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.

**Customer need**
This French National Railway Company was eager to develop a new supplier who had the ability to minimize downtime, deliver a quick response while also extending the life of their 3 traction transformers.

**ABB response**
Between 2008 and 2009, ABB performed factory repairs on 3 transformers of French National Railways BB36000 locomotives. The work performed included:
- Inspection, cleaning, diagnostic measurements, design expertise, high end process and testing in a world class extensive workshop facility.
- 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.

**Scope of repair**
- Inspection, cleaning and diagnostic measurement
- Exchange of active part and reactors (w windings and core)
- Replacement of all the gaskets and damaged accessories such as LV & HV Bushings, oil level indicator, valves
- Revision of pump and cooling system
- Electrical routine tests according to IEC standards
- Oil Analysis after repair

**Customer benefits**
- New supplier alternative
- Short lead-time
- Increased reliability
- Reduced risk of outage
- Optimized repair costs

**Non-ABB transformers**
These transformers were not ABB products, but originally manufactured by a French competitor. ABB's ability to perform these repairs shows the company's ability to understand and work with third-party products.
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 900, 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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