Marrion House CHP Site Build Project

ProGen was tasked with delivering HV and LV electrical services for a £450,000, 4MW CHP system at Marrion House, Leeds, for Leeds Council. In a tight city centre basement, we coordinated bespoke installations, including HV/LV systems, lighting, fire/security, and ATEX gas detection. Completed on time, the project highlighted ProGen's expertise in complex urban settings.



Client	Project Value	Project Type	Location
Edina	£450,000	Industrial	Marrion House, Leeds

Background

Context: ProGen was commissioned to design and build the full LV (Low Voltage) and HV (High Voltage) electrical services for a bespoke 4MW Combined Heat and Power (CHP) system for Leeds Council. The CHP system was to be located within a basement of the Leeds City Centre council office tower block.

Objectives: To deliver a fully operational CHP system while navigating the engineering complexities associated with a city centre installation.

The Challenge

The project was particularly challenging due to space constraints within the city centre basement, which required meticulous scheduling for deliveries and work. Coordination with mechanical and other service contractors was essential to the successful execution of the bespoke electrical systems for the two gas 11KV CHP engines.

Project Scope

Key Deliverables:
Comprehensive design and installation of both HV and LV electrical systems tailored for the bespoke CHP setup.

Inclusions/Exclusions:
Included: Full electrical service design and installation, including special systems for gas detection and fire/security.

Excluded: Non-electrical elements not specified in the project scope.

Methodology

Coordinated Management: ProGen coordinated the entire electrical installation in-house, ensuring exceptional control over the project despite the tight constraints of the site. This included managing all specialist trades required for the project.

In-House Expertise: Leveraged in-house design and engineering capabilities to maintain quality and schedule compliance throughout the project.

Execution

Co-ordination and Design:
Provided full design services for HV and LV electrical systems, ensuring no clashes with existing onsite services.

HV Infrastructure
Delivered comprehensive 33KV and 11KV infrastructure, including HV cable containment and cabling. Managed removal as well as termination and jointing of HV cabling internally.

LV Distribution
Handled all LV cabling and containment along with the installation and commissioning of new LV switchgear for effective power distribution.

Lighting
Installed a complete lighting package throughout the compound area to ensure adequate illumination.

Fire and Security
Delivered a full fire alarm and security system package, specifically tailored to meet the project requirements and specifications.

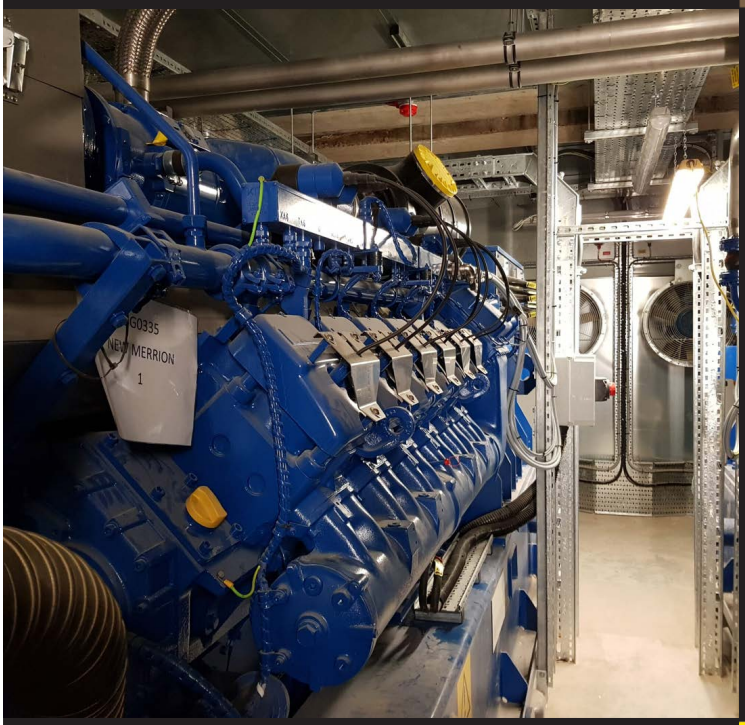
Gas Detection
Implemented an ATEX-compliant gas detection system throughout the gas engine containers to ensure safety and compliance.

HV Substation Fit-Out
Fitted out the new HV substation with necessary lighting and power as per the specifications provided by Western Power Networks.

Results

The project was successfully coordinated and delivered on time, establishing ProGen's capabilities in the CHP sector. The success of this project provided a solid foundation for future work within the power generation field.





Lessons Learned

Effective communication and coordination among all trades are crucial to overcoming challenges in confined spaces and ensuring project success.

The use of in-house expertise can significantly streamline project execution and enhance quality control.

Conclusion

ProGen's successful completion of the Marrion House CHP project demonstrates their expertise in delivering complex electrical installations within urban environments. The project not only met the operational needs of Leeds Council but also positioned ProGen for additional opportunities in the CHP sector.

