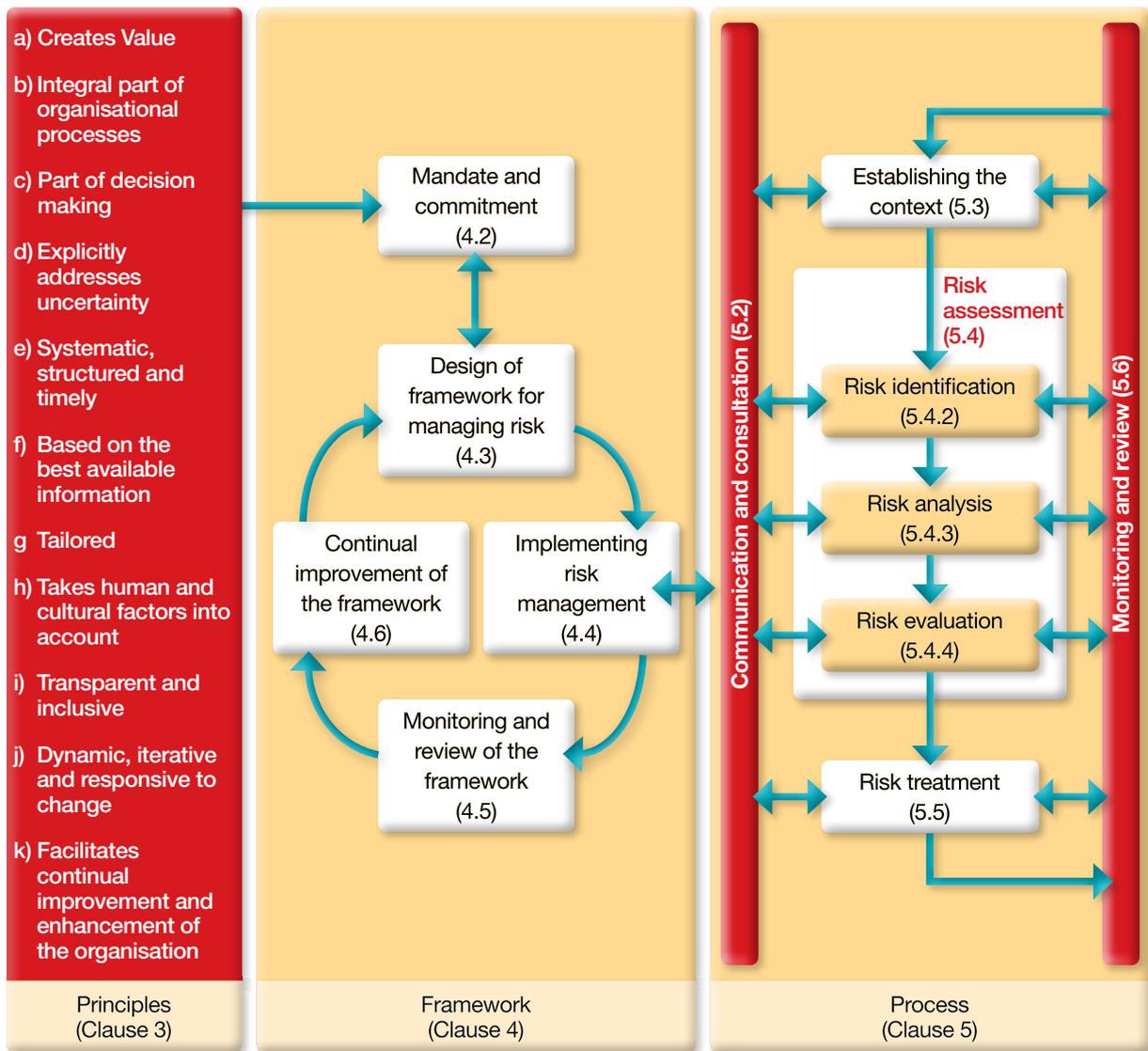


Standard Process

AS/NZS ISO 14001:2004 (Environmental Management Systems) and AS/NZS ISO 31000:2009 (Risk Management) include processes that ensure an efficient and standardised result.

Alberfield is committed to the professional use and application of the principles of these international and Australian Standards to ensure an appropriate and effective environmental risk management plan is developed for our clients.

