HMF
Engineering and Project Management Consultants

Project Overview

Fiddler's Ferry 275kv Substation

Engineering Design Project

HMF Consultants delivered a comprehensive engineering design package for the Fiddler' s Ferry 275 kV Substation project, supporting the development of grid infrastructure required for large-scale Battery Energy Storage Systems (BESS).

This project contributes to strengthening the UK electricity network and enabling the integration of renewable energy sources as part of the UK Net Zero and decarbonisation strategy.

Through coordinated electrical engineering design and system studies, HMF supported the safe, compliant, and reliable integration of the proposed infrastructure within the existing transmission network.

Advanced Engineering. Coordinated Delivery. Reliable Grid Performance.



HMF
Engineering and Project Management Consultants

Project Location

Warrington, United Kingdom (WA5 2UT)

The Fiddler' s Ferry site is located in Warrington and has historically been an important power generation facility within the UK energy network.

Following the decommissioning of the coal-fired power station, the site is now being redeveloped to support modern energy infrastructure, including grid-connected battery storage and supporting transmission assets.

The project aims to strengthen grid stability while enabling future renewable generation and storage integration within the regional transmission network.



Swipe

HMF
Engineering and Project Management Consultants

Key Engineering Deliverables

HMF Consultants developed detailed technical documentation and engineering design deliverables including:

* Design and development of 275 kV Single Line Diagrams (SLD), KLD and LVAC schemes

* Execution of 275 kV and 33 kV cable system studies and calculations

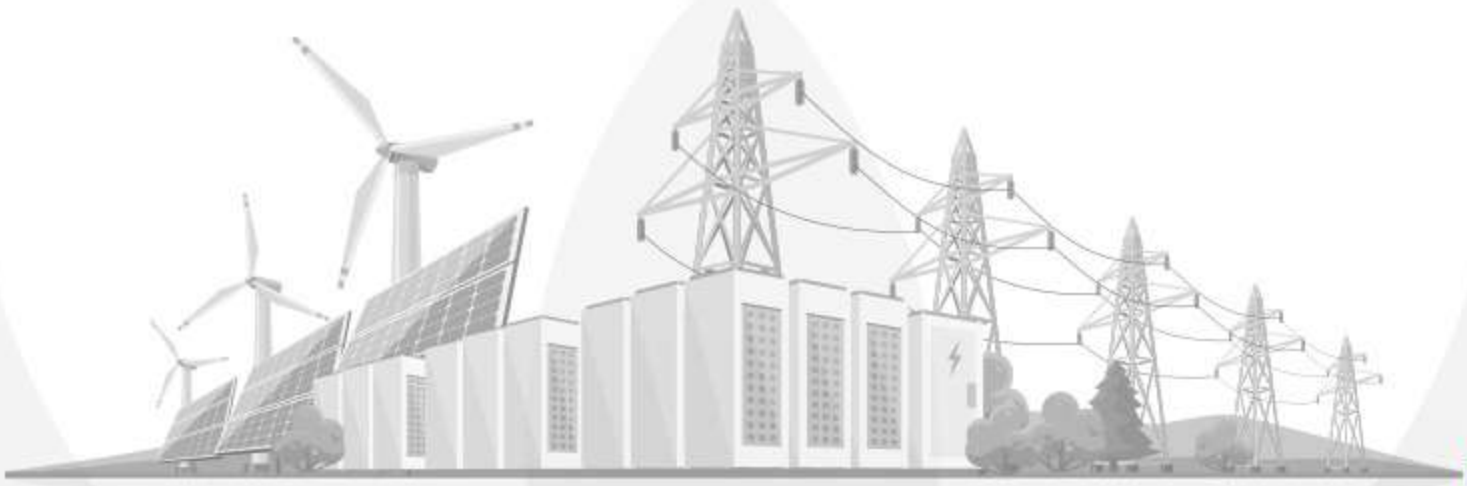
* Development of 275 kV cable routing and bonding design

* Earthing system design and analysis for the BESS site infrastructure

* Development of AIS layout for transformer compound and NG compound

* Control and protection block diagram development for the site infrastructure

These deliverables ensure safe integration of the system while maintaining compliance with grid operational requirements.



Swipe

HMF
Engineering and Project Management Consultants

Project Background

SSE Renewables and SSE Utility Solutions are developing a number of Battery Energy Storage System (BESS) projects to support the UK's transition toward low-carbon electricity generation.

The Fiddler' s Ferry development includes the application for a grid-connected 150 MW BESS facility, designed to improve:

- Grid stability
- Energy storage capability
- Network resilience
- Renewable integration capacity

The project plays a key role in supporting flexible energy infrastructure as the UK continues its transition toward sustainable power systems.

HMF Consultants were engaged to deliver detailed electrical engineering design and system studies required for the integration of the BESS facility with the existing grid infrastructure.



Swipe

HMF
Engineering and Project Management Consultants

Engineering Scope

HMF Design Scope

HMF Consultants delivered a coordinated multi-disciplinary engineering design scope including:

Electrical Engineering Design

* Cable system design studies
* Power system analysis and modelling
* Electrical primary design development
* Electrical secondary design development
* MEP design integration

Engineering Coordination

In addition to core design delivery, HMF supported the project through:

* Regular technical design reviews with SSE and OCU
* Coordination across multiple engineering disciplines
* Compliance with UK transmission system standards
* Principal Design Engineering support

The design approach focused on ensuring constructability, safety, and long-term operational reliability.



Swipe

HMF
Engineering and Project Management Consultants

Why HMF Consultants?

Trusted

A proven engineering partner supporting complex grid infrastructure and substation development projects.

Proven

Extensive experience in high-voltage transmission and distribution network design, including grid integration for renewable and energy storage projects.

Power-Focused

Dedicated expertise in electrical engineering, power system studies, and substation design delivery.

Multi-Disciplinary Capability

HMF provides coordinated engineering services across:

* Primary electrical design
* Secondary and protection systems
* Civil and structural integration
* Cable routing and infrastructure design

Our approach ensures safe, compliant, and future-ready grid infrastructure solutions.

www.hmfconsultants.co.uk