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Arizona Nuclear Power Project

P.O. BOX 52034 • PHOENIX, ARIZONA 85072-2034

December 26, 1984
ANPP-31569-EEVB/ACG

Director
Office of Inspection and Enforcement
U. S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Response to Enforcement Letter and Notice
of Violations, dated December 12, 1984
File: 84-070-026

Dear Sir:

On December 12, 1983, Mr. J. B. Martin, Regional Administrator, Region V of the U. S. Nuclear Regulatory Commission (NRC) issued a Notice of Violation and Proposed Imposition of Civil Penalty (Notice). Item I.B. of the Notice related to the improper completion of certain electrical termination cards prepared for Palo Verde Unit 1, which was the subject of an investigation by NRC's Office of Investigation. Because the Office of Investigation Report (Investigation Report) was material to APS' answer to Item I.B., but had not been made available to us, you granted, at our request, an extension of time to respond to such Item I.B. until 30 days after the Investigation Report was made available to us.

Mr. Martin transmitted to us a copy of the Investigation Report, dated November 30, 1983, with his letter dated November 21, 1984. Accordingly, we are submitting herewith our answer to Item I.B. of the Notice. Essentially, our answer to Item I.B. states that:

1. There is nothing in the Investigation Report that causes us to modify the technical response to Item I.B. which we previously provided to you as Attachment F to our letter of January 31, 1984.
2. The Investigation Report confirms that the problem with respect to electrical termination cards is restricted to a small fraction of the nuclear

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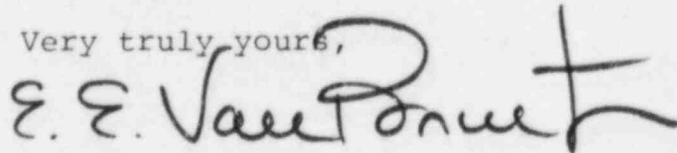
Director
U. S. Nuclear Regulatory Commission
December 26, 1984
Page Two

safety-related electrical termination in Palo Verde Unit 1.

3. Such termination cards were prepared as replacements for cards that had been lost, and in some instances the replacement cards may have been signed by electricians who did not perform the terminations described by the replacement cards.
4. After each replacement termination card was signed by an electrician, the termination described was independently inspected by a quality control inspection and found to be satisfactory.
5. There is no safety significance to the partial completion of replacement termination cards by electricians, properly or improperly, because all terminations described by replacement cards were found to be satisfactory by subsequent independent inspections.
6. There is no evidence or charge that any quality control inspector improperly signed any termination card.
7. There is no evidence of intentional wrongdoing by any electrician or any electrician supervisor.
8. The root cause on the problems associated with replacement termination cards was the lack of a procedure governing the replacement of lost cards.

For all of the foregoing reasons we have requested the remission of the proposed civil penalty.

Very truly yours,

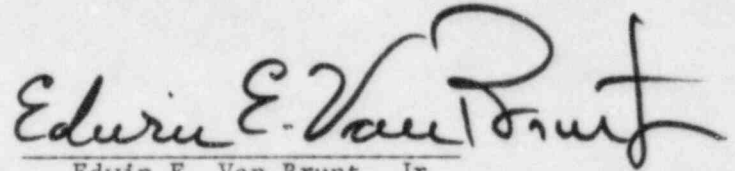


E. E. Van Brunt, Jr.
APS Vice President
Nuclear Production
ANPP Project Director

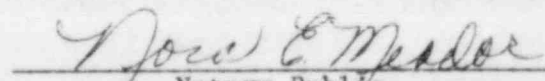
cc: J. B. Martin

STATE OF ARIZONA)
) ss.
COUNTY OF MARICOPA)

I, Edwin E. Van Brunt, Jr., represent that I am Vice President, Nuclear Production of Arizona Public Service Company, that the foregoing document has been signed by me on behalf of Arizona Public Service Company with full authority to do so, that I have read such document and know its contents, and that to the best of my knowledge and belief, the statements made therein are true.


Edwin E. Van Brunt, Jr.

Sworn to before me this 26 day of December, 1984.


