



### Background

It is difficult and expensive to ship large transformers to repair facilities. Fortunately, GE now offers on-site EHV rewinds up to 1000MVA and 500KV, as well as the capability to perform internal repairs, in the field. This can substantially reduce costs while maintaining precision and quality.

### Lower costs, faster action

For larger transformers, the cost for rigging and transportation to a repair facility can reach \$500,000 to \$1,000,000 – *each way* – and the round trip can easily take three months. The risk of shipping damage also comes into play, especially if the unit needs to travel overseas. So utilities and large industrials have many good reasons to repair a transformer in the field. At times, repairs can be effected in the field in less time and for less money than the transportation cost alone. Examples include:

- Tank shield repairs
- Catastrophic bushing failure with heavy contamination
- DETC failure
- Oil box repair

With GE's On-site Rewind, repair projects can start immediately instead of waiting a month or two to procure a rail car and ship the unit.

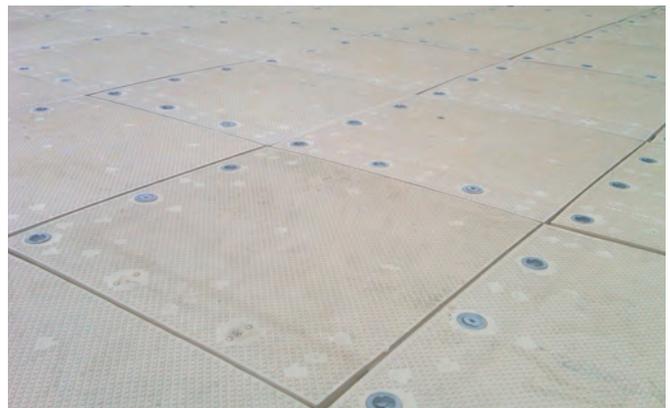
### Full IEEE/ANSI testing

Field repairs have been possible before, but not with fully portable IEEE/ANSI testing that GE now offers, including:

- Induced testing with partial discharge – up to 1200MVA (see fact sheet GEA17945)
- No load loss, load loss and temperature rise testing – up to 800MVA (see fact sheet GEA18461)
- Portable impulse testing – up through 500KV (see fact sheet GEA19211)

*GE also provides these testing services on a stand-alone basis.*

### A controlled environment



Interlocking floor installation

GE's on-site rewind facility consists of a double-insulated fabric building that is 56' W x 60' W x 44' H – plenty of room for even the largest transformer. Prior to erecting the building, GE constructs an interlocking composite floor designed to withstand the weight of even the largest transformer. When the building is installed over the floor, it is pressurized through three HVAC units located outside of the building, which allow proper temperature and humidity control regardless of the ambient conditions.



## On-Site Transformer Rewind

# fact sheet

Inside the building, a gantry crane is used for coil and top clamp removal. Specially designed core stacking fixtures are provided to simplify core steel removal and storage.



Once the transformer is inside and ready for disassembly, all access is through a man door where particulate contamination is controlled and where all individuals entering the main building are required to wear new, clean foot protection.

As in all rewinds, the transformer is redesigned to take advantage of the latest materials and design advances. New coils are manufactured for all units at one of our winding Centers of Excellence and shipped to the site in protected trailers on specially designed clamping plates that protect coil integrity during transportation.

At the completion of assembly, a portable electric fired oven is erected around the transformer. GE has designed coalescing filters that remove 95% of emissions from the dryout process, minimizing environmental concerns or permitting. Once the unit is ready for tanking, we simply remove the top of the oven and tank the unit with minimal exposure to ambient conditions.

The most important aspect of a repair is our people. GE will assign a project manager with direct transformer technical expertise, but also someone who has great customer savvy. This person would provide daily updates, detailed work planning for all key aspects of the job and regular status on planned vs. actual via Microsoft Project. Our project manager would be leading a team of dedicated transformer technicians who will perform the actual repair. All testing would be performed by one of our highly trained test personnel. GE will provide everything needed to perform a complete repair at your facility.



For more information, contact your local GE Energy office, call 1-888-GE4-SERV or 540-378-3280, or visit [www.ge-energy.com/industrial](http://www.ge-energy.com/industrial)

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