

Background

An important and historical site in central London had been refurbished during which five silicone transformers were replaced with mineral oil filled units.

Due to the room dimensions, materials used and lack of fire prevention equipment the substation no longer complied with BS EN 61936-1:2010.

The customer had a choice of further intrusive construction, prolonged outages and expense of installing fire prevention or upgrade the transformers to a K Class insulating liquid.

The decision was taken to upgrade the existing transformers to MIDEI 7131 and Eden were contracted to retrofill each transformer in-situ during one weekend day per transformer.



Solution

The mineral oil was removed US specification drums for removal from site to Eden licensed waste oil storage site and over one week day per transformer the units was professionally upgraded to MIDEI 7131.

A professional upgrade requires dedicated MIDEI 7131 equipment, procedures and staff accredited by the manufacture of MIDEI. The process includes time to allow the removal of excess oil, heating the liquid to 60-80°C, further cycles of purification via vacuum dehydration plant and new gaskets.

Benefits of MIDEI 7131

Fire Safety

- 100% fire safety record.
- High fire point >300°C.
- Classified as K-class.
- FM Global® approved transformer fluids for lower insurance premiums (supports Highly Protected Risk status).
- UL® Classified for lower insurance premiums.

Environmental Protection

- Readily Biodegradable.
- Non-Water Hazardous.
- Non-Toxic.
- Recoverable and dispersible at sea using standard methods.
- Non-Volatile.
- Will not evaporate into the environment.

Transformer Life Extension

- Use of MIDEI can prolong cellulose lifetime.
- This can in turn prolong transformer service.
- Wet transformers can also be returned to service.

Lower Operating Expense

- MIDEI's superior moisture tolerance results in lower future maintenance such as purification and / or liquid changes normally associated to mineral oil thereby avoiding maintenance costs and production outages.
- Many insurance companies give improved premiums for MIDEI filled transformers.

Improved Overload Resistance

- Based on the IEC 60076-14 curve an MIDEI transformer can run 15°C hotter with the same lifetime as a mineral oil transformer.
- This allows higher normal running temperature.
- Temporary overload temperature can also be higher.
- MIDEI fluids have a much higher flash point than mineral oil, allows safe running at higher temperatures.

Suitable For transformers In High Risk Areas

- Industrial buildings.
- Residential buildings.
- Public buildings (schools, hospitals etc.).
- No risk of pool fires.
- Reduced clearances to other equipment or buildings (BS EN 61936-1:2010).

About Us

Eden was formed by Alan Denbow and Eddie Gregory in August 1985.

Former employees of Burmah Castrol, they realised that the vast majority of electrical engineers were simply replacing expensive transformer oil without fully appreciating the additional technical benefits of purification to the electrical equipment, and that Eden could achieve a more convenient solution at a significantly lower cost.

In more recent years the treatment of transformer oil is the first choice for a cost effective and efficient maintenance program: the increasing cost of new oil, the importance of productivity and equipment downtime, coupled with the environmental benefits of avoiding the transportation of hazardous waste and use of virgin products, are all part of the equation.

As well as providing on-site transformer oil treatment, if needed, Eden can supply and install new or reconditioned insulating liquid and provide all of the on and off-site sampling and analysis to ensure transformers are supervised and maintained according to British Standards (BS EN 60422:2013) and insurance underwriters requirements.

Our online store is ideal for customers requiring smaller quantities of insulating liquids, desiccant breathers, spill kits and other regularly used consumables. All of our products are sourced in the UK and used on site every day by Eden staff, so they are tried and tested in the field.

Eden Transformer Oil was the first company in the world to be accredited MIDEL Service Partners and has carried out many MIDEL retro-fills on site.



Registered Address

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Waste Carrier License: CBDU1214230 **Waste Storage Permit :** EPR/BB3506LF