



CASE STUDY

ENGINEERING RELIABLE POWER DISTRIBUTION FOR COASTAL DEFENCE ENVIRONMENTS

Actemium UK has delivered a bespoke low-voltage power distribution solution for a major UK naval infrastructure client at HM Naval Base Devonport. Designed, manufactured and tested by Actemium's specialist power engineering team, the feeder pillars provide reliable, resilient power distribution in a demanding marine environment while supporting critical operational and docking activities.

Sector: UK Defence / Naval Infrastructure
Location: HM Naval Base Devonport, England
Client: UK Naval Sector Client

Expertise: Electrical Engineering – Low Voltage Power Distribution
Scope: Design, Manufacture, Testing and Delivery

01

CLIENT & REQUIREMENTS

Our client operates within the UK naval sector and is responsible for supporting critical infrastructure and operational activities at one of the UK's largest naval facilities. Maintaining safe and reliable electrical distribution systems is essential to supporting day-to-day operations, planned maintenance activities and critical docking programmes.

As part of an ongoing infrastructure programme, the client required a robust low-voltage distribution solution capable of operating in a demanding coastal marine environment. The project also needed to be delivered within a highly compressed timeframe to align with operational docking schedules and minimise disruption to key activities across the site.

02

THE CHALLENGE

The client required a series of external low-voltage feeder pillars capable of providing reliable power distribution in a harsh marine environment while meeting demanding project deadlines.

Several key challenges shaped the project:

- **Compressed Delivery Programme:**
The feeder pillars were required within a tight timescale to support critical docking activities and operational requirements.
- **Marine Environmental Conditions:**
The equipment needed to withstand prolonged exposure to coastal weather conditions, including moisture, salt-laden air and corrosion risks.
- **Operational Reliability:** The solution had to provide safe and dependable power distribution while meeting the high standards expected within defence infrastructure.
- **Bespoke Design Requirements:**
The assemblies needed to be tailored to the client's specific operational requirements while maintaining compliance with proven industry standards.

Actemium was selected due to its ability to deliver a bespoke solution within the required programme while leveraging proven, type-tested designs that provided assurance of reliability, compliance and performance.

03

THE SOLUTION

Actemium designed, manufactured, tested and delivered a series of bespoke IP65-rated external feeder pillars complete with associated switchgear and distribution equipment.

The solution was engineered specifically for installation and operation within a marine environment, ensuring long-term durability and reliable electrical performance in challenging coastal conditions.

Each feeder pillar was designed with a heavy-duty weatherproof enclosure and enhanced corrosion protection to maximise operational life and minimise maintenance requirements.

Key Features

- IP65-rated weatherproof enclosure
- C5-M corrosion protection system for coastal and marine environments
- Form 4b Type 6 internal separation
- 400V Operating Voltage
- 400A Rated Current
- 35kA Short Circuit Withstand rating for 1 second

The combination of a robust enclosure design, advanced corrosion protection and type-tested switchgear assemblies delivered a safe, durable and reliable low-voltage distribution solution capable of supporting the client's operational requirements both now and in the future.



04

DELIVERY PROCESS

Actemium managed the project throughout the complete lifecycle, from design through manufacture, testing and delivery.

Design Phase

The project team developed a bespoke feeder pillar solution tailored to the client's operational requirements and the challenging environmental conditions of the installation location. Particular emphasis was placed on durability, safety and long-term reliability.

Manufacturing

The feeder pillars were manufactured using proven, type-tested designs and assembled to stringent quality standards. All associated switchgear and distribution equipment were integrated within the weatherproof assemblies to create a complete low-voltage distribution solution.

Testing

Comprehensive factory testing was undertaken prior to delivery to verify electrical performance, operational functionality and compliance with project requirements. This process ensured the equipment would perform reliably once installed on site.

Delivery

Working within a highly compressed programme, Actemium successfully delivered the feeder pillars in line with the client's critical docking schedule, helping to maintain project momentum and avoid costly delays to operational activities.

05

CLIENT BENEFITS

- Reliable low-voltage power distribution in harsh marine environments.
- Delivered to a highly compressed programme to support critical docking schedules.
- Enhanced protection against corrosion, moisture and environmental exposure.
- Improved safety through Form 4b Type 6 internal separation.
- Proven, type-tested design reducing project and operational risk.



06

PROJECT HIGHLIGHTS

- Bespoke low-voltage weatherproof feeder pillar solution.
- Designed for a demanding coastal marine environment.
- IP65-rated enclosures with C5-M corrosion protection.
- 400V System Voltage
- 400A Rated Current
- 35kA Short Circuit Withstand Capability for 1 second
- Form 4b Type 6 Type of Separation
- Delivered to support critical docking schedules.
- Type-tested design ensuring proven performance, compliance and reliability.

TECHNOLOGY PARTNERS



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