



# **FIRE PROTECTION SERVICES – SPECIAL HAZARDS CAPABILITY STATEMENT**



**RESOLVED  
FROM EVERY  
ANGLE**



# OMNII IS A PURE-PLAY FIRE CONSULTANCY SPECIALISING IN FIRE PROTECTION SERVICES AND FIRE SAFETY ENGINEERING.

## OUR EXCLUSIVE FOCUS ON THESE DISCIPLINES SETS US APART FROM OTHER CONSULTANCIES.

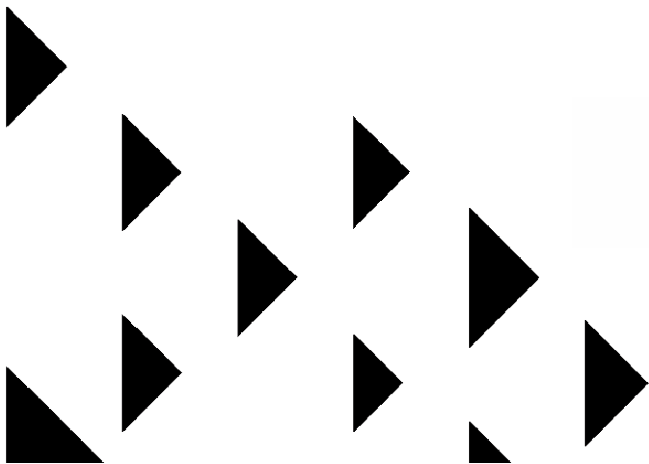
Omnii is the largest specialist fire engineering and fire protection services consultancy in Australasia. We bring to projects a diverse blend of skills based on our team's unique higher-level education, fire trade contracting, Fire Brigade and varied consulting engineering expertise.

Our attention to detail and methodical approach provides a tailored response to meet the specific requirements of your project.

Our repeat engagement on high-profile projects, especially those involving sophisticated fire safety engineering and fire protection services, is testimony to the quality of our work and confirms our standing as the trusted experts in our field.

Quality of service is the mainstay of our business, supported by our ISO9001-2015 Quality Management System, and backed by a wealth of industry knowledge and experience across all aspects of fire safety.

We strive to align ourselves with clients of similar ethos and vision and understand the drivers and intricacies of the markets in which they operate.







**OUR CLIENTS VIEW US AS  
THEIR TRUSTED  
PARTNER TO PROVIDE  
SPECIALISED AND  
INNOVATIVE FIRE  
SOLUTIONS THAT  
ARE RESOLVED FROM  
EVERY ANGLE.**



## **FIRE PROTECTION SERVICES**

- Special hazard fire safety studies and fire hazard reviews
- Fire Risk Assessments
- HAZID/HAZOP studies and workshop facilitation
- Special hazard designs including foam, gas and deluge suppression systems
- Fire sprinkler systems
- Fire detection and alarm systems
- Fire hydrant and fire hose reel systems
- Portable fire extinguisher systems
- Hypoxic atmosphere systems
- Site reviews and audits
- Due diligence and pre-purchase reviews
- Foam system replacement solutions
- Battery Energy Storage Systems (BESS) and Lithium Battery hazards

## **FIRE SAFETY ENGINEERING**

- Performance-based, fire-engineered solutions
- Fire engineering reports for building approval applications
- Master planning and concept advice
- Value management and value add reviews
- Preliminary fire safety strategies and advice
- Fire risk assessments and audits
- Developer/builder bid reviews and refinement
- Feasibility studies

## **WE DELIVER SUCCESS FOR**

- Aviation & Airports
- Commercial
- Defence
- E-Commerce & Information Technology
- Education
- Healthcare and Seniors Living
- Hotels & Resorts
- Industrial
- Judicial
- Major Hazard Facilities
- Mining & Minerals
- Oil & Gas
- Petrochemical
- Power Generation
- Public, Sports, Stadia, Entertainment & Leisure
- Renewable Energy
- Residential
- Retail
- Transport & Infrastructure
- Water Treatment

## SPECIAL HAZARDS

Omnii has completed a wide variety of projects in these specific market sectors. Deep understanding of the processes of these facilities is paramount to ensuring good application of risk engineering principles, Fire Protection design and fire safety.

Our strengths include the ability to work across multi-discipline teams, as Special Hazard projects require extensive interaction with all other engineering disciplines to ensure a fit-for-purpose design that integrates with the overall plant.

We can perform fire hazard studies and hydraulic analysis utilising a range of industry-accepted tools.

We have designed many different special fire hazard Fire Protection Systems including foam deluge, foam monitor, tank farm foam protection, water spray, water mist and gaseous type fire extinguishing agents.

