CASE STUDY

MIDEL®
SAFETY INSIDE

PROJECT: **$500k savings at rural retrofill | Australia**

ESTER TYPE: MIDEL 7131 synthetic ester

PURPOSE: Deliver secure energy to rural customers

[OVERVIEW]

At a rural electrical substation in the Central Highlands of Australia, a regional network operator deployed MIDEL 7131 synthetic ester transformer fluid - and by doing so saved half a million dollars in civil works.

Ergon Energy Networks in Australia supplies electricity to more than 750,000 customers across an operating area comprising over one million square kilometres – around 97% of the state of Queensland – from the coastal and rural population centres to the remote communities of the region's Central Highlands. Ergon prides itself on safely delivering secure, affordable and sustainable energy solutions to its customers.

CASE STUDY

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[SITUATION]

An engineering review led to the existing transformer at Ergon's Comet substation, approximately 300km west of Rockhampton, being selected for retrofilling. The unit, rated at 66/22kV, 6.3MVA, had been in operation for ten months, using mineral oil as the insulating fluid. The immediate advantages of using MIDEL 7131 were clear:

- >300°C fire point
- Fully/readily biodegradable
- High oxidation stability
- Superior moisture tolerance (protecting the transformer's solid insulation and thereby extending its lifetime)

But the economic advantages were also clear, as explained by the project manager, Steven Lowry: "Comet substation is very small, and if we were to install a traditional oil containment system, it would require us to expand the site and that would be a really expensive exercise."

[RESULT]

MIDEL 7131 was deployed, and the retrofilling was completed with minimal disruption to the substation operations.

Steven Lowry continued with his assessment of the project and how MIDEL delivered tangible financial benefits: "We are using an earthen bund arrangement that directs the ester to an oil separation tank, and that has resulted in a saving of approximately half a million dollars on this project. This means we can realistically look at doing something similar at some of our other rural substations, and we can do it in a much more environmentally responsible and safe way that delivers value for our customers."

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

SUSTAINABLE DEVELOPMENT GOALS

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE