

RPS

HSE and Risk Management

Australia & Asia Pacific



creativepeople
making a difference



About RPS

RPS is an international consultancy providing world-class solutions in energy and resources, infrastructure, environment and urban growth.

Globally, we employ more than 4500 people across the UK, Ireland, Netherlands, United States, Canada, Australia and the Asia Pacific region and undertake projects in many other parts of the world.

In the Australia and Asia Pacific region, our 900 professional and technical staff work from 27 locations.

We employ enthusiastic, talented staff with a unique blend of skills and experience that enables them to provide reliable and practical advice.

RPS professionals have extensive local knowledge supported by the international network of expertise and capabilities within our organisation.

We are committed to ensuring that projects balance technical, social, environmental and economic outcomes.

RPS has a reputation for meeting the challenges posed by large, complex projects, and for conducting business in an open and responsible manner.

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HSE and Risk Management

RPS offers a complete and comprehensive range of specialist health, safety, environmental and risk services.

RPS provides services to the energy and resources, mining, maintenance, aviation, nuclear, defence, construction, manufacturing, hospitality and major hazard industries worldwide.

We are uniquely placed to provide a fully integrated response to our clients' needs, whether this is to undertake projects,

deal with regulation and legislation or manage risks. We have the capability to present a powerful blend of technical, operational and business know-how integrated with sector-specific regulatory and risk management skills. Our experience is available to support a client's ongoing safe operation and maintenance of their facilities.

RPS has proven its ability to share integrated services and specialist resources both within Australia and the Asia Pacific region and between our global RPS offices. This offers our clients improved efficiency and facilitates delivery of complete services for their projects.



Quality, Health, Safety and Environment

RPS provides sustainable and integrated solutions for the development of Quality, Health, Safety and Environment (QHSE) management systems that comply with relevant national and international standards.

4 We work with clients to produce QHSE policies, procedures and guidelines, and offer a software solution to assist in easy implementation and communication of the client's new management system. If a client does not require a new system, we can improve and update an existing one.

RPS consultants are able to commit to the full project lifecycle, including the implementation, certification and audit phases of the management system roll out. This continuous and supportive approach to safety and risk is good business practice.

Management Systems

Management systems are tailored to suit our client's business needs and to meet industry standards.

RPS has developed both complete and components of QHSE management systems that have been certified to ISO 9001, ISO 14001, OSHAS 18001 and AS/NZS 4801 standards. Integrated software is available for clients who would like to manage document control and offer employees a user-friendly graphical interface to deliver important company documents, including:

- Policies
- Procedures
- Guidelines
- Plans
- Forms and implementation tools, including locked and/or controlled templates.



Management System Graphic User Interface screen shot. For more information on our supportive software, please see page 13.

Emergency Preparedness

RPS provides comprehensive integrated risk management solutions ranging from governance, reputation and crisis management through to assessment and management of operational risks across the business and into front-line operations.

Effective emergency preparedness is a complex mix of risk management strategies, planning, incident command and control, field response and operational training and competence.

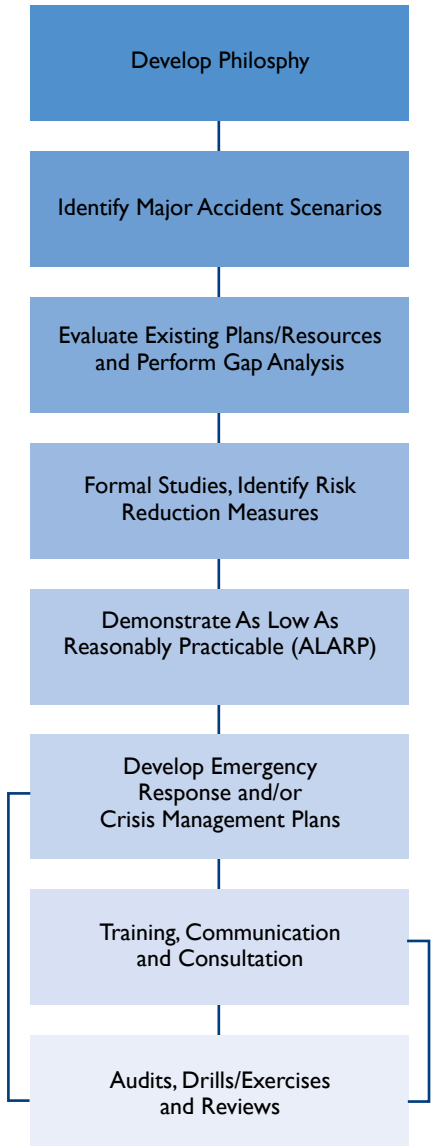
RPS HSE and Risk consultants understand that effective planning must be designed to meet the organisation's emergency response philosophy, core concepts, objectives and performance standards.