The Principles, Framework And Process Of Environmental Risk Management



Adapted from Figure 1 from AS/NZS ISO 31000:2009. Numbers in brackets relate to clause numbers in the standard.



DANGER
THIN ICE

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Hazard Identification & Risk Assessment Solutions

Alberfield has been helping businesses meet the requirements of Australian and International Risk Standards since 2004.

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What Is Hazard Identification & Risk Assessment?

Hazard identification and risk assessment is a cornerstone of the “risk management” process described in AS/NZS ISO 31000:2009.

How Does It Work?

Alberfield has experience in the application of many of the accepted methods for carrying out hazard identification and risk assessment. It is Alberfield’s philosophy that as far as possible these steps are based upon and gain leverage from the expertise and experience of the personnel who are exposed to the hazards in question. Alberfield brings to the table a systematic approach, tools for assessing and recording plus a wealth of industry experience in hazards, incidents and the required integrity of the risk controls applied.

What Is Used To Make It Work?

HAZ1 Hazard Identification in the Workplace

Facilitate, conduct and train personnel in Hazard identification in the workplace.

HAZ2 Hazard Identification during Design

Facilitate HAZID/risk assessment and prepare risk register & report

HAZ3 Hazard Identification for Procedures

Facilitate, conduct and train personnel in Hazard identification for procedures

HAZ4 HAZOP (Hazard & Operability Studies)

Facilitate HAZOP and provide report.

HAZ5 Risk Assessment Using Risk Matrices

Facilitate, conduct and train personnel in risk assessment in the workplace.

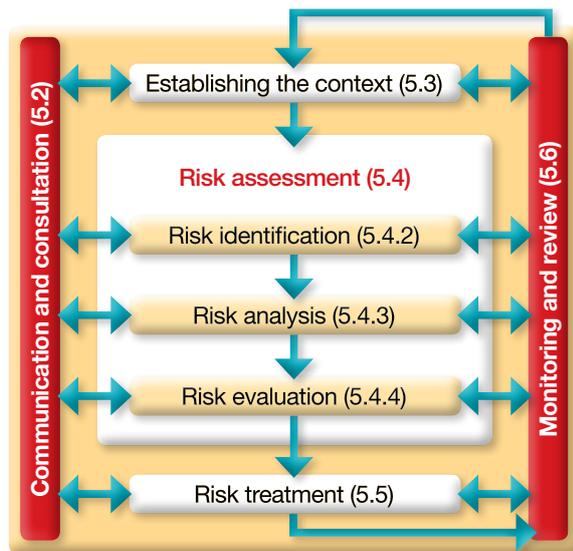
HAZ6 Risk Assessment using Quantitative Methods (QRA)

Carry out a risk assessment using quantitative methods (QRA)

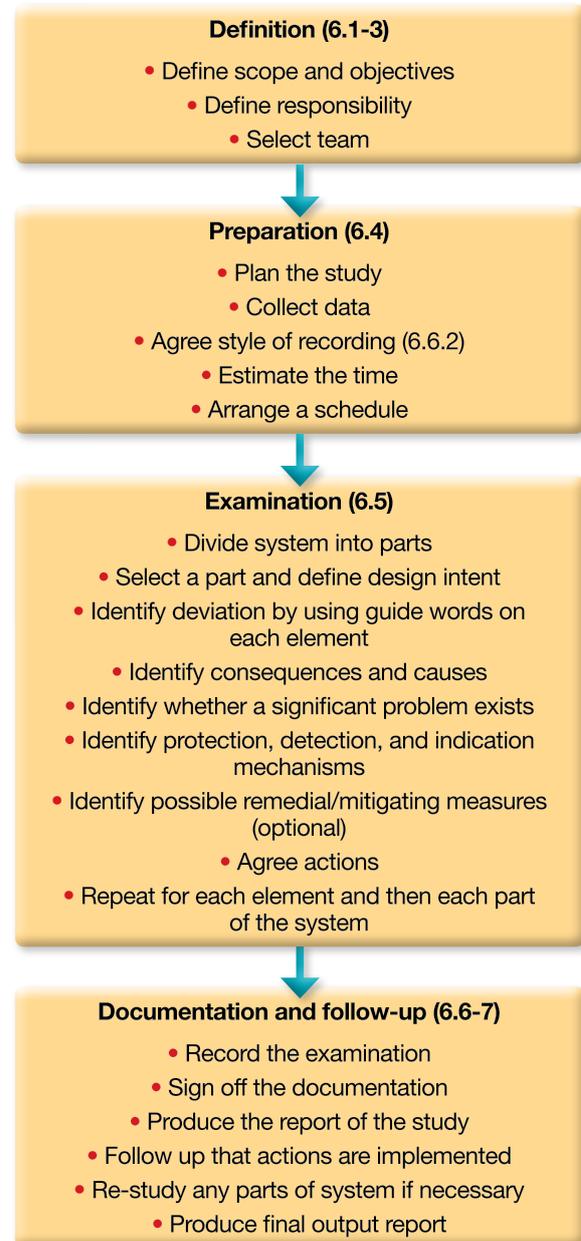
Standard Process.

