

CASE STUDY



PROJECT: Power station transformer retrofills | UK

ESTER TYPE: MIDEL 7131 synthetic ester

PURPOSE: Improve fire safety and reduce site costs

[OVERVIEW]

One of Western Europe's oldest power stations, generating 600 megawatts of electricity and with a reputation for enhanced efficiency and environmental stewardship, took the decision to retrofill four on-site distribution transformers with MIDEL 7131 synthetic ester transformer fluid; doing so allowed for the removal of the high pressure water deluge fire suppression system.

As part of a larger re-engineering project, one part of the power station ceased generating power in 2020. Consequently, several parts of the station were decommissioned. As the electrical systems were being reconfigured, several transformers were taken out of service. Four transformers were selected to remain in place in order to provide site electricity supplies; however, the existing fire suppression systems for these transformers were also marked to be decommissioned.



CASE STUDY



[SITUATION]

A MIDEL Service Partner, Grosvenor Oil Services, was contracted to deliver the retrofilling project at the power station, following engineering reviews to ascertain the most effective solution. It was decided that using MIDEL 7131 could deliver benefits on more than one level.

The proposal to retrofill the transformers with MIDEL 7131 was reviewed by independent consultants and fire advisors. The proposal was also put forward for further cost analysis with the result that the retrofilling was given the go-ahead.

The transformers in question were manufactured by Brush Electrical Engineering in 1967 and were rated as:

- Two transformers at 1500kVA, 6.6kV to 415V, 3 phase
- Two transformers at 750kVA, 6.6kV to 415V, 3 phase

[RESULT]

The retrofilled units are currently in service with no reported issues after oil analysis regarding moisture, oil breakdown or gassing.

MIDEL 7131 is the world's leading biodegradable synthetic ester transformer fluid – FM approved and UL classified. It is used in power and distribution transformers, including sealed and free-breathing designs, to deliver fire safety, environmental protection and cost savings - in this case, the power station operator was able to remove the cost of replacing and maintaining large mulsifyre systems.

MIDEL 7131 is used in a wide range of transformer applications and is proven up to 420kV.

“Retrofilling transformers in critical infrastructure obviously demands the highest levels of assurance. MIDEL 7131 delivers that assurance for fire safety, biodegradability and transformer longevity.”

Gavin Allen
Managing Director, Grosvenor Oil Services (a MIDEL Service Partner)

The use of MIDEL ester fluids in this project supports the following UN Sustainable Development Goals:

