

CASE STUDY

# Hi-Tech® fuse PT protection



Industry: Electric utility  
 Challenge: Protection for potential transformer  
 Product: Hi-Tech Trans-Guard™ FX fuses

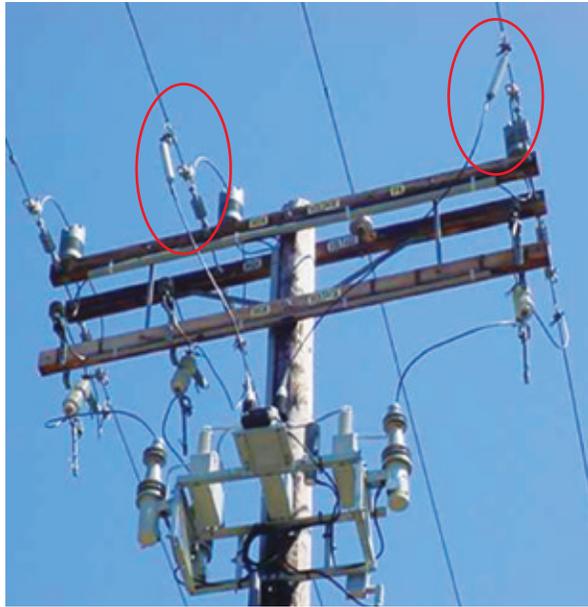
## Abstract

Today's utilities benefit greatly from advances in supervisory control and data acquisition (SCADA) that allow system information and equipment to be monitored remotely. Historically, overhead capacitor banks have not been well monitored and may only be subject to once-a-year, ride-by inspection to ensure that they are in service and working properly. However, SCADA has provided an alternative. When applying SCADA to overhead capacitors, a potential transformer (PT) is used to power the electronics. A large utility deployed SCADA and connected to the source side of a capacitor bank for power. Once deployed, the utility soon discovered a concern related to installation and protection techniques. A standard fused cutout was used to protect both the capacitor bank and the PT powering the SCADA. If a fault occurred that took the capacitor bank offline, SCADA capabilities were also lost.

## Solution

The utility looked to Hi-Tech fuses from ABB for an alternative solution, due to the company's current-limiting fuse expertise, service and quality. While PTs do not typically become overloaded, they can experience an internal short circuit condition that results in a significant level of fault current.

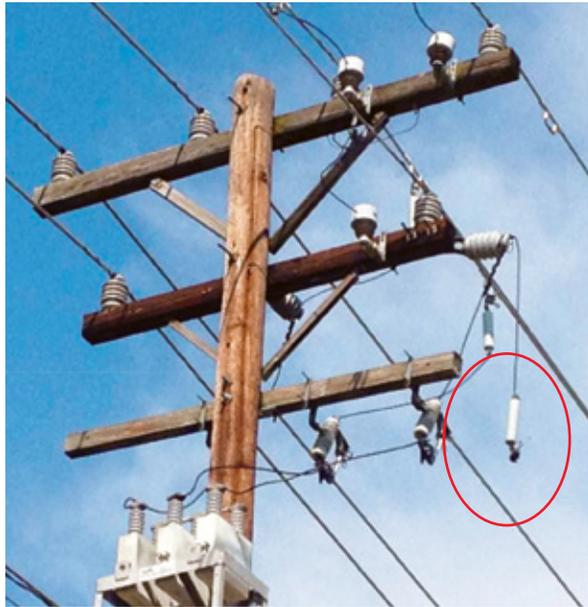
The Hi-Tech 15.5 kV 3 amp outdoor full-range fuse (HTFX244003) was the ideal solution for protecting the PT against failure independently of the capacitor bank. The utility company continued to protect the capacitor bank with traditional cutouts, but fused the PT directly from the high-voltage line. This solution allowed monitoring and reporting of the cap bank, even after a cutout fused had operated.



### Conclusion

Without power, neither SCADA systems nor capacitor banks provide the utility with useful information or benefits. A capacitor bank may remain offline for months before anyone reports the issue, resulting in power factor issues and infrastructure not being used to the fullest. An upgrade to a Hi-Tech 3 amp full-range current-limiting fuse provided an alternative means for protecting the PTs that power the SCADA system, independent of the capacitor bank. In the instance of a broken hotline clamp, system operators would be notified and the issue corrected within hours, rather than months. Hi-Tech fuses from ABB include various types of current-limiting fuses for almost any application.

Contact your local agent today for more details about this application or how your system protection can reach the next level with Hi-Tech expertise and current-limiting fuse products.



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