



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION REPORT BY THE OFFICE OF SPECIAL PROJECTS

EMPLOYEE CONCERN ELEMENT REPORT NO. QTC-PH-85-003-003

"WIRE TERMINATIONS"

TENNESSEE VALLEY AUTHORITY

SEQUOYAH NUCLEAR POWER PLANT, UNITS 1 AND 2

DOCKET NOS. 50-327 AND 50-328

1. SUBJECT

Element: QTC-PH-85-003-003
Employee Concern: Wire termination concerns were identified as follows.

Termination Inadequate - I-85-101-WBN

2. SUMMARY OF ISSUE

AMP Diamond Grip Insulated Terminal Lugs which had been designed for use with stranded wire were used on solid wire leads.

3. EVALUATION

Termination lugs designed for stranded wires were used on solid wires. This led to test point resistor failures in the Foxboro security system racks. All PIDG lugs in the security system on solid wire were replaced with appropriate terminal lugs. Revised procedures now require that AMP Solid Strand lugs be used on solid wire.

Inspection to verify the extent of the misapplication has been conducted at SQN. The impact on plant safety of each application was evaluated and the corrective action plan and a schedule for rework developed. The above activities have been completed except for the rework of lugs on solenoid valve surge suppression networks. The corrective action for this latter problem was that all solenoids which energize to perform their safety function would have the lugs replaced or soldered over immediately. A percent of the solenoids which deenergize to complete their safety function would be verified operable by field measurement of the arc suppressor circuit resistance. If any high resistance connections were found, all Class 1E arc suppressors would be checked. This procedure would be repeated periodically until all arc suppression circuits were permanently fixed.

The staff concurs that improper lugs should be replaced on those components which require energization for their safety function. For those components that deenergize to complete their safety function, a test program and long-term

replacement where necessary is considered by the staff to be adequate corrective action.

The above concern was identified in Employee Concern Element Report CO 10900-SQM "Cable Installation" and addressed in the staff's Safety Evaluation of the report.

4. CONCLUSION

The NRC staff concludes that the licensee's investigation of the improper terminations and the corrective action proposed are adequate.