QUALITY
TECHNOLOGY
COMPANY

P.O. BOX 600
Sweetwater, TN
37874

ERT INVESTIGATION REPORT

CONCERN NO: XX-85-027-X08 Rev. 2

CONCERN: "An inspector stated his supervisor wasn't doing his job (poor training, lack of day to day guidance), gave orders contrary to procedure"

INVESTIGATION
PERFORMED BY: Willaim R. Pickering

DETAILS

PERSONNEL CONTACTED: (CONFIDENTIAL)

DOCUMENTS REVIEWED:

Sequoyah Nuclear Plant Procedure No.33 (SNP P-33) "Certification of Inspectors" Revision 2,3, and 4

Sequoyah Nuclear Plant Inspection Instruction No.19 (SNP II-19) "Battery Inspections" Revision 7, 8 and 9

Personnel Certification Record (PCR)

Sequoyah Nuclear Plant Inspection Instruction No. 32 (SNP II-32) "Inspection of Materials in Storage and Housekeeping Conditions" Revision 8, 9 and 10

Personnel History Record (PHR)

Quality Assurance Procedure 2.2 (QAP 2.2) "Qualification/Certification of Inspection, Examination and Testing Personnel" Revision 5

SUMMARY OF INVESTIGATION

This concern is substantiated. By reviewing associated documentation, it was determined that an inspector within the Material Inspection Unit was given direction, by his immediate supervisor, on two occasions, that was contrary to procedure. The subject supervisor overstepped his delegated responsibilities as a Group Leader in that he abused his position with regards to privileges, provided by procedure, given to management/supervisors that are not provided to Group Leaders. In addition, the subject supervisor/group leader performed inspections to inspection instructions to which he was improperly certified.

pf

DETAILS

SUMMARY OF INVESTIGATION, continued

This investigation encompassed activities at the Sequoyah Nuclear Plant, Browns Ferry Plant and the Bellefonte Nuclear Plant during the weeks ending October 11 through October 25, 1985.

FINDINGS:

On May 20 and 21,1982 an inspector was requested by his group leader to perform an inspection in accordance with SNP II-19. This request is documented within the body of a warning letter, dated July 24, 1982, issued to the inspector for insubordination because the inspector refused to perform the inspections as requested.

SNP P-33, effective February 8, 1982, requires inspectors to be certified to specific inspection instructions. Section 5.4 "Responsibilities" of this procedure states, "The inspection unit supervisor's shall ensure all personnel inspecting...activities within the scope of the QA program are certified..." Contrary to this, the supervisor failed to ensure the inspector's certification prior to assigning the inspections on May 20/21, 1982. According to the Personnel Certification Records (PCR), the inspector was not trained and certified to SNP II-19 until May 26, 1982, six days after the initial request to perform the inspections.

According to the warning letter, the request to inspect on those dates came from the group leader. The unit supervisor stated that the group leader was delegated to ensure training and certification of inspectors in his unit; however, the unit supervisor admitted ultimate responsibility.

SNP P-33, Revision Log, effective 4/23/79, states in part "...Added provisions for Inspection Supervisors to be exempted from regular certification program and to sign for inspectors when required." Contrary to this requirement, SNP Storage Inspection Record No.MIG 562 was signed by the group leader in lieu of an inspector. Group Leaders are referred to as "supervisors" in certain units however, the procedure does not specify "referred" titles of individuals. The subject supervisor is a group leader in this case and the procedure does not identify a group leader as having the authority to sign for inspectors.

DETAILS, continued

FINDINGS, continued

Storage and housekeeping inspections are performed in accordance with SNP II-32. A review of Reports MIG Nos.710, -755, -756, -757, -827 and 828 disclosed that the group leader performed the inspections. SNP P-33 Section 6.B.1 states in part, "All inspection personnel shall be trained in the specific requirements of appropriate SNP Inspection Instruction." QAP 2.2 states in part, "When determined ...that reexamination is not required, the responsible supervisor or designee shall update the applicable inspection, examination and testing personnel by additional instructions and shall: A) Provide an attendance list identifying those individuals instructed...the date presented and the signature of the instructor to the supervisor, project QA Unit; B) update the inspection, examination and testing personnels' PCR by entering the revision level, date of instruction and signature." SNP P-33 Section 6.F further explains that the responsible supervisor is the unit supervisor and the designee must be a documented designee. Contrary to these requirements, a review of the group leader's PCR disclosed that the individual, in essence, updated his own certifications to SNP II-32 Revisions 9 and 10 . The group leader's updated certification to SNP II-30 Revisions 6 and 7 appear to have been accomplished in the same manner. No objective evidence was available to support the position of the group leader being a unit supervisor or documented designee.