Our expertise includes the following:

- ▶ Design of fire protection systems including:
  - Fire water pumps, tanks and hydrant reticulation systems
  - Foam and water deluge and sprinkler systems
  - Fire monitors
  - Clean Agent and Gaseous Suppression

- Fire detection and alarm systems
  - Aspirated Smoke Detection systems (ASD)
  - Vehicle Fire Suppression Systems
  - Specialist, bespoke systems and solutions to suit unique risks
- ▶ Hydraulic modelling and analysis of firewater systems

Our qualifications and accreditations are amongst the highest available in the engineering community. The team holds licencing and accreditation across the following:

- ▶ CPEng
- ▶ RPEQ / RPEV / PE (VIC)
- ▶ NER / APEC IntPE (Aust)
- ▶ QBCC / BP (NT)
- ▶ FPAS FSA





## SPECIAL HAZARDS OMNII STAFF TRACK RECORD

Omnii's staff have provided fire protection services for several special hazards projects including:



**Project:** Ampol Lytton Refinery – Gasoline Treatment Unit for Future Fuels  
**Location:** Lytton QLD  
**Client:** Kent  
**Services:** Fire Protection

**Detail:** Performed full Fire Safety Study done in accordance with NSW HIPAP 2, API RP 2001 and other relevant Standards to review and assess the fire risks as part of the Future Fuels Project development project. Hydraulic analysis using PIPENET completed to AS 2419.1, NFPA 11 and NFPA 15 standards for the new Gasoline Treatment Unit extension area. Verified the capacity of the existing onsite firewater supply system and identified potential risks associated to the site's firewater reliability and redundancy.



**Project:** Jetty Moorings and Fire System Upgrade  
**Location:** Kurnell NSW  
**Client:** Caltex Kurnell  
**Services:** Fire Protection

**Detail:** This project was for the upgrade of the existing fuel loading jetty at the refinery from a maximum of 55,000 DWT vessels up to 100,000 DWT vessels, and to meet the requirements of both ISGOTT and AS 3846. The 4 existing foam monitors on 2 x 10m tall towers were replaced with 5 foam monitors on 3 x 18m tall towers, with the capability of remote operation and switching between 1% and 3% foam proportioning, with combined flowrates of circa 13,000 L/min and 90m throw.



**Project:** Carmichael Mine Fire System Design  
**Location:** Isaac Region QLD  
**Client:** DRA Global / Bravus  
**Services:** Fire Protection

**Detail:** Full detailed engineering design for the Carmichael Mine CHP and CPP fire detection, alarm and protection system. Fire protection system including automatic sprinkler system for reclaim tunnel, firewater pumps and tanks complete with firewater ring main, fire hydrant and hose reels. Fire detection and alarm system including fire panel network, aspirated smoke detection system, manual call points, alarm siren and beacon.



**Project:** Refinery Conversion  
**Location:** Kurnell NSW  
**Client:** Caltex Kurnell  
**Services:** Fire Protection

**Detail:** This project involved the fire system design for converting numerous large fuel storage tanks from combustible to flammable liquid service. This required design and hydraulic analysis of new fixed tank foam systems and additional cooling requirements for adjacent tanks, supplied from the firewater ringmain and a separate dedicated foam concentrate ringmain with proportioning at each tank supply. The design was undertaken in accordance with NFPA 11, NFPA 20, AS 1940 and AS 2419.1, with reference also made to LASTFire.





**Project:** SAFT Battery Container  
**Location:** Weipa QLD  
**Client:** SAFT/Rio Tinto  
**Services:** Fire Protection

**Detail:** Carried out desktop gap analysis to identify the shortfalls of the fire protection system installed in the SAFT battery storage containers against the Australian Standards requirement. Participated in risk assessment workshop to discuss risks associated to the non-compliance, and to provide recommendations to the client. Recommendations and workshop discussions led to client cost savings of approx. \$30,000 after the existing fire protection system undergoes minor upgrade to achieve compliance.



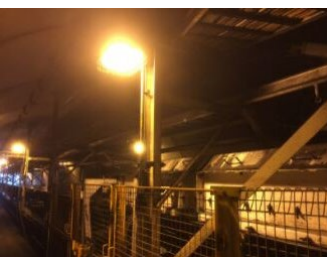
**Project:** Mt Arthur Coal – Firewater System Functional Specification  
**Location:** Muswellbrook NSW  
**Client:** BHP Mt Arthur Coal  
**Services:** Fire Protection

**Detail:** The project involved the development of Functional Specifications for the Firewater Systems at BHP Mount Arthur Coal CHP area, MIA area and Export area. The Functional Specification helped the operator to understand the capability of site existing firewater system and clearly identify shortfalls against AS 2118.1, AS 2304, AS 2419.1 and AS 2941.



**Project:** Mt Arthur Coal  
**Location:** Muswellbrook NSW  
**Client:** BHP Mt Arthur Coal  
**Services:** Fire Risk Assessment

**Detail:** Prepared and conducted an AS 5062 Fire Risk Assessment for two new Liebherr R9800 excavators. They developed the Technical Specification for the Fire Suppression System to meet AS 5062, MDG 15 and BHP standards.



**Project:** Mt Arthur Coal – Reclaim Tunnel  
**Location:** Muswellbrook NSW  
**Client:** BHP Mt Arthur Coal  
**Services:** Fire Protection

**Detail:** Site inspection of three coal reclaim tunnels, including reclaim valves, chutes, conveyors, existing deluge and fire detection systems. Prepared fire safety study to provide recommendations for industry best practice for protection of reclaim tunnels, in accordance with NFPA 15, AS 2118.3 and FM DS 7-11.



