

# Critical Generation & Distribution Enclosures

Acoustic Enclosure & Switchgear Enclosure

## Bespoke Modular Substation Enclosures for a UK Prison

ADE were contracted by a long-standing client - a major UK provider of power generation solutions - to design and manufacture 2 integrated bespoke enclosures that would form a modular substation to provide emergency standby power for a UK prison. The project required a high level of acoustic attenuation, fire integrity, security and off-site integration to minimise on-site works within a secure environment.

The scope consisted of 2 bespoke enclosures designed to bolt together on site: a 65 dB(A) at 1m acoustic generator enclosure designed to house our client's 800 kVA Mitsubishi generator, and a modular electrical enclosure forming the substation. ADE also designed and manufactured a 13,000 litre free-standing bespoke bulk fuel tank to support extended run times for the generator.

The acoustic generator enclosure was fitted out at ADE with a 1,500 litre internal day tank, motorised and gravity dampers, bird mesh and weather louvres. The enclosure was also fully bunded complete with a bund alarm to provide robust environmental protection. Acoustic performance was a key driver, with the enclosure engineered to achieve stringent noise limits without compromising on ventilation or service access.

The modular enclosure consisted of 2 separate rooms: an HV/transformer room and an MV room. Designed for 120-minute fire integrity, it featured a pressure relief vent with a weather louvre and security bars, base and wall cable entry points, and fans and vents for ventilation. Like the generator enclosure, the HV/transformer room was also fully bunded.

Both enclosures were finished in a C4M corrosion protection paint system due to the site's coastal proximity.

The enclosures and bulk fuel tank were dispatched to our client's factory for installation of the generator, switchgear, and transformer, after which they delivered all elements of the completed packaged modular substation to the prison for installation and commissioning by their team of site engineers.

### Products:

- ◆ Acoustic Enclosure
- ◆ Switchgear Enclosure
- ◆ Fuel Tanks

### Industry:

- ◆ Infrastructure

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