Because the group leader's certifications to SNP II-32 Revision 9 and 10 and to SNP II-30 Revision 6 and 7 were not updated in accordance with the approved SNP procedures, the quality inspections performed within the revision dates, relative to each inspection instruction, are indeterminate. The group leader's ability to perform the stated activities required by each inspection instructions is also indeterminate.

OBSERVATIONS

SNP P-33 specified training and certification requirements for inspectors prior to performing inspections. However, Revision 2, effective April 23, 1979, exempted inspection supervisors from regular certification programs. The Revision Log of SNP P-33 states in part "Inspection Supervisors were exempted from regular certification program..." Section 2 "Scope" states in part, "Management/Supervisors personnel who directs the performance of inspectors...within their areas of responsibility may perform and document these activities if they are certified by a letter from management appointing them to the position of inspection supervisors."

CONCERN NO: XX-85-027-X08

DETAILS, continued

OBSERVATIONS, continued

Training and applicable certifications provide the TVA employee with an understanding of job requirements and provide assurance to responsible management that the employee is qualified to perform work in a qualitative and quantitative manner. In this case, the unit supervisor and the group leader were unaware of the inspector's training and certifications prior to assigning him to perform inspections.

In addition, inspectors assigned to the Material Inspection Unit had their PCR's updated to reflect training in various inspection instructions by the group leader. Since approved procedures do not identify the group leader as having the authority to perform these updates, it renders the inspectors' certifications as being indeterminate.

CONCLUSION:

Although the inspector's reasons for refusing to perform the requested inspections to SNP II-19 did not include the subject of certification, it does not relieve his immediate supervisor/group leader from the procedural requirements. The subject inspector's warning letter for insubordination reflects two occasions of being reprimanded for not performing inspections as requested when he was not "qualified", in accordance with TVA procedure, to perform those inspections.

In addition, the immediate supervisor (or more appropriately, group leader) of the Material Inspection Unit did conduct himself in an unprofessional manner. He performed inspections when his certification(s) to SNP II-32 Revisions 9 and 10 and SNP II-30 Revisions 6 and 7 did not meet procedural requirements that, as a group leader, he was required to enforce.

PREPARED BY: _____ 2-7-86 DATE

REVIEWED BY: _____ 2/7/86 DATE

Report Reviewed and accepted (after phone con w/ Pickering 2/13/86 re indeterminate status of receiving inspections)

_____ 2/14/86

1545

FINAL

REQUEST FOR REPORTABILITY EVALUATION

1. Request No. XX-85-027-X08 Rev. 2 (ERT Concern No.) _____ (ID No., if reported)

2. Identification of Item Involved: _____ (Nomenclature, system, manuf., SN, Model, etc.)

3. Description of Problem (Attach related documents, photos, sketches, etc.)
Supervisor not properly certified - improperly certified inspectors within his unit - providing direction contrary to procedural requirements.

4. Reason for Reportability: (Use supplemental sheets if necessary)

A. This design or construction deficiency, were it to have remained uncorrected, could have affected adversely the safety of operations of the nuclear power plant at any time throughout the expected lifetime of the plant.

No X Yes _____ If Yes, Explain: _____

AND

B. This deficiency represents a significant breakdown in any portion of the quality assurance program conducted in accordance with the requirements of Appendix B.

No _____ Yes X If Yes, Explain: 1) Supervisors/group leaders improperly certified performing quality inspections 2) Supervisors/group leader, improperly certified inspectors under their command 3) Inspections performed with OR improper certifications are indeterminate.

C. This deficiency represents a significant deficiency in final design as approved and released for construction such that the design does not conform to the criteria bases stated in the safety analysis report or construction permit.

No X Yes _____ If Yes, Explain: _____

OR

FINAL

REQUEST FOR REPORTABILITY EVALUATION

1. Request No. XX-85-027-X08 Rev. 2 _____
(ERT Concern No.) (ID No., if reported)

2. Identification of Item Involved: _____
(Nomenclature, system, manuf., SN, Model, etc.)

3. Description of Problem (Attach related documents, photos, sketches, etc.)
Supervisor not properly certified - improperly certified inspectors within his unit - providing direction contrary to procedural requirements.

4. Reason for Reportability: (Use supplemental sheets if necessary)

A. This design or construction deficiency, were it to have remained uncorrected, could have affected adversely the safety of operations of the nuclear power plant at any time throughout the expected lifetime of the plant.

