

## RAAF PEARCE AND HMAS STIRLING HAZARDOUS AREA INSPECTIONS

Many Defence facilities in Australia have been established for decades and most were constructed before the 'Manual for Infrastructure Engineering – Electrical' (MIEE) was issued in 2011. Electrical equipment installed in these facilities often pre-dates current national explosive atmosphere standards.

Non-compliant electrical equipment in areas used for the storage, handling and processing of fuel, explosive ordnance and chemicals in Defence facilities can pose an ignition risk and a threat to the safety of personnel, and integrity of assets. To eliminate this threat, electrical equipment in hazardous areas must be selected, installed, inspected, and maintained in accordance with national standards.

### THE CHALLENGE

Defence initiated a pilot program to inspect electrical equipment installed in hazardous areas throughout two Australian Defence Force (ADF) bases in Western Australia. Many facilities on these bases were constructed decades ago and have since undergone a variety of maintenance and upgrade activities. The condition of hazardous areas electrical equipment was unclear.

Hazardous areas requiring inspections included explosive ordnance storage and processing facilities, jet fuel and dangerous goods storage areas, aircraft hangars and maintenance facilities.

The project required a unique skill set and comprehensive knowledge of MIEE, chapter 15, 'Defence Explosive Ordnance Publication 101' (eDEOP 101), regulation 6.3, AS/NZS 3000 and the AS/NZS 60079 series of standards.

### OUR APPROACH

Our expert inspections team worked alongside ADF personnel and facility stakeholders to ensure minimal disruption to daily operations.

We undertook an initial review of multiple sites across the two defence bases, completing inspections on all electrical equipment in hazardous areas (EEHA). We provided a concise site compliance report, listing all non-conformances and cross-referencing clauses in relevant standards.

Our hazardous area experts provided recommendations for additional design changes, rectification solutions, equipment selection and engineering solutions to maintain compliance, improve safety and protect personnel.

### OUR SOLUTION

We provided design calculations, lighting assessments and advice on the selection and installation of suitable equipment. Under our expert guidance, all rectification work was carried out by a Defence approved electrical installation contractor. We carried out final inspections and 3rd party quality assurance to verify installation work and close out all non-conformances.

We provided a full hazardous area verification dossier (HAVD) for each facility.

### THE RESULTS

All hazardous areas on the bases were brought up to a compliant condition, eliminating ignition sources and providing a safer working environment for ADF personnel.

The high quantity of non-conforming equipment discovered during our inspections revealed the need for Defence to conduct similar inspection activities on other ADF sites.

