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U.S. Nuclear Regulatory Commission
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cc (Enclosures):

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ENCLOSURE 1

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2 REPLY TO NOTICE OF VIOLATION NRC'S JUNE 20, 1994 LETTER TO TVA NRC VIOLATION 390, 391/94-35-01

DESCRIPTION OF VIOLATION

"10 CFR 50 Appendix B, Criterion V, Instructions, Procedures, and Drawings, requires in part that activities affecting quality shall be prescribed by documented instructions, procedures, or drawings and shall be accomplished in accordance with these instructions, procedures, or drawings.

Tennessee Valley Authority Nuclear Quality Assurance Plan TVA-NQA-PLN89-A, Revision 3, Section 6.1, Procedures and Instructions, requires that quality-related activities shall be prescribed by documented procedures and instructions appropriate to the circumstances. Activities shall be accomplished in accordance with these procedures and instructions. Section 7.2.7.G requires that the design integrity shall be maintained during plant maintenance and modification processes, including temporary changes, and throughout the life of the plant.

Site Standard Practice SSP-7.53, Modification Workplans, Revision 11, Section 2.2.G, requires that workplans be written after evaluating drawings or design change documents required to locate and perform the work. SSP-7.53 also requires that the remaining work list be researched to identify the outstanding items affecting the related features in accordance with Site Standard Practice SSP-7.B. Site Standard Practice SSP-7.B, Control of Modifications Work After Transfer, Revision 3, Appendices H and J, requires that a remaining work list be prepared to identify all incomplete work activities, and these activities are to be included in a workplan.

As-constructed Drawing 45N1689-4, Revision 15, identifies cable 1-3PL-31-3606A, in panel 1-R-74, as terminated at terminal block TB438.

Modifications Addition Instruction MAI-3.3, Cable Terminating, Splicing, and Testing for Cables Rated Up to 15,000 Volts, Revision 11, Section 6.2.13, requires that the ends of abandoned and /or spared cables shall be insulated with three (3) layers which are at least half-lapped Scotch 33+ tape or sealed with a Raychem end cap or sealing kit. Modifications Addition Instruction MAI-3.2, Cable Pulling For Insulated Cables Rated Up To 15,000 Volts, Revision 11, Appendix B, Supporting Conductors in Vertical Raceways, requires that the conductors in vertical conduits be supported if the maximum unsupported installation exceeds values in Table B-1, Column 2. Column 2 of this table specifies the maximum unsupported vertical installation for 4/0 AWG conductors to be 20 feet.

Contrary to the above the following examples were identified:

EXAMPLE 1

As of May 20, 1994, cable 1-2PM-65-3765-B, in panel 1-R-131, was not included in a workplan or terminated, as required by SSP-7.53 and SSP-7.B, although it

was identified in the remaining work list for workplan K-P07265-A-1 as a cable requiring termination. The associated design output design change notice P-07265 and workplan have been closed."

TVA RESPONSE - EXAMPLE 1

TVA agrees with this violation example.

REASON FOR THE VIOLATION EXAMPLE

Violation Example 1 occurred due to poor administrative organization of a work completion statement which resulted in a failure to verify completion of a remaining work list (RWL) item. The termination of cable 1-2PM-65-3765-B was identified by item 7 of the RWL for workplan K-P07265A-1. Review of the RWL completion documentation reveals that the completion statement for item 6 overlapped into the item 7 completion block. At the time the responsible engineer reviewed the RWL for completion, it appeared that item 7 had been addressed. The responsible engineer subsequently closed the RWL for the workplan. Since the RWL was closed without an implementing document to terminate the cable, no opportunity for the cable to be terminated or inspection by QC was provided.

CORRECTIVE ACTIONS TAKEN AND RESULTS ACHIEVED

Work Request C258728 has been initiated to terminate cable 1-2PM-65-3765-B.

The completion documentation for RWL item 7 as described above will be corrected.

CORRECTIVE ACTIONS TAKEN TO AVOID FURTHER VIOLATIONS

This issue and other conditions previously identified involving the RWL process are tracked by Significant Corrective Action Report (SCAR) WBSA940043. In order to establish recurrence controls, TVA will sample closed RWLs and take appropriate corrective actions.

DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

TVA will be in full compliance by November 30, 1994.

EXAMPLE 2

"As of May 20, 1994, cable 1-3PL-31-3606-A was not terminated at TB438, as required by Drawing 45N1689-4, and its ends were sealed with tape. There was no outstanding design output document to properly terminate the cable in accordance with the drawing."

TVA RESPONSE - EXAMPLE 2

TVA agrees with this violation example.

REASON FOR THE VIOLATION EXAMPLE

TVA's investigation of this example identified work plan K-P07271A-1 as having terminated this cable in June 1990 with QC inspection. However, this investigation could not identify why cable 1-3PL-31-3606-A was subsequently lifted. This cable provides connection between the local control handswitch 0-HS-31-64B, relay K606 in panel 2-R-48, and relay K606 in panel 1-R-48. The effect of the cable being lifted results in the inability to start the shutdown board room A pressuring fan A-A from the local hand switch and prevents the automatic switching on of this fan should the other train fail. Manual start of the fan from the unit control unit would have remained available. However, since the cable involves a control function of this fan, this condition would have been identified during testing of this circuit.

