RESOURCE RISK MANAGEMENT
RISK MANAGERS & ENGINEERS

RESOURCE RISK MANAGEMENT

Fire and Life Safety Intellectual Services

"Sustaining Corporate Infrastructure and Resources"

ASSET & INVESTMENT RISK BUSINESS RISK FIRE & LIFE SAFETY PROJECT LEADERSHIP

Fire and Life Safety

According to the Business Continuity Institute, fire or the effects of fire contribute to 80% of Extended Business Down Time greater than 2 months and 95% of Prolonged Business Down Time greater than 12 months. Of even greater importance is the risk to life. Building regulations require strict compliance and ongoing certification to building codes which predominantly address issues relating to fire and life safety.

Resource Risk Management (RRM) specialises in all aspects of fire and life safety engineering and building code consulting offering its clients integration of value engineering and practical application in the delivery of sound fire and life safety system solutions, financially optimised to meet individual project needs.

RRM achieves this through the application of practical experience, detailed knowledge of fire equipment performance and a working knowledge of Australian and International Standards and Building Regulations.

RRM's specialist Fire and Life Safety engineers provide Fire and Life Safety risk mitigation for legislative compliance, duty of care and workplace safety to ensure that clients' businesses are not exposed to an unacceptable level of risk.

Why RRM?

RRM applies our intellectual services to deliver engineered systems, procedures and products to safeguard life and property. To do this, RRM consistently applies three basic criteria to all projects. They are:

Delivery flexibility - The RRM service is flexible to meet client or project needs with varying responsibilities such as lead consultant, design engineer, project superintendent, contract manager and/or construction manager.

Value Engineering - RRM is pro-active in product development research and application engineering with current expertise in fields of fire and life safety including special hazards, gaseous fire suppression systems and domestic fire & life safety risks.

Compliance Management - the processes systems used by RRM seek to demonstrate full accountability and certification of RRM's delivered intellectual services to the project objectives, regulatory requirements and to stakeholders.

Fire and Life Safety Certification

Occupational Health and Safety, Fire Regulation and Duty of Care compliance for building owners and operators require that base line fire safety schedules to be maintained along with evidence of design and maintenance compliance for these systems to prescribed levels.

Auditing, documenting and managing this compliance responsibility and cost effective mitigation of any "gaps" is a specific expertise that RRM offers.

In addition to certification of our and third party designs, the integrated maintenance regime requires verification and evidence that the Fire and Life Safety systems, including all sub-systems, perform as prescribed in the fire safety schedule and with the desired level of reliability.

To achieve the combined approach of value and compliance, RRM will conduct level 3 audit requiring specific performance-based verification testing along to the requirements of fire safety legislation and applicable standards for traditional and performance engineered fire systems.

This allows RRM to critically appraise a system and to document a maintenance/service regime incorporating client and stakeholder based inputs such as:

- Cost of partial or total asset loss.
- Operational availability of the asset.
- Time and cost of lost operations.

The effective management of Fire and Life Safety risk demands knowledge, accountability, mitigation, monitoring and auditing of the maintenance regime.

RRM's Intellectual Services

The success of RRM's project delivery approach has been to focus its specialities to meet the specific project needs of clients. To best facilitate this, RRM offers a range of project capabilities that encompass in detail the following:

Intellectual Services Offering	Capabilities
Fire product performance research, application and listing	❖ Fire product research and specification. ❖ Fire product approval management
Fire services feasibility, design, specification, performance analysis and certification	❖ Life cycle upgrade/compliance, feasibility and conceptual reporting. ❖ Fire system design, specification and tender. ❖ Fire system diagnostics. ❖ Third party design audits and certification.
Fire services statutory through life compliance	❖ Through life system and performance audits (levels 1, 2 and 3). ❖ Preparation of base line fire safety schedules, annual fire safety statements and issue of fire safety statements for regulatory compliance. ❖ Risk Based Maintenance schedule development.
Expert opinion	❖ Expert opinion/witness in fire and life systems performance litigation.
BCA Audit	❖ Building Code of Australia compliance audit and advice.
Training	❖ Enterprise Training and Learning Solutions in Australian Standards and Building Code awareness.