Notary Public

My Commission Expires:
My Commission Expires April 6, 1987

APS ANSWER TO ITEM I.B. OF THE
NOTICE OF VIOLATION DATED DECEMBER 12, 1983
FOR WHICH A CIVIL PENALTY IS PROPOSED

PART I

RESTATEMENT OF ALLEGED VIOLATION I.B.

Item I.B. of the Notice of Violations, dated December 12, 1983 ("Notice") provides as follows:

"I. Violations Assessed Civil Penalties

- B. Criterion V of Appendix B to 10 CFR Part 50 requires that, "Activities affecting quality shall be prescribed by documented instructions . . . and shall be accomplished in accordance with these instructions . . ." Also, Criterion XVII requires that, "Sufficient records shall be maintained to furnish evidence of activities affecting quality . . ." Bechtel work plan procedures/ quality control instruction WPP/QCI-255.0, "Cable Terminations," requires that termination installation cards be completed for all Class 1E electrical terminations. These cards include the signature of the electrician making the termination and the crimp tool number of the crimp tool used to make the termination.

Contrary to these requirements, the record of Unit 1 Class 1E electrical termination 1E2I22AC1RE2 dated November 13, 1981 was signed by an individual other than the person who actually performed the work as documented. Additionally, the serial number of the crimp tool used on this termination record appears not to be the serial number of the crimp tool actually used to make the termination. Approximately 50 to 100 of the estimated 7,000 to 8,000 termination cards for the Class 1E electrical terminations may have been similarly completed by individuals other than those who had performed the work.

This is a Severity Level III Violation (Supplement VII). (Civil Penalty \$40,000)."

PART II

APS' ANSWER TO ALLEGED VIOLATION I.B.

1. Technical Aspects of Termination Card Issue.

APS provided a partial response addressing the technical aspects of alleged violation I.B. in Attachment F to its January 31, 1984 letter answering Item I.A. of the Notice. Such Attachment F, incorporated herein as Appendix 1, made the following points:

- 1.1 The termination card found to have been improperly completed and any others that may have been improperly completed were replacements for lost cards.
- 1.2 The improper completion of replacement termination cards was the result of the absence of a procedure governing the replacement of lost cards.
- 1.3 Any improper signature and crimp tool identification by an electrician on any replacement termination card was not made to avoid inspection of the termination by a Quality Control Inspector nor to circumvent any quality control requirement.
- 1.4 Every termination for which a replacement card was prepared was inspected, first, by a Termination Engineer and, second by a Quality Control Inspector after the replacement card was signed by an electrician, whether or not improperly.
- 1.5 Every termination for which a replacement card was prepared was found to be satisfactory by
 - (i) inspection by the Termination Engineer; and
 - (ii) inspection by the Quality Control Inspector.
- 1.6 The procedure requiring electricians to sign termination cards and identify crimp tools

- (i) is not required by any NRC regulation;
- (ii) is not intended to serve any quality control purpose; and
- (iii) is only intended to expedite construction work if a crimp tool is found to be out of calibration.

Each of the foregoing points is confirmed by the Office of Investigation Report, dated November 3, 1983, Case No. 5-82-009 ("Investigation Report") recently issued and the prior Report of the Special Inspection issued April 22, 1983.

2. Facts Disclosed by the Investigation Report.

2.1 The Investigation Report reveals the following facts:

- 2.1.1 There are 46,202 electrical terminations in Unit 1 of which 12,626 (27.3%) are Class Q nuclear safety-related installations.
- 2.1.2 All termination installation cards ("TICs") for Unit 1 Class Q terminations completed as of the time of Region V's inspection of the allegations (7,000-8,000) were examined during the investigation.
- 2.1.3 Only 127 of the Class Q TICs were found to have been signed by the alleged and only one of those 127 TICs carried his notation "UP", indicating a replacement TIC signed by the alleged under protest.
- 2.1.4 There is no evidence that any original or replacement TIC was improperly completed by a Quality Control Inspector.
- 2.1.5 With the exception of the alleged, each electrician who was interviewed and who acknowledged signing a replacement TIC stated that he had inspected the termination involved before signing the replace-

ment TIC, and some stated that they had reperformed the termination.