RPS provides comprehensive emergency planning services including:

- Tiered emergency response plans, emergency management plans and crisis management plans
- Medical response plans
- Oil spill contingency plans
- Security plans, including International Ship and Port Facility Security (ISPS) code
- Business continuity plans
- Disaster recovery plans
- Emergency equipment audits
- Remote location emergency plans.



Emergency Response Development Process



Engineering - Safety and Risk

Our Safety and Risk engineers provide project support to onshore Major Hazard Facilities (MHFs), offshore drilling and production facilities, as well as to the water, power, gas, mining and refining, construction, aviation and manufacturing industries.

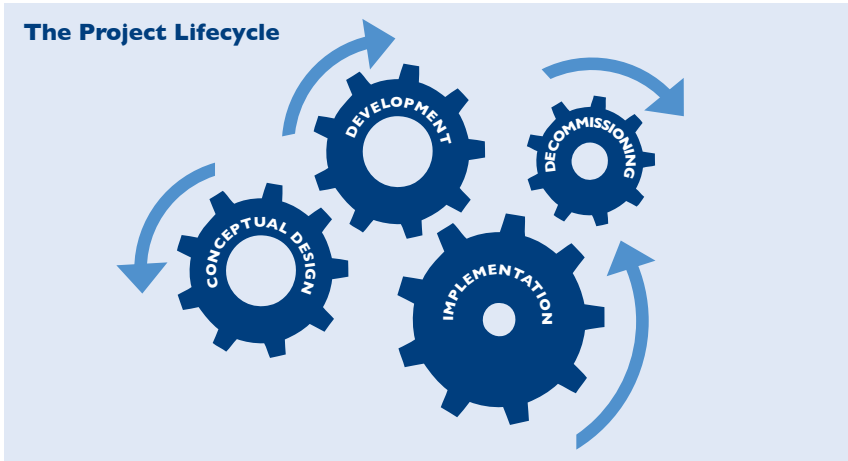
6 With several decades of experience in upstream and downstream oil and gas, petrochemicals, processing plants and mining and refining, RPS consultants and engineers provide independent facilitation to any MHF and projects requiring risk assessments. RPS Safety and Risk engineers can facilitate through the whole lifecycle of a project.

Engineers at RPS monitor and provide support and advice in the safety aspects of the design and construction of vessels, rigs, offshore production facilities, process plants and pipelines.

Our experienced team addresses issues that arise from changes in design of MHFs, whether these changes occur during design and construction of a plant or installation or on ageing equipment and systems. RPS also addresses changes that need to occur in management systems to reflect operational modifications. Once a project matures to completion, RPS offers decommissioning preparation and planning. This ensures a smooth transition through to the End of Project phase.

RPS provides:

- Process HAZOP, CHAZOP and HAZID facilitation for design, construction, commissioning, modifications and operations
- Performance standards verification
- AS 2885 pipeline risk assessments and audits
- Project risk assessments
- Asset integrity audits
- Engineering audits
- Diving systems safety support and audits
- Management of change support and audits
- Operations and maintenance safety engineering support
- Plant and process failure incident investigation and root cause analysis
- Asset integrity management.



