



EEA Maintenance Master Plan - Voltage Regulator Maintenance

SUMMARY

Empire Electric Association will perform preventative maintenance on all line voltage regulators and attempt to comply with recommended RUS voltage levels and limits defined in Bulletin 1724D-113 (see attached). The guidelines listed below are recommended for continuity of service and acceptable voltage levels system wide.

OBJECTIVE

All voltage regulators will be taken out of service for preventative maintenance based on the following criteria:

- A) 250,000 operations since unit was last maintained
- B) Duration of five (5) years since unit was last maintained

Once the voltage regulator has been taken out of service the insulating oil will be dielectrically tested and results documented using the appropriate forms. Oil found to be at a dielectric level of 22kV or less will require that the oil be filtered or replaced. Moveable and stationary contacts will be inspected for excessive wear and replaced if needed. Before the unit is put back "in service" it will be tested for proper operation. All inspection and maintenance performed shall be documented on Regulator Maintenance forms and submitted to the Line Superintendent of Maintenance for filing and data entry into maintenance database.

Substation Regulators

EEA line personnel will perform visual inspection and record operations counter reading during monthly substation inspections. Line Superintendent of Maintenance will notify maintenance crew foreman of voltage regulators that need to be pulled from service to be maintained.

Line Regulators

EEA System Technicians will perform visual inspections and pull readings from all system line regulators on a quarterly basis. Once inspections have been conducted and readings have been pulled from regulator controls the system technician will transfer the data files to EEA servers. The System Technician will inform the Line Superintendent of Maintenance once completed for analysis.

The Line Superintendent of Maintenance will review data from control panel read files to determine if maintenance is required based on information below. Excessive regulator operations require analysis to see if the problem is downstream or a substation-transmission line problem.

The Line Superintendent of Maintenance is responsible for managing all maintenance related to voltage regulators.