No X Yes _____ If Yes, Explain: _____

AND

B. This deficiency represents a significant breakdown in any portion of the quality assurance program conducted in accordance with the requirements of Appendix B.

No _____ Yes X If Yes, Explain: 1) Supervisors/group leaders improperly certified performing quality inspections 2) Supervisors/group leader, improperly certified inspectors under their command 3) Inspections performed with OR improper certifications are indeterminate.

C. This deficiency represents a significant deficiency in final design as approved and released for construction such that the design does not conform to the criteria bases stated in the safety analysis report or construction permit.

No X Yes _____ If Yes, Explain: _____

OR

REQUEST FOR REPORTABILITY EVALUATION

D. This deficiency represents a significant deficiency in construction of or significant damage to a structure, system or component which will require extensive evaluation, extensive redesign, or extensive repair to meet the criteria and bases stated in the safety analysis report or construction permit or to otherwise establish the adequacy of the structure, system, or component to perform its intended safety function.
No __X__ Yes _____ If Yes, Explain: _____

_____

_____

OR

E. This deficiency represents a significant deviation from the performance specifications which will require extensive evaluation, extensive redesign, or extensive repair to establish the adequacy of the structure, system, or component to perform its intended safety function.
No __X__ Yes _____ If Yes, Explain: _____

_____

_____

IF ITEM 4A, AND 4B OR 4C OR 4D OR 4E ARE MARKED "YES", IMMEDIATELY HAND-CARRY THIS REQUEST AND SUPPORTING DOCUMENTATION TO NSRS.

This Condition was Identified by: W R Palmer 7134
ERT Investigator Phone Ext.

O B Thies 365-4464
ERT Project Manager Phone Ext.

Acknowledgment of receipt by NSRS

M D Lee Date 2/11/86 Time 1802
Signed

ENCLOSURE 2

CORRECTIVE ACTION RESPONSES BY THE LINE ORGANIZATIONS AND EVALUATED BY THE NUCLEAR SAFETY REVIEW STAFF FOR ADEQUACY

RESPONSE TO CONCERN NUMBERS:

IN-86-259-005

IN-86-262-002

TVA 64 (OS-9-65) (OP-WP-5-85)

UNITED STATES GOVERNMENT

Memorandum TENNESSEE VALLEY AUTHORITY

TO: W. T. Cottle, Site Director, Watts Bar Nuclear Plant

FROM: K. W. Whitt, Director of Nuclear Safety Review Staff, E3A8 C-K

DATE: FEB 27 1986

SUBJECT: CORRECTIVE ACTION RESPONSE EVALUATION

REPORT NO. : I-85-569-WBN

SUBJECT : Cable Overheating & Fire-Retardant Coating

CONCERN NO.: IN-86-259-005; IN-86-262-002

( ) ACCEPT (X) REJECT

NSRS has reviewed the response with the former report to I-85-569-WBN-01. The ampacity effect needs to be evaluated for WBN fill conditions, which was not done in the testing program. In addition, NSRS has concluded that additional testing is needed with prototypic conditions and has developed the following recommendation:

New Recommendation:

I-85-569-WBN-02, "Qualify Cables at WBN Taking Into Account Fill, Vimasco Coating, and Duty

Provide testing of WBN cables with conditions prototypic of those for the installed cables. The testing should include worst conditions with margin for cable fill, thickness of Vimasco coating and continuous duty of cables. The results of the test program should be used to document the true ampacity effect on the cables.

K. W. Whitt

Denise

WATTS BAR NUCLEAR PLANT SITE DIRECTOR'S OFFICE

MAR 05 '86

	Note	Action	Reply
PH Mgr			
Mod Mgr			
SS Mgr			
DS Mgr			
QA			
Personnel			
Finance			
Compliance			
Int Offer			
XC TO ARMS			

PRW:JTH

cc (Attachment):

R. P. Denise, LP6N40A-C

D. R. Nichols, E10A14C-K

QTC/ERT, CONST-WBN

E. K. Sliger, LP6N48A

Principally prepared by P. R. Washer.

TVA-84 (05-9-85)

UNITED STATES GOVERNMENT

Memorandum

TENNESSEE VALLEY AUTHORITY

: K. W. Whitt, Director of Nuclear Safety Review Staff, E3A8 C-K

FROM : W. T. Cottle, Site Director, Watts Bar Nuclear Plant NUC PR

DATE : JAN 30 1986

SUBJECT: WATTS BAR NUCLEAR PLANT - RESPONSE TO NSRS INVESTIGATION REPORT NUMGER I-85-569-WBN - EMPLOYEE CONCERN NUMBERS IN-86-259-005 AND IN-86-262-002

Attached is the response to the recommendations contained in the subject report.

