

Network Operating Center Electric System Study

Hopkinsville, KY



NOC's outside emergency generator

After a lightning strike damaged equipment at the Network Operating Center (NOC), Hopkinsville Electric System retained Puckett Engineering to perform a comprehensive study of the NOC's electrical system to determine why the strike caused the damage and to derive solutions for protecting the equipment from future damage from lightning strikes or other power interruptions and surges.

Puckett Engineering evaluated the Center's emergency generator system, UPS system, grounding, surge protection, and other systems. The study concluded with a report summarizing the findings and providing recommendations for improving the reliability and functionality of the facility's electrical systems.

The primary cause of the lightning damage appeared to be lightning-induced voltage transients into the low-voltage circuit conductors between the outdoor generator and the NOC. Puckett Engineering recommended additional grounding and bonding, surge protection, and other enhancements to improve the reliability of their NOC's critical electrical infrastructure. Additional recommendations included preventative maintenance and periodic re-commissioning.

PROBLEM OR NEED

Utility's Network Operating System suffered damage from lightning strike

PUCKETT SOLUTIONS

Comprehensive study of system

Study identified low-voltage circuits between outdoor generator and the NOC as probable cause

Puckett Engineering made recommendations for protecting system from future strikes and other power irregularities

Year Completed: 2009