CORRECTIVE ACTIONS TAKEN AND RESULTS ACHIEVED

Work Request C251735 has been initiated to terminate cable 1-3PL-31-3606-A.

CORRECTIVE ACTIONS TAKEN TO AVOID FURTHER VIOLATIONS

Present program requirements regarding lifting and relanding of cables along with panel walkdowns prior to system turnover and testing of the required safety circuits provide assurance that necessary safety cables get terminated. TVA considers no further recurrence controls are necessary. The subject panels had not received the walkdown inspection.

DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

TVA will be in compliance once cable 1-3PL-31-3606-A is terminated which is scheduled to be complete by November 30, 1994.

EXAMPLE 3

"As of May 20, 1994, seven (7) internal wires located in panel 1-R-73 were lifted and the ends were not properly taped, as required by MAI-3.3, and unqualified yellow tape was used. These wire identifications were TB303-3, E6-B1, E8-A1, K3-1, K4-1, K7-1, K8-1. Several other wires were of similar condition but identification was not possible due to wire congestion."

TVA RESPONSE - EXAMPLE 3

TVA agrees with this violation example.

REASON FOR THE VIOLATION EXAMPLE

For wire numbers K3-1, K4-1, K7-1, and K8-1, TVA identified that Work Order (WO) 93-15396-05 required that these wires be lifted in accordance with Design Change Notice (DCN) W-22400-A, Design Change Authorization (DCA) 22400-073,

and Modification/Addition Instruction (MAI)-3.3. Review of the Work Order revealed a TVA material request for the proper tape (33+). Field work for the Work Order was completed and the Work Order was closed on September 13, 1993. Discussions with the craft and the Quality Control (QC) inspector involved indicated proper knowledge of the MAI requirements. When shown the subject wires in the panel, the QC inspector stated that he would have rejected the taping of these wires. Since subsequent investigation has identified no record of rework of the wires and with reason to believe that proper taping had occurred involving the WO, TVA could not determine a cause for this condition.

For wire numbers TB303-3, E6-B1, and E8-A1, TVA determined that these wires were abandoned by work plan 4411 in 1984 in accordance with Engineering Change Notice (ECN) 4913. The three wire ends are located in the back of panel 1-R-73, and are taped with yellow tape. Workplan 4411 referenced Quality Control Procedure (QCP)-3.06-3 (cable terminations), but did not reference QCP-3.06-2 for internal wiring. However, documentation was found indicating the use of QCP-3.06-2, but neither of these procedures describe how to tape abandoned cables or conductors.

CORRECTIVE ACTIONS TAKEN AND RESULTS ACHIEVED

Work Request C262200 has been initiated to properly tape the lug ends.

CORRECTIVE ACTIONS TAKEN TO AVOID FURTHER VIOLATIONS

Current program requirements address how to abandon cable and wires which include proper taping techniques with QC inspection.

TVA will inspect panels 1-R-73 and 1-R-74 and those not previously inspected prior to being transferred and will correct, if necessary, those identified conditions.

DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

TVA will be in full compliance by November 30, 1994.

EXAMPLE 4

"As of May 20, 1994, six (6) 4/0 AWG cables in conduit 2PLC3221A had an effective unsupported vertical drop of 28 feet, 8 feet in excess of the 20 foot support requirement of MAI-3.2. There was no outstanding work implementing document to install the required cable supports."

TVA RESPONSE - EXAMPLE 4

TVA agrees with this violation example and provides some additional information not known at the close of the inspection period.

REASON FOR THE VIOLATION EXAMPLE

Upon investigation, TVA determined that there was no remaining work list item that specifically addressed the cable support issue. This may have led to some confusion during inspection period in the attempt to identify an

outstanding implementing document. However, subsequent to the close of the NRC inspection period, TVA identified work plan K-P01146A-2 which contained a remaining work list item which included rework of conduit 2PLC3221A. This conduit installation, required as part of DCN P-01146A, had not been verified as complete. Since the conduit was not complete and the cables contained within this conduit were temporarily supported, the vertical drop issue for these cables would have been subsequently evaluated. TVA regrets this information was not available at the time of the inspection. This information has since been provided to the NRC resident inspector for further review.

CORRECTIVE ACTIONS TAKEN AND RESULTS ACHIEVED

Work Request C146697 has been initiated to add the required vertical support for cables 2-4PL-31-4520A and -4522A in conduit 2PLC3221A.

CORRECTIVE ACTIONS TAKEN TO AVOID FURTHER VIOLATIONS

Since current program requires support for cable in excess of 20 feet vertical drop and the vertical drop issue is addressed under the Cable Issues Corrective Action Program (CAP) Plan, TVA considers no further actions are required.

ENCLOSURE 2

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2
LIST OF COMMITMENTS

1. The completion documentation for RWL, item 7 as described above will be corrected.
2. This issue and other conditions previously identified involving the RWL process are tracked by Significant Corrective Action Report (SCAR) WBSA940043. In order to establish recurrence controls, TVA will sample closed RWLs and take appropriate corrective actions.
3. TVA will inspect panels 1-R-73 and 1-R-74 and those not previously inspected prior to being transferred and will correct, if necessary, those identified conditions.
4. Work Requests C258728, C251735, and C262200 will be completed for termination of the subject cables.
5. Work Request C146697 will be completed to provide vertical support for cables 2-4PL-31-4520A and -4522A in conduit 2PLC3221A.

These actions will be complete by November 30, 1994.