If you have any questions, please contact W. L. Byrd at 3774, Watts Bar Nuclear Plant NUC PR.

W. T. Cottle

WLB:SRS:NC
cc (Attachment):
J. C. Standifer, Watts Bar Engineering Project, P-104 SB-K

This memorandum was principally prepared by S. R. Stout.

Rec. 2/6/86

WATTS BAR NUCLEAR PLANT
RESPONSE TO NSRS REPORT NUMBER I-85-569-WBN
EMPLOYEE CONCERNS IN-86-259-005 AND IN-86-262-002
CABLE OVERHEATING DUE TO CABLE BUNCHING AND FIRE-RETARDANT COATING

We have reviewed the subject report and concur with its findings.

Recommendation I-85-569-WBN-01 - Document the Effect of Vimasco Coating

Provide the required documentation to show the ampacity effect of the Vimasco coating on cables at Watts Bar. Review Watts Bar applications to determine that no problems exist with present cable signs.

Response

The attached file memorandum provides (1) the documentation showing the ampacity effect of vimasco coating on cables at Watts Bar, and (2) the results of the review of WBN applications.

ED STATES GOVERNMENT

Memorandum

TENNESSEE VALLEY AUTHORITY

B43 '86 0121 947

TO : Electrical Engineering Files

FROM : J. S. Wigington, Electrical Engineer, 2-162 SB-K

DATE : January 22, 1986

SUBJECT: WATTS BAR NUCLEAR PLANT UNITS 1 AND 2 - DOCUMENTATION OF THE EFFECT OF VIMASCO CABLE COATING ON CABLE AMPACITY

Attached is Factory Mutual Research (FMR) Report No. J.I.OFOQ5.AF, issued on December 19, 1980, under TVA contract 78K50-823558, giving the effects of Vimasco Cable Coating No. 2-B on cable ampacity in cable trays.

The FMR report shows that cable derating for 4/0 AWG 90°C power cables in trays with 40 percent fill is 1.6 percent for a 1/4-inch coating. WBN power (V4) cables are 90°C rated and installed in trays with 30 percent fill. Also, TVA design standards require oversizing of motor circuits by 125 percent and oversizing due to voltage drop considerations, which add conservatism into the TVA design. Thus, further derating is not required on WBN power cables.

The FMR report shows that cable derating for No. 12 AWG 90°C and 75°C control cables energized continuously in trays with 40 percent fill is 8 percent for a 1/4-inch coating. WBN control (V3) cables are both 75°C and 90°C cables, and installed in trays with 60 percent fill. TVA design standards again require oversizing for control power (V3) cables (rated less than 30 amperes) similar to the oversizing of power cables mentioned above. The majority of the control (V3) cables are used for control functions that convey information or intermittently operate devices. Therefore, conductor heating is considered insignificant and is not a variable of tray fill.

In addition, WBNP Quality Control Procedure QCI-3.7, section 8.1.3.4, requires that cable coating thickness be inspected for an application of 3/16-inch ±1/16-inch. This installation requirement is in accordance with the FMR test mentioned above.

The remaining voltage levels (V5, V2, and V1) are documented as follows:

1. V5 medium-level voltage power cables have been reviewed and documented in EN DES calculations (EEB 840203 901). These documents verify that Class 1E medium voltage power cables routed in cable trays have adequate ampacity margin to ensure that they will not exceed their rated maximum continuous copper temperature of 90°C under full load current conditions.

2. V1 and V2 instrument type cables are low-energy level, creating insignificant heat. They do not require derating as a result of cable coating.

Electrical Engineering Files
January 22, 1986

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2 - DOCUMENTATION OF THE EFFECT OF VIMASCO CABLE COATING ON CABLE AMPACITY

In conclusion, the derating effect of Vimasco cable coating on cable ampacity at WBN is considered insignificant. It is therefore determined that no problems exist with present WBN cable sizes.

J. S. Wigington
J. S. Wigington

JSW:MCH
Attachment
cc (Attachment):
E. Chitwood, W8 C126 C-K
J. C. Standifer, P-104 SB-K

1/22/86 EC:JSW:MCH
RIMS, SL 26 C-K
W. R. Brown, 9-169 SB-K
S. R. Stout, WBN IOB
M. J. Scruggs, W8B121 C-K
D. R. Webster, W8C135 C-K