**Project:** Caltex Newport Upgrade  
**Location:** Newport VIC  
**Client:** Caltex  
**Services:** Fire Protection

**Detail:** This project involved the major upgrade of fire protection systems across site including tank foam systems and cooling rings, truck loading rack foam deluge, fire water pumps and storage tanks, foam pumps, proportioners and deluge valves. Site upgrade included 11 fuel storage tanks and a six-bay truck loading rack to exceed the requirements of AS 1940, NFPA 11, 15, 16 and API RP 2030.



**Project:** Tomago Aluminium Smelter  
**Location:** Tomago NSW  
**Client:** Tomago Aluminium  
**Services:** Fire Protection

**Detail:** With a requirement to prove the existing hydrant capability for insurance purposes, hydraulic analysis with the use of computer modelling software indicated that the system was adequate though lacked pressure. Detailed system testing followed to corroborate the desk research outcomes and inform a straight forward system upgrade.



**Project:** German Creek Coal Handling and Preparation Plant (CHPP)  
**Location:** Middlemount Qld  
**Client:** AngloAmerican  
**Services:** Fire Protection

**Detail:** Inspection and compliance audit of newly installed hydrant ringmain against AS 2419.1 requirements which had been designed and installed by others. Reported areas of non-compliance and recommended rectifications.



**Project:** Liberty Metal Recycling  
**Location:** Hemmant QLD  
**Client:** Liberty Group  
**Services:** Fire Protection

**Detail:** This project comprised of a Feasibility study, Project Management and design of new fire hydrant system at the operating Brownfield site. The fire system was designed and constructed to support flows up to 6,000 L/min to meet strict Fire Brigade requirements, exceeding the typical Australian Standard system performance.



**Project:** BMA Peak Downs Mine – 2D and 3D Conveyor Deluge System  
**Location:** Winchester QLD  
**Client:** BMA  
**Services:** Fire Protection

**Detail:** Developed Fire Hazard Report to review the fire risks associated with the 2D and 3D conveyors for Peak Downs Mine's raw coal stockpile area. Hydraulic analysis to review the design and performance of the firewater system (deluge and hydrant system) 2D and 3D conveyor. The deluge systems were design in partial compliance with AS 21181, FM 7-11 and NFPA 15, with the hydrant system complying to AS 2419.1.



**Project:** FUCHS Petrolub SE  
**Location:** Beresfield NSW  
**Client:** FUCHS Lubricant  
**Services:** Fire Protection

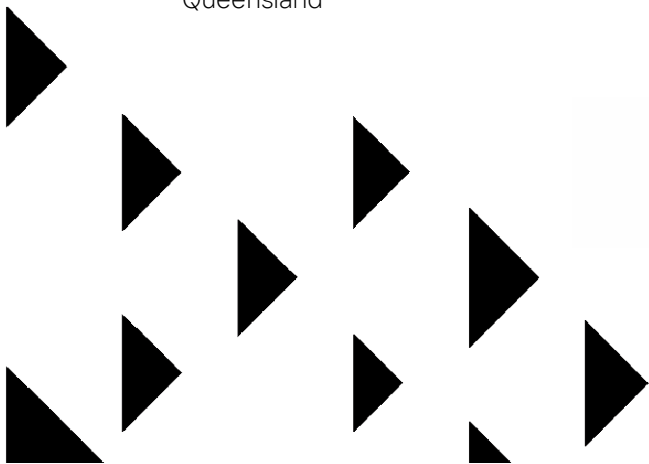
**Detail:** Fuchs new combustible liquid processing and storage facility required a highly complex fire system. Omni's staff members worked on this project as part of a multi-disciplinary team to review fire and safety systems, assess, recommend and install upgrades in accordance with AS 1940, AS 2118.1, AS 2118.3, NFPA 11 and 16 to deliver a compliant system with all necessary Essential Fire Safety Measure (EFSM) certification.





## **OMNII HAS ALSO PROVIDED OUR ENGINEERING AT THE FOLLOWING SPECIAL HAZARDS PROJECTS:**

- ▶ Ichthys Onshore LNG Facility, Darwin Queensland
- ▶ North Parkes Mine, Goonumbla New South Wales
- ▶ Alcan Gove, Nhulunbuy Northern Territory
- ▶ BHP Billiton Mitsubishi Alliance (BMA) Mines Queensland
- ▶ Dysart and Eureka BHP SPVs, Queensland
- ▶ Hay Point Coal Terminal
- ▶ Dugald River Mine Queensland
- ▶ Puma Energy, Mackay Queensland
- ▶ Rio Tinto Yarwun 2, Gladstone Queensland
- ▶ Fishermans Bend Chemical Storage, Melbourne Victoria
- ▶ Moranbah Ammonia Nitrate Facility, Queensland
- ▶ Olympic Dam, Roxby Downs South Australia







Brisbane  
Melbourne  
Sydney

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