ABB transformer remanufacturing factories have access to original design files, documentation and technologies used over the last century within the ABB family as well as the current global common design system and manufacturing and quality practices used by ABB transformer factories throughout the world.

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

Before proposing any advice on whether the unit should be repaired at site or in remanufacturing facility, retrofitted or replaced by a new one, ABB usually performs a deep diagnosis to assess the condition of the unit. It may also pre-order some material and better plan the repair work in order to reduce the lead time. 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. Repairing a transformer, instead of replacing it, can in certain cases lower capital maintenance cost dramatically and provide quicker turnaround than buying new. An economical evaluation should be done on a case by case basis.

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
– Leak proof gasket and corrosion protection system
– Short circuit performance is improved
– Improved materials: hi-density pressboard, harder copper, and high temperature

Quality
ABB service factories are ISO 9001 and ISO 14001 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.
Quality
Our customers can rely on ABB Field Service Engineers to train personnel, supervise installations, perform commissioning of the complete installation. Some repairs can even be carried out directly on site by our well-equipped field personnel to avoid significant transportation time returning the transformer to the remanufacturing facility. This way ABB can reduce the total through-put time of the repair and have your unit back in service faster.

Conclusion
ABB works with our customers to develop a repair plan which goes beyond replacing worn out parts. The ultimate result is a remanufacturing that ABB calls “as-new” compared to the original.

Customer Success Stories
1. Utility: A condition assessment done by ABB for a large utility showed hotspots in a 400 MVA generator transformer built in the 1970’s. The transformer was remanufactured and upgraded.
   Benefit for the customer:
   – The remanufactured unit that now provides 25 MVA more than before (from 400 to 425 MVA)
   – Maintenance costs will be reduced over the coming years
   – Cost recovery for remanufacture reported to be made within 3 years

2. Industry: An aluminum smelter wanted 20% more power to increase its production. A regulating transformer built in the late 1970’s was returned to ABB’s remanufacturing facility for retrofitting.
   Benefit for the customer:
   – Elimination of circulating current due to new leads design
   – A new winding design optimized for the new application allows 30 MVA extra power (from 150 to 180 MVA)
   – Lower losses resulting in 10% savings of operating cost.

ABB family includes brands such as: ABB, ACEC, ASEA, Ansaldo, Breda, BBC, CGE, Challenger, Elektrisk Bureau, Elta, GE (> 40 MVA), GTE, Gould, IEL, ITC, ITE, Indelve, Industrial Design, Italtrafo, Lepper, MFO, Marelli, Moloney, National Industri, No-Tra-Mo, Ocren, OEL, OTE, Richard Pfeiffer, Sécheron, Stromberg, TIBB, Thrige, Westinghouse, Zinsco.

For more information please contact:

ABB Ltd.
Transformer Services
Affolternstrasse 44
P.O. Box 8131
8050 Zürich
Switzerland

www.abb.com/transformers

Note:
We reserve the right to make technical changes or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. ABB AG does not accept any responsibility whatsoever for potential errors or possible lack of information in this document. We reserve all rights in this document and in the subject matter and illustrations contained therein. Any reproduction, disclosure to third parties or utilization of its contents – in whole or in parts – is forbidden without prior written consent of ABB AG.