RRM ENGINEERING CAPABILITES

The quality of RRM's engineering capabilities is a key component in the delivery of its intellectual services which maintains its industry standing. RRM offer engineers with the complete range of engineering capabilities encompassing in detail the following:

Fire and Life Safety System	Capabilities
Fire Detection	☑ Conventional Fire Detection ☑ Analogue Fire Detection ☑ High Sensitivity Smoke Detection ☑ Visual Smoke Detection ☑ Smoke Alarms (Residential/Commercial)
Sprinkler	☑ Sprinkler systems ☑ Extended coverage low flow ☑ Very Large Orifice (VLO) ☑ Wall and Window Wetting ☑ Early suppression fast response ☑ High challenge suppression systems ☑ Residential life safety
Evacuation Systems	☑ Emergency warning and intercommunication systems (EWIS) ☑ Evacuation modelling ☑ Emergency Control and incident planning/training
Gas & Flame detection	☑ H_2S, CO, 0_2 and combustible gas detection systems ☑ UV/IR and triple IR flame detection ☑ Hazardous and explosive area detection
Fire Pumps	☑ Central facility fire pump systems ☑ Sprinkler and Hydrant fire pump sets

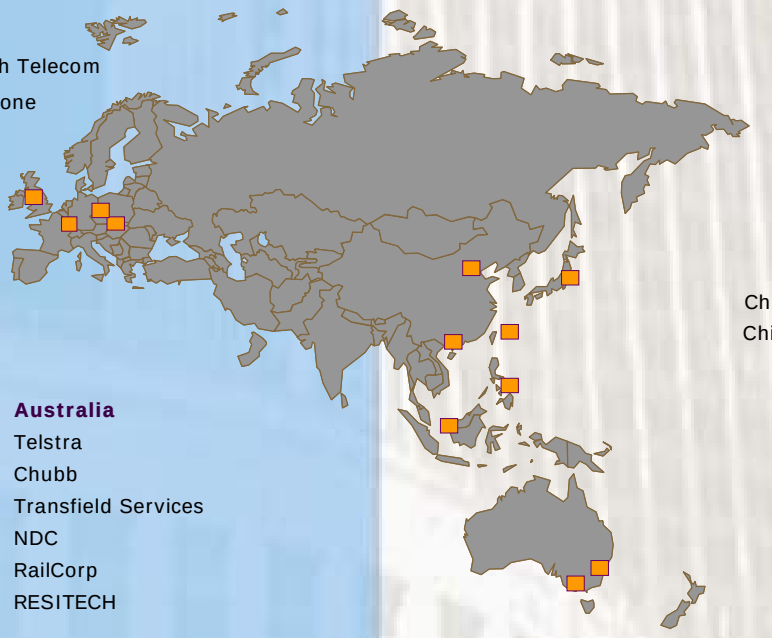
Fire and Life Safety System	Capabilities
Special Hazards	☑ CO_2 Gas Systems (High and Low Pressure) ☑ Chemical Gas Systems (Engineered, Pre Engineered and Marine) ☑ Inert Gas Systems (Inergen and Argonite) ☑ Dry Chemical Powder Systems (Engineered and Pre Engineered) ☑ Water Spray Systems (High and Medium Velocity) ☑ Fine Mist Systems ☑ Foam Systems (High Expansion, Low Expansion and Pre Engineered) ☑ Explosion Suppression
Hosereel and Hydrants	☑ Hydrant sprinkler combined systems ☑ Combined Hydrant hose reels systems ☑ Storage tanks and alternate water supplies
Smoke Control and Management Systems	☑ Smoke Management ☑ Smoke exhaust ☑ Smoke Control Systems
Passive Systems	☑ Penetration Sealing ☑ Fire and smoke door/wall/barrier systems ☑ Compartmentation requirements, fire and smoke rating, fire spread

RRM'S Fire and Life Safety Client Portfolio

RRM has audited, designed, specified, and project managed fire and life safety systems globally, having undertaken projects for telecommunications, commercial and industrial, government, and legal business. Several of our major clients include:

Europe

BT
French Telecom
Vodafone



Asia

MTRC
KCRC
China Unicom Limited
China Mobile (HK) Ltd

Australia

Telstra
Chubb
Transfield Services
NDC
RailCorp
RESITECH

RRM has been at the forefront of the development of Fire and Life Safety engineering practices and guidelines through direct involvement in leading edge research globally.

