The consequences of a traction transformer failure can be catastrophic. This is why operators demand high availability and a rapid recovery time after an outage. With an aging fleet of transformers and tight maintenance budgets, on-board traction transformers remain in service well past their optimal life spans.

The story
When a traction transformer fails, one of your major assets has stopped producing but is still accruing costs. ABB knows railway operators need their valuable assets up and working as soon as possible. As the largest traction transformer manufacturer in the world, ABB also knows the challenges end-users face and how to meet them. Speed is crucial in a railway environment.

Depending on the condition of the failed unit, ABB will replace the defective or aged parts such as winding blocks, insulation kit, cleats and leads structures, core or accessories according to the original design or to a new redesign with improved short circuit withstand, lower losses, less noise, different voltage level or extra power.

ABB uses state of the art design tools, highly efficient process and manufacturing tools and its knowledge of new materials to repair the failed unit or even to upgrade it by improving its original features.

Customer need
The customer was eager to develop a new supplier who would respond quickly in the case of corrective repair needs and ensure extended life for their ETR500 traction transformer while mitigating the risks of outage by supplying an additional spare traction transformer.

ABB response
The decision by the customer to choose ABB, the railway specialist, was due to their in-dept original design knowledge, extensive workshop facility and the ability of ABB to provide world class quality repair according to the latest technologies which supported high end process and testing.

Customer benefits
- Short leadtime as inspection, cleaning, diagnostic measurement and active part and reactor exchange were performed quickly.
- Increased reliability due to the replacement of all gaskets and damaged accessories.
- Reduced risk of outage due to replacement of windings, active part assembly and tanking.
- Optimized repair/manufacturing costs.
Factory Remanufacturing/Repair
Transformer factories and workshops are characterized by their orderliness, cleanliness, heavy lifting equipment, special tools and fixtures, specialist experienced teams in each process area, drying facilities and test bays. We provide performance improvement and increased value of existing equipment due to full technical restoration, modernization and complete component check.

Repairing a traction transformer, instead of replacing it, can in certain cases lower your capital maintenance cost drastically and provide quicker turnaround than buying new.

Other advantages of remanufacturing
Remanufacturing is faster so the unit could in some cases be back in use before the new unit is even out of assembly.
Improved lead-time by remanufacturing aged units in dedicated service factories or repaired directly at site.
 Transformers in critical condition that are remanufactured or repaired as a preventive measure, increase asset life and availability.
Long lead time items can be ordered in advance because the design is already available.
Transformer footprint and arrangement does not change.
Improved materials leading to improved efficiency.

Quality
ABB service factories are ISO 9001, ISO 14001 and IRIS certified. ABB believes and strictly applies quality systems, especially where the environment is concerned. ABB's factories use special instructions to ensure proper handling of old and/or hazardous materials. The same Quality Plan is used for both new and remanufactured transformers. Quality documentation follows the unit from shipping to disassembly and all the way through the process back to shipping to the customer site.

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