



CASE STUDY

DELIVERING FLEXIBLE TEMPORARY POWER INFRASTRUCTURE FOR THE UK NAVAL SECTOR

Actemium UK has delivered a bespoke Mobile Substation Container for a leading UK naval infrastructure client, supporting critical power resilience and operational continuity at HM Naval Base Portsmouth. Developed using Schneider Electric's Okken low-voltage switchboard platform, the solution provides a highly flexible temporary power asset capable of supporting infrastructure upgrades, maintenance works and future operational requirements across the site. The project demonstrates Actemium's specialist expertise in delivering innovative, resilient electrical infrastructure solutions for mission-critical defence environments.

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

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

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CLIENT & REQUIREMENTS

Operating within the UK's naval infrastructure sector, our client is responsible for maintaining and modernising critical electrical assets that support essential naval operations. As part of an ongoing programme of infrastructure investment and renewal, the organisation required a flexible temporary power solution capable of supporting substation upgrades, replacements, and planned maintenance activities across a large operational naval base.

Given the critical nature of defence infrastructure, maintaining power availability and minimising operational disruption were key project requirements.

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THE CHALLENGE

The client required a mobile low-voltage substation that could be deployed quickly wherever temporary power was needed throughout the naval base. Several key challenges shaped the project requirements:

Tight Delivery Programme

The solution was needed within an accelerated project schedule to align with wider infrastructure upgrade programmes and minimise delays to planned works.

Operational Flexibility

The mobile substation needed to support a wide variety of temporary power applications at multiple locations across the site, requiring a highly adaptable and manoeuvrable design.

Reliability in Demanding Environments

The equipment would be used in operational naval infrastructure environments where safety, reliability, and resilience are essential. The system needed to deliver dependable performance under varying conditions.

Future Deployment Requirements

The client required a reusable asset that could support ongoing infrastructure projects for years to come, maximising return on investment while providing long-term operational flexibility.

Actemium was selected based on its specialist expertise as a Schneider Electric-approved Okken partner and one of only two accredited Okken system integrators in the UK, providing the technical capability and manufacturer-backed support required to deliver the project successfully.

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THE SOLUTION

Actemium designed, manufactured, tested and delivered a bespoke Mobile Substation Container incorporating an integral low-voltage switchboard.

The solution was engineered specifically to provide temporary power during substation upgrades, replacements, maintenance activities, and other operational requirements across the naval base.

Mobile Substation System

The containerised design delivers a self-contained temporary power solution that can be transported and positioned rapidly wherever required.

This innovative approach combines the proven performance of fixed electrical infrastructure with the flexibility and convenience of a mobile asset, providing the client with a highly versatile power distribution platform.

Schneider Electric Okken Switchboard

At the heart of the solution is a Schneider Electric Okken low-voltage switchboard selected for its reliability, safety performance, and suitability for demanding operating environments.

The switchboard was configured as follows:

- 400V System Voltage
- 2500A Rated Current
- 80kA Short Circuit Withstand Capability for 1 second
- Form 4b Type 6 Type of Separation
- Robust, scalable low-voltage power distribution architecture

This specification ensures the system can safely support a broad range of temporary power requirements while maintaining high levels of resilience and protection.



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DELIVERY PROCESS

Actemium managed the complete project lifecycle from concept through to delivery.

1. Design Engineering

Developed a bespoke containerised substation solution tailored to the client's operational requirements, mobility needs, and electrical performance criteria.

2. Manufacturing

Constructed the mobile substation and integrated the Schneider Electric Okken switchboard within the containerised environment, ensuring compliance with all applicable standards and specifications.

3. Factory Testing

Conducted comprehensive testing and verification activities to validate performance, safety, and reliability before deployment.

4. Delivery

Successfully delivered the completed mobile substation within the client's accelerated programme, ready for deployment across the naval base.

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CLIENT BENEFITS

Operational Continuity

The mobile substation enables planned maintenance, refurbishment, and replacement of fixed substations without compromising power availability to critical naval infrastructure, helping maintain operational readiness.

Rapid Deployment

The containerised design allows the system to be positioned and commissioned quickly wherever temporary power is required, significantly reducing outage durations and project disruption.

Enhanced Flexibility

Unlike traditional fixed infrastructure, the mobile substation can support multiple projects and locations throughout its operational life, providing a highly flexible and reusable asset.

Resilience and Reliability

The Schneider Electric Okken platform delivers a proven, industry-leading power distribution solution capable of performing reliably in demanding operational environments.

Long-Term Value

By creating a mobile temporary power asset rather than a location-specific installation, the client gains a versatile infrastructure solution that can support future upgrade programmes, maintenance activities, and emergency power requirements across the site.

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PROJECT HIGHLIGHTS

- Bespoke mobile substation solution for the UK naval sector.
- Schneider Electric-approved Okken technology.
- One of only two UK-accredited Okken system integrators selected to deliver the project.
- 400V System Voltage
- 2500A Rated Current
- 80kA Short Circuit Withstand Capability for 1 second
- Form 4b Type 6 Type of Separation
- Designed for rapid deployment and high manoeuvrability.
- Supports infrastructure upgrades, maintenance, and emergency power requirements.
- Enhances operational resilience while maximising asset utilisation.

TECHNOLOGY PARTNERS



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