AS/NZS ISO 31000:2009 (Risk Management) includes a sound process to underpin all Hazard Identification and Risk Assessment Solutions.

AS IEC 61882-2003 (HAZOP Studies) is used to define all HAZOPS conducted by Alberfield Risk.



Adapted from Figure 1 from AS/NZS ISO 31000:2009 showing the relationship between the principles, framework and process of risk management (numbers in brackets relate to clause numbers in the standard).



Adapted from Figure 1 of AS IEC 61882-2003 ("HAZOP Studies") showing the generic process of conducting a hazard identification technique known as a "HAZOP" (this is generally applicable to other hazard identification techniques) (numbers in brackets relate to clause numbers in the standard).

WARNING SURFACE UNEVEN AND SLIPPERY

RISK

OH&S Risk Solutions

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What Is Occupational Health & Safety (OH&S) Risk Management?

Occupational Health & Safety (OHS) Risk Management is all about managing harm to the health and safety of personnel exposed to the activities of a project or while working for an enterprise.

Managing OHS risks to personnel is a legal obligation in all Australian States.

How Does it Work?

Personnel "at risk" include "on-site" personnel as well as members of the public in the vicinity of the site activity.

Having an effective framework for managing OHS risks not only creates a safer work environment but will reduce operating costs and improve productivity.

What is Used to Make it Work?

OHS1 Safety Management Systems Design & Implementation

- a. Establish overall safety management system documentation
- b. Conduct review or audit

OHS2 Risk Register

Facilitate risk assessment and prepare risk register & report.

OHS3 OHS Hazard Identification in the Workplace

- a. Establish system documentation
- b. Conduct site assessment
- c. Conduct site training

OHS4 Chemical Handling Safety

- a. Establish system documentation
- b. Conduct site assessment
- c. Conduct site training

OHS5 Working at Height

- a. Establish system documentation
- b. Conduct site assessment
- c. Conduct site training

OHS6 Machinery Safety

- a. Establish system documentation
- b. Conduct site assessment
- c. Conduct site training

OHS7 Electrical Safety

- a. Establish system documentation
- b. Conduct site assessment
- c. Conduct site training

Standard Process

Alberfield is committed to the professional use and application of the following standards to ensure an appropriate and effective OHS Risk Management plan is developed for each client.

- » AS/NZS ISO 31000:2009 (Risk Management)
- » HB 205-2004 (OHS Risk Management Handbook)
- » Local OHS regulations.

The Hierarchy of Risk Controls

| | | |
|---|---|---|
|  | <p>Elimination</p> <p>Get rid of the hazard out of the workplace, i.e. designing the problem out. This is the best option, if it can be done.</p> | <p style="writing-mode: vertical-rl; transform: rotate(180deg);">Most Effective</p> |
|  | <p>Substitution</p> <p>Use something less hazardous. For example, water based chemicals rather than solvent based ones.</p> | |
|  | <p>Isolation</p> <p>Use barriers to shield or isolate the hazard. For example, guards on machines or enclosures for noisy machinery.</p> | |
|  | <p>Engineering controls</p> <p>Design and install equipment to counteract the hazard. For example, installing an exhaust ventilation system to extract dangerous fumes or dust, safety interlocks to stop machinery if personnel approach.</p> | |
|  | <p>Administrative controls</p> <p>For example, arrange work to reduce the time people are around the hazard, training, signage.</p> | |
|  | <p>Personal protective equipment</p> <p>Have people wear protective equipment and clothing while near the hazard. For example, ear plugs or earmuffs.</p> | |



RISK

Alberfield Risk in Brief

Our Capabilities

HAZOP (AS IEC 61882 compliant)

We conduct HAZOP (HAZard and OPerability) studies for clients including all aspects of preparation, facilitation, scribing (minute taking), report preparation and if requested, recommended action tracking and closeout. Our HAZOPs are conducted in accordance with the guidance of AS IEC 61882:2003. Typically we use our own version of PHA Pro (by Dyadem) to record the HAZOP minutes and produce the reports though use of client HAZOP logging software and tools is also possible.