Risk Management Studies

RPS engineers and consultants provide independent facilitation for risk studies to assist in managing clients' people, environment, assets, reputation and liabilities.

RPS consultants provide risk consulting services in the analysis of enterprise-wide risks, enhancing strategic business planning, and senior management coaching and training. This includes sustainability, corporate social responsibility and due diligence assessments.

RPS provides formal safety and risk studies and assessments for process plant (onshore and offshore), mining and refining, water systems (including desalination plants), power, aviation, manufacturing and national defence including:

- Hazard and Operability (HAZOP) facilitation
- Hazard Identification (HAZID) facilitation

- Failure Modes Effect and Causality Analysis (FMECA)
- Quantitative Risk Assessments (QRA)
- Fire and Explosion Analysis (FEA)
- Escape, Evacuation and Rescue Analysis (EERA)
- Emergency Systems Survivability Analysis (ESSA)
- Smoke and Gas Ingress Analysis (SGIA)
- Layer of Protection Analysis (LOPA)
- Temporary Refuge Impairment Analysis (TRIA)
- Escape, Temporary Refuge, Evacuation and Rescue Analysis (ETRERA)

- Non-Hydrocarbon Hazard Analysis (NHHA)
- Plant and process failure incident investigations and root cause analysis
- Safety Integrity Level (SIL) studies
- Ergonomics assessment.

RPS will:

- Identify critical controls and map hazards, risks and the controls using BowTies or other methods as requested by the client
- Develop accountability mechanisms to ensure appropriate Key Performance Indicators (KPIs) are used to monitor the risk controls.

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Safety Cases/Safety Reports

RPS has extensive experience in the development of safety cases for the offshore and onshore oil and gas industry, including major oil companies, operators, drilling companies and marine contractors.

Our consultants have successfully developed complete safety cases, campaign specific safety case revisions and detailed risk studies for facilities ranging from fixed production platforms, Floating Production Storage and Offloading (FPSOs), rigless well intervention support vessels, and in particular; mobile offshore drilling units, including semi-submersibles, jack-ups and ultra-deep water drill ships.

RPS is experienced in onshore drilling and production and has developed a thorough and comprehensive safety case development process that ensures safety cases are produced in accordance with the International Association of Drilling Contractors (IADC) guidelines.

Safety cases are developed in a format that are readily accepted globally, while specifically addressing the legal requirements and regulator expectations for operations in Australia and South East Asia. RPS utilises the BowTie methodology to analyse Major Accident Events (MAEs) to ensure that risks are reduced to as low as reasonably practicable (ALARP).



Major Hazard Facilities

RPS develops safety reports and safety cases relating to onshore MHFs for companies involved in onshore oil and gas terminals, hydrocarbon processing, oil and gas distribution and storage facilities.

RPS has professional safety engineers experienced in the Dangerous Goods Safety (Major Hazard Facilities) Regulations and the Control of Major Accident Hazards (COMAH) Regulations (UK).

RPS is also experienced in the mining and refining, drilling and production, construction, manufacturing, aviation and energy industries.

We can screen safety cases to check for compliance against regulatory requirements and independently carry out or review hazard and risk studies.

RPS consultants will:

- Develop, review and revise safety cases and safety reports
- Construct safety cases/reports having regard to relevant local regulations
- Involve the workforce
- Lead appropriate risk studies
- Liaise with regulatory bodies
- Provide safety case verification audits.





Audits and Reviews

Our experienced auditors conduct reviews and audits in any location, whether in the field, facility, office or boardroom.

RPS builds customised audit tools to assist clients to better understand their operations, materials, assets, people, systems and culture. We can audit against our client's management system and validate legislative compliance to Australian and International standards, where applicable. RPS consultants are able to assist in implementing any recommendations arising from an audit.

