

Rehabilitation Solution for Old Transformers

Case Study:

Failure of Power Transformer during operation in customer network.

Rating: 40 MVA Three winding
Voltage: 6.6/13.8/132 Kv
Manf. Year: 1982
End User: Saudi Electricity Co. , Makkah area



Failure Analysis:

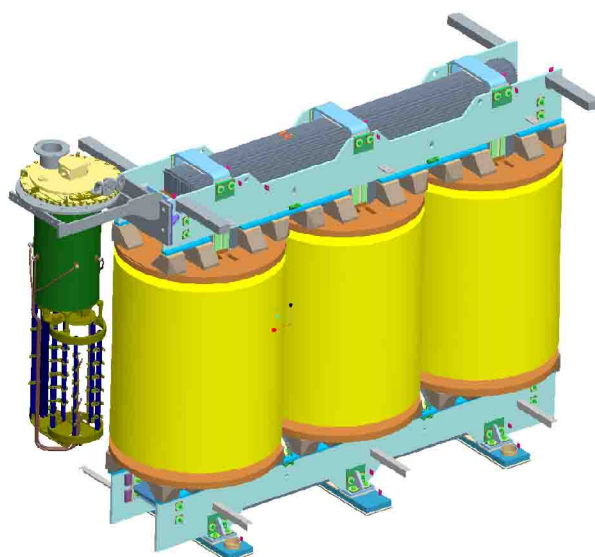
- After investigation it was observed that winding was severely damaged with heavy carbon deposits on insulation and in the oil.
- The cause of the problem is major arcing happened inside the winding due to degradation & ageing of insulation (32 years).
- Tap changer parts require replacement however tap changer model is obsolete.

Solution:

Design a new complete active Parts “winding, core, and tap changer” that fit inside existing tank, with all existing auxiliaries

Benefits to Customer:

- Significant life extension with new active parts designed for 30 year.
- Rehabilitation cost is significantly lower than new transformer price.
- No requirement for site modification which is normally required for new transformer to fit in place of the old one.
- Faster delivery than the procurement of new transformer.



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SAUDI POWER TRANSFORMERS COMPANY