HAZID/ Technical Risk Assessments

We conduct HAZID (HAZard IDentification) studies for clients including all aspects of preparation, facilitation, scribing (minute taking), report preparation and if requested, recommended action tracking and closeout. HAZIDs are typically focussed at the identification of hazards to health, safety and the environment that might arise from carrying out an activity. They typically include the steps from AS/NZS ISO 31000:2009 of hazard identification and risk assessment.

Hazardous Area Classification

We provide services to classify hazardous areas according to AS/NZS 60079.10.1 and 60079.10.2 for combustible and flammable gases and dusts.

SIL Studies/ Functional Safety

We provide a wide range of services related to "Functional Safety" as described in AS/NZS 61508, AS IEC 61511 (for Functional Safety in the Process Industries) and AS 62061 (for Machinery Safety). This includes Safety Integrity Level (SIL) studies to determine target SILs for Safety Functions (using both LOPA and Fault Tree methods), design of Safety Functions and Safety Instrumented Systems (SIS) including the instrumentation, programmable hardware and software logic, determination of achieved SIL and Proof Test Intervals, Factory and Site testing and commissioning of the Safety Instrumented System.

Dangerous Goods

We provide expert design and specifications in regards to safe handling techniques, storages and process design for Dangerous Goods. We have on staff an accredited Dangerous Goods consultant who can assess compliance, prepare and endorse Dangerous Goods licence applications, carry out compliance audits and conduct risk assessments.

We provide consulting services in regards to Major Hazard Facilities (MHFs) and management systems dealing with such facilities. Our references include the NOHSC codes.



Process Safety Management

We provide consulting services in regards to “process safety management”, including improvements on how organisations manage safety related to the nature of the chemical or other transformational production processes. We have provided advice on the management systems to systematically manage the hazards and risks of chemical processes. Our references on this subject include the various AIChE publications.

Quantitative Risk Assessments (QRA)

We conduct various types of quantitative risk assessments including consequence modelling of fire and explosion events, fault tree and event tree modelling of events, modelling of likelihood based upon Layers of Protection Analysis (LOPA).

Loss Prevention/ Insurance Related Site/ Project Reviews

We provide insurance industry relevant loss prevention site or project surveys and related review report. We have experience in reviews for and on behalf of insurance companies or brokers of the risk profile of businesses or sites, with special focus on “Property Damage” and “Business Interruption” coverage of industrial operations .

Enterprise Risk Management

We conduct enterprise or business level risk assessments. These risk assessments are targeted at identifying organisational goals and aspirations and identifying and assessing the threats and opportunities related to these. These risk assessments conform to the general requirements of AS/NZS ISO 31000:2009 (“Risk Management”). Typically these risk assessments have included meetings and facilitated workshops to allow participants familiar with an organisation to raise risk issues and discuss the risk controls that the organisation has to address these. We also have experience in the establishment of risk management systems that apply to an enterprise, organisation or some part of it. This includes establishment of procedures, policies, risk criteria, risk matrices and risk registers.

Project Risk Management

We conduct project risk assessments. This is similar in approach to the Enterprise/Business risk assessment in regards to process and deliverables - however the focus is on identification and risk assessment of threats and opportunities to the objectives of a project. Often this involves gaining the input and cooperation of multiple stakeholders in a project.

Occupational Health & Safety

We provide assistance to establish setup, improve , communicate or audit safety management systems. We are familiar with the requirements of AS 4801:2001 and how this standard can be made to work in a practical setting.

Training

We provide training services in all aspects of “risk” and “safety” covering the above aspects with customised training available as required. This can be in the form of on-site or off-site courses, small or large groups, or other means to suit a client’s specific requirements.



RISK

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Our Specialist Skills

- HAZOP- Facilitation, Reporting, Action Management/ Tracking and Closeout, Training.
- HAZID (Hazard Identification) - Facilitation, Reporting, Action Management/Tracking and Closeout.
- Risk Criteria and Matrices- Setup, Calibration, Risk Assessment, Facilitation, Training.
- Qualitative Risk Assessment - General Risk Assessment, Environmental Risk Assessment, Maintenance Risk Assessment , Project Solution analysis, "What If" analysis, Plant Change Control Risk Assessment.
- Risk Management Systems – Setup Registers, Procedures for Use, Action Management/Tracking and Closeout.
- Major Hazard Facilities- Calculations of Hazardous Inventories, Management Systems for NOHSC compliance, Development of Bow Tie Diagrams and Major Hazard Control Plans.
- Hazardous Areas – Classification of Hazardous Areas. Requirements for equipment and maintenance within Hazardous Areas, Hazardous area equipment site audits.
- Dangerous Goods - Licensing, Compliance Audits, Safety Inspections, Risk Assessments, Concept Design for Storage and Handling Systems, including Pipelines, Preparation of Manifest, Emergency Response Planning and Hazardous Area Classification.
- Functional Safety - System setup, Hazard Identification, SIL Assessment, Verification, Functional Safety Assessment , Auditing, Guidance to Design Teams.
- Quantitative Risk Assessment - Use of Fault Trees, Event Trees. Consequence Analysis including Explosion Calculations, Monte Carlo Modelling.
- Project Risk Management – Resource industry, Experience in Managing Project Risk throughout the project lifecycle, from inception to handover.
- Loss Prevention - Knowledge and application of FM, NFPA and Munich Re codes and standards, Fire Prevention, Detection, Protection and Fighting, Insurance Industry requirements for Loss Prevention, Cost Benefit Analysis of Recommendations, Site Surveys and Reporting, Loss Prevention Reviews and Recommendations for Capital Projects.
- Fire Protection Systems - Annual Equipment Condition Audits and Reviews (as required by AS 1851-2005).
- Incident Investigation and Analysis - Root Cause analysis, Reporting.
- Control Room Ergonomics and Alarm System Effectiveness- Knowledge of EEMUA Code.
- Risk Engineering - Principles of Survivability, Explosion, Fire and Blast Proofing.
- Human Factors Involved in Risk and Safety - Risk Taking, Human Error, High Reliability Organisations, Risk Communication.
- OHS Safety Management Systems - Setup, Procedures for Use, Action Management/Tracking and Closeout. Auditing.
- Reliability Engineering - Knowledge and application of reliability principles and calculations, FMEA/ FMECA Studies, Reliability Block Diagram modelling.
- Electrical System Safety - Setup of systems, Safe Work Procedures, Safety Equipment for Electrical Work, Assessment and Auditing of Systems.
- Electrical Supply and Distribution Assets - Physical Inspection and Assessment of Asset Condition, Asset Management Practices and Condition Monitoring.

Our Training Courses

- Introduction to HAZOP Basics (HAZOP Participation) (1 day)
- HAZOP Facilitation (2 days)
- Dangerous Goods (various topics and durations)
- Qualitative Risk Assessment Facilitation (1 or 2 days)
- Hazardous Areas - Principles for Engineers and Maintainers (1 day)
- Combustion Principles for HAZOP Participants (1 day)
- Principles of Industrial Loss Prevention (2 days)
- Incident Investigation (1 day)
- Gasfitting Legislation and Safety Awareness for "Supervised Gas Fitters" (1 day)
- Industrial Gas Appliance Maintenance (1 day)
- Workplace Legislation and Safety (1 day)
- Mine Site Legislation and Safety (1 day)

Our Software

- HAZop Software (Dydem's PHA Pro)
- Monte Carlo Software (@Risk)

Our Industry Experience

Processing

Iron ore, Gold, Alumina, Aluminium, Silicon, Molybdenum, Uranium, Nickel, Salt, Rare Earths, Copper, Cobalt, Magnesia and Coal.

Hydrocarbon Extraction and Treatment

Offshore platforms, Subsea components, FPSO's, Undersea pipelines, LNG, Gas transmissions pipelines and compression stations.

Transportation

Rail, Marine, Container Cranes.

Utilities

Electrical Generation & Transmission, Gas Distribution, Water Supplies & Treatment Plants, Waste Water Treatment.

Other

Pharmaceuticals, Municipal Waste Treatment, Explosives, Sports Stadia, Pulp & Paper, Cement, Brickmaking.