RPS conducts the following types of technical and management system/compliance audits:



Joint Operator Audit Program

RPS has been the provider of auditing services for the third party Joint Operator Audit Program (JOAP) for 13 of the largest oil and gas companies in Australia since 2005.

RPS consultants manage and coordinate the program on behalf of the Operator Group to audit common drilling and completion contractor companies, reducing disruption to project timelines and supporting continuous improvement in the industry.

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- AS2885 pipeline compliance audits
- Performance standards verification
- Engineering systems and process plant audits
- International Marine Contractors Association Common Marine Inspection Document (IMCA CMID) audits
- Oil Companies International Marine Forum Ship Inspection Report Programme (OCIMF OMVID OMVIQ) audits
- Diving systems safety support audits
- Asset integrity management
- CAP437 Helideck auditing and certifications
- Scaffolding audits
- Commissioning / decommissioning audits

- Safety case and safety report audits
- Management of change audits
- Management system audits
- Post incident audits
- Fixed and rotary wing aviation auditing



- Legislative compliance audits
- Prequalification audits
- Workplace inspections
- Operational HSE audits
- Health and hygiene audits
- Permit to Work system audits
- Due diligence audits
- Manual handling audits
- Shipyard contractor compliance audits
- Environmental audits
- Quality audits



Training

RPS is an Australian Registered Training Organisation (RTO) and provides a broad range of training solutions to underpin competency in all areas of Health, Safety, Environment and Risk Management.

12 We offer complete training and development programs that meet industry standards for competency assurance. Qualified training personnel are available for on-site training at client facilities or client personnel can attend courses at RPS premises.

As a RTO, RPS is able to issue a Statement of Attainment to participants for courses which are mapped and delivered against recognised units within our scope. Our status also allows us to assess Recognition of Prior Learning (RPL) applications and issue statements accordingly.

RPS prides itself on developing, implementing and delivering relevant, informative and interesting programs. Our training packages include courses for safety committees, general compliance training, such as Fitness for Work and customised induction initiatives.

RPS trainers aim to infuse safety leadership and awareness into an organisation's culture. Our instructors receive professional development to provide our clients with innovative ways of imparting HSE information.

RPS provides:

- Qualified and experienced trainers
- Support through the project lifecycle
- Customised courses to suit individual needs, whilst remaining abreast with the regulations relevant to our clients
- Supporting manuals and training materials.

When working on projects, RPS consultants ensure that systems, policies and plans are rolled out into the workforce appropriately using fit-for-purpose training materials and simulation exercises that are detailed, yet creatively implemented to ensure workplace ownership.

RPS delivers the following training programs:

- Occupational Safety and Health (OSH) Representatives - Mining*
- HSE for workplace leaders**
- HSE management systems and procedures
- Wellsite Permit To Work (PTW) Rev 2

- Behavioural based training
- Permit Vision PTW software
- Manual handling
- Fitness for work
- Job safety analysis
- Hazard identification and risk assessment
- Contractor inductions for major resource projects
- Emergency response training
- HSE computer-based training
- BowTieXP: Licensed official global training solutions provider
- Investigator 3 software and incident investigation method.

* This course can be used to obtain nationally recognised accreditation towards partial completion of Certificate III in OSH.

** Nationally recognised training which complies with BHPBIO contract supervisors mobilisation program.



Supportive Software

RPS is aware of the pressure on safety and risk professionals to capture and assess information in a timely manner. To simplify the process, RPS have sourced practical, user-friendly and industry specific software to complement our services.

BowTieXP

RPS is a licensed provider of BowTieXP software, training and consulting to clients around the globe.

BowTie methodology is commonly preferred for the facilitation and recording of risk assessments relating to hazardous facilities. Bowties and BowTieXP provide a visual qualitative or semi-qualitative approach to assessing risks and their management. Using this method allows a clear understanding of the "top event" and associated controls and responsibilities. It assists in simplifying complicated scenarios and can be tailored to suit each process to aid understanding at all levels of an organisation.