RRM is committed to remaining at the forefront of such development through its network of industry and professional contacts including research, manufacturing, installation and operational groups. Our team of professionals are required to maintain and participate in Continuing Professional Development programs (CPD's) to ensure that RRM's system offerings are state of the art, utilising latest advances in technology and changes in the regulatory environment.

As part of our community commitment, RRM personnel are actively involved in the development of Australian and International Standards, and in the setting of industry guidelines for training and accreditation.

RRM Sample Project Portfolio

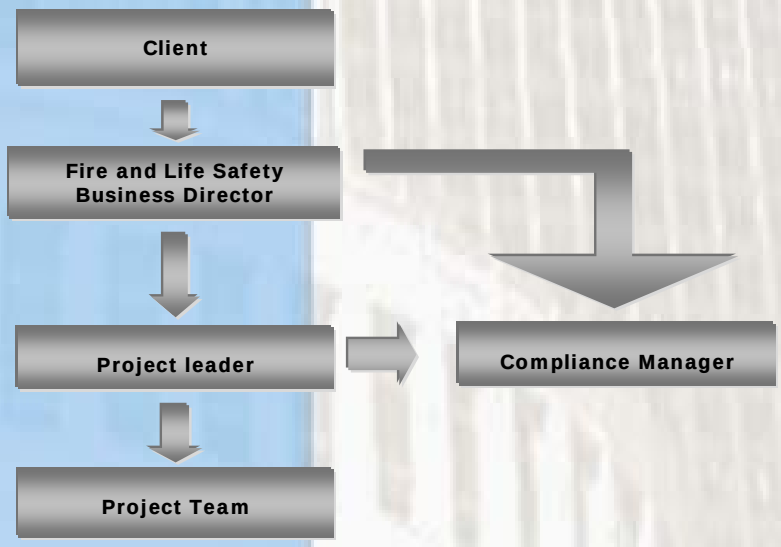
Project	Description
RailCorp Sydney Signal Control Facility Statement of Requirement	Audit of RailCorp's Sydney Signal Control Facility and document upgrade requirements for compliance with the BCA and RailCorp's Asset Protection and Continuity of Operation Goals.

Project	Description
RailCorp Annual Fire Safety Requirements	Complete a level 2 fire safety audit on 12 commuter railway stations and development of an Annual Fire Safety Statement and Schedule of Essential Services.
Department of Commerce Fire Safety Audit	Complete a level 3 fire safety audit and report on DoH's high rise residential towers at Surry Hills, Millers Point and Burwood.
Earth Tech Design & Assessment of Fire Systems at Berowra	Provide compliance and performance advice on the Fire Protection requirements for RailCorp's main switching yard and associated control room at Berowra.
Seimens Thiess JV Fire System Design	Design, specification and detailed drawings for the fire systems upgrade of Telstra's Paddington Telephone Exchange in accordance with Telstra's Fire Safety Management Manual.
Telstra Broadway Telephone Exchange Fire System upgrade risk analysis	Level 2 audit of the fire services upgrade to provide a risk assessment of incomplete fire service upgrade.
Telstra End to End Fire Safety Review	Level 3 audit of 95 building facilities ranging from single storey to high rise to establish criteria for fire safety upgrading to meet business continuity requirements.
Network Design and Construction BCA Upgrade Program	Level 2 audit of 15 high rise telecommunications building facilities to establish compliance criteria to the BCA and to identify and prioritise a programme of upgrades for each facility.
Transfield Services Building Assessment Reports	Level 2 audit of 11 high rise telecommunications building facilities to establish performance compliance criteria to meet the intent of the BCA and to identify and prioritise a programme of upgrades for each facility.

DELIVERY STRUCTURE

RRM's consulting delivery is based on key client communication to ensure that the client team is kept fully informed of progress, issues, impacts and duty of care discoveries as per the dictates of the RRM compliance procedure.

This responsibility is exercised through a formal project and reporting structure generally as follows:



RRM operates central offices in each major region of participation to support our intellectual services. Central office locations are:

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