

FIRE - A fire and explosion occurred at an electrical transformer substation located at an overseas cement works

WHAT HAPPENED

During operations on the secondary side of the 63kV transformer, two electricians heard crackling sounds and immediately exited the substation, shortly after, the equipment exploded and a fire commenced on the external transformer. Firefighters were alerted immediately, which helped mitigating the consequences of the fire.

The electricians were in a state of shock but did not require medical attention. This incident had potential for multiple fatalities.

Intervention:

- 50 firefighters with 15 vehicles, 2 hours to extinguish, monitoring until cooled to 55°C
- Power cut performed by the national electric grid
- Approx 50 m³ of water used to extinguish the fire

Damage:

- 1 transformer 63kV/15kV (6-12 month lead time to procure)
- 1 transformer 15kV/400V
- 5 high-voltage switchgear circuit breaker cubicles

Buisness impact:

High voltage infrastructure such as that affected, has lead times to procure in the range of up to 12 months causing excessive downtime and risk to life and business reputation.

LEARNING POINTS / ACTIONS TAKEN

This incident is still under investigation however it provides a useful reminder that the following should be applied to all sites.

- Ensure high voltage maintenance is up to date.
- Ensure transformer bunds are kept dry, pumped out regularly.
- Access to electrical areas is by authorised persons only.
- Critical assets and single points of failure equipment should have pre-prepared procurement plans and/or spares.

LOCATION: CEMENT PLANT
ACTIVITY: FIRE SAFETY
SUB ACTIVITY: NO SUB ACTIVITY AVAILABLE

ALERT STATUS: Normal
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INCIDENT No: 04952