Recognising RPS' achievements and reputation in BowTie consultancy, CGE Risk Management Solutions has appointed RPS as the official global BowTieXP Training Solutions developer and provider.

RPS offers:

- Qualitative Risk Assessment using BowTie diagrams
- Training courses on Risk Assessment using BowTieXP methodology
- Software licences, support and maintenance.

Permit Vision

RPS and the Dutch software company eVision, have joined forces to deliver an electronic Permit to Work solution: Permit Vision.

We have extensive experience in providing independent advice and support to organisations in establishing and maintaining effective formal processes and systems to control work.

eVision has developed Permit Vision software to suit many of the larger oil and gas, petrochemical, mining and industrial companies. This enables integration of task risk assessment, dangerous goods management, isolation management and Permit to Work into one integrated operational safety environment.

With an awareness of industry standards and regulatory requirements, as well as a practical understanding of how human error can occur in paper-based systems, Permit Vision improves efficiency through an easy-to-use, process driven graphical interface that can be tailored to suit individual company needs.

Investigator 3

RPS now provides one of the world's leading incident investigation methods through the software solution Investigator 3. With over 20 years' experience in incident investigation, Kelvin TOPSET® has worked with CGE Risk Management Solutions to produce this powerful and professional new incident investigation and analysis software. As an ideal tool for high potential, complex incidents, the software combines the three best practice incident investigation and analysis methods – Kelvin TOPSET® methodology, root cause analysis, and Tripod analysis - in one single tool with a Microsoft integration feature.

Investigator 3 supports all the stages of the incident investigation process, from initially identifying what happened, the TOPSET® planning phase, through the storyboard timeline, the causal analysis process and to writing the recommendations and reports. It allows incorporation of photos and full details into the investigation file itself.

BlackBox

BlackBox is a software tool that guides users through all phases of incident investigation and analysis, suitable for low risk incidents and near misses. This simplified software walks you through investigations in less than an hour, covering essential questions and providing diagrams, reports and recommendations based on the information entered.

Management System Graphical User Interface

RPS can develop a Graphical User Interface (GUI) to house and display client management systems and other supporting documents. The GUI is designed to either be hosted on the client's intranet or delivered on auto-executable CD media.

This easy-to-use interface aims to make documents accessible to employees while maintaining document control and integrity. The system is able to be designed to reflect company-specific guidelines and design themes.





Project and Operations Management and Support

RPS provides organisations with short, medium or long term onsite support or secondment to meet specific requirements.

RPS provides clients with professional consultants and contractors with extensive operational HSE experience. We also offer ongoing education and support to our team, ensuring that your organisation benefits from RPS' holistic and thorough approach to project management.

RPS HSE specialists can provide project HSE management, coordination and assistance, including advice and support

for attaining regulatory approvals and HSE performance monitoring of operations.

Marine Fauna Observers

Marine Fauna Observers (MFOs) have become an integral part of offshore and/or onshore marine activities to monitor for protected marine species during various types of operations. These include, but are not limited to seismic, site surveys,

dredging and rig decommissioning. In some regions of the world, application of PAM equipment and PAM operators to supplement visual MFO observation has either become mandatory or has been accepted as best practice by some Operators for the detection of marine protected species. RPS is at the forefront of providing professionally trained and experienced MFOs and PAM operators.

Type of Consultant	Type of Project			
	Construction – Upstream and Downstream, Land and Marine	Drilling – Land and Marine	Seismic – Land, Marine, OBC & TZ. Site Survey and Geotechnical Survey	Aviation, Refining, Mining and Industrial
HSE Project Managers/ HSE Coordinators	✓	✓	✓	✓
Field HSE Site Representatives	✓	✓	✓	✓
Environmental Managers/ Coordinators	✓	✓	✓	✓
Environmental Site Representatives	✓	✓	✓	✓
Project HSE Planning	✓	✓	✓	✓
Marine Fauna Observers (MFOs)	✓	✓	✓	N/A



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