

PowerPatch™ Repair of Xcel Energy Substation Transformer

Problem: Excel Energy in Minnesota had a badly leaking substation transformer in Morton, Minnesota that was leaking oil from the doors and bolts. The transformer was over 30 years old.

Solution: Xcel called us to come out and apply PowerPatch™ to the transformer to attempt a fix instead of replacement or removal from service. The bolts and doors were prepared by Xcel field crews prior to our arrival. The paint and metal were sanded to prepare the metal surface for the application of PowerPatch™. To remove the oil, the sanded area was then wiped clean with the Type TR™ cleaner provided in the complete PowerPatch™ kit (catalog #EP-KIT). A small piece of the putty stick was cut, mixed, and then applied to the outer portion of the door first. We found that we had to roll the putty into a rope and work around the doors to stop the leak. We left a small area on top for the last bit of putty to seal the door seam entirely. Next, PowerPatch™ was applied over the putty and to the door seam to complete the repair. The bolts were sealed in the same fashion. This repair required many EP-KITs in order to fix all the leaks that were present on this transformer.

Results: The areas that were sealed with PowerPatch™ are still holding today after a full year of temperature extremes. The transformer now has new leaks in other areas that were not repaired by PowerPatch™.



View of transformer.



Applying the putty stick.



Finished repair of door.