- 2.1.6 Some of the replacement TICs were signed by the electrician who performed the termination described on the card because he either performed the original termination or he remade the termination before he signed the replacement card.
- 2.1.7 The termination logs maintained by the work crew foremen were used to identify the electrician who made the original termination described on replacement TICs so that such replacement TICs could be completed by the electrician who performed the termination.
- 2.1.8 No action was ever taken by any supervisor or foreman to discipline any electrician who refused to sign a replacement TIC for a termination which he had not performed.
- 2.1.9 NRC regulations do not require that an electrician sign any termination card nor to identify the crimp tool used to make the termination cards; such requirement stems solely from a procedure adopted by Bechtel.

3. Conclusions from Investigation Report.

3.1 The following conclusions can be drawn from an examination of the Investigation Report:

- 3.1.1 The allegation respecting the improper completion by electricians of replacement termination installation cards ("TICs") has no safety significance, because all terminations involved were inspected and found to be satisfactory by the electrician signing the replacement TIC and/or by subsequent inspections by QC inspectors and by NRC inspectors in at least one case.
- 3.1.2 Electrical supervisors and foremen who requested electricians to sign replacement TICs did so openly and not covertly,

and in most, if not all, cases with directions to such electricians to inspect the terminations involved and to reperform the terminations if they considered it necessary prior to signing the replacement TICs.

3.1.3 In no case was a request made nor a direction given to improperly complete a replacement TIC with the intent to circumvent a subsequent quality control inspection.

3.1.4 There is no probative evidence in the Investigation Report that corroborates the statement in Item I.B. of the Notice that 50 to 100 replacement TICs for Class 1E terminations may have been improperly completed.

4. APS Admissions and Denials.

4.1 On the basis of the Investigation Report, the Special Inspection Report of Region V issued April 22, 1983, and APS' investigations, APS admits that:

4.1.1 Prior to July 12, 1982, a very small number of Class Q nuclear safety-related replacement TICs may have been signed by some electricians who did not perform the terminations identified by such TICs.

4.1.2 Each such instance constituted a violation of WPP/QCI-255.0.

4.1.3 The root cause for such violations of WPP/QCI-255.0 was that WPP/QCI-255.0 did not provide adequate directions and instruction for the preparation of replacement TICs.

4.2 On the basis of the Investigation Report, the Special Inspection Report of Region V issued April 22, 1983, and APS' investigations, APS denies that:

4.2.1 Any violations of WPP/QCI-255.0 violated any requirement imposed by any NRC regu-

lation that an electrician sign a TIC and identify the crimp tool used in making terminations.

4.2.2 Any violation of WPP/QCI-255.0 was committed with the intent or purpose of circumventing any quality control inspection or requirement imposed by any NRC regulation.

4.2.3 Any violation of WPP/QCI-255.0 had any safety significance.

5. Request for Remission of the Proposed Civil Penalty.

5.1 APS requests remission of the proposed civil penalty of \$40,000 on the grounds that the admitted violations of WPP/QCI-255.0 do not constitute Severity Level III violations, because:

5.1.1 All investigations of the matter demonstrate that the root cause of violations of WPP/QCI-255.0 was the inadequacy of the procedure itself.

5.1.2 WPP/QCI-255.0 was promptly corrected on July 12, 1982 when its inadequacy came to the attention of APS management.

5.1.3 The inadequacy of WPP/QCI-255.0 prior to July 12, 1982, did not constitute a breakdown in APS quality assurance program or involve deficient construction or construction of unknown quality, which under Supplement II to Appendix B of 10 CFR Part 2 are prerequisites of a Severity III violation.

5.1.4 The improper completion of replacement TICs by electricians did not have any safety significance.

6. Corrective Steps Which Have Been Taken and Results Achieved.

6.1 WPP/QCI-255.0 was revised on July 12, 1982, to require that each TIC prepared to replace a lost TIC must be marked "DUPLICATE" and the termination identified by the DUPLICATE TIC must be reperformed by the electrician signing such DUPLICATE TIC. Training in use of the revised WPP/QCI-255.0 by electricians performing terminations and their supervisors has been completed.

This corrective action has eliminated the root cause of the previous violations of WPP/QCI-255.0.

7. Corrective Steps Which Will be Taken to Prevent Recurrence.

7.1 No corrective steps beyond those already taken as described in Section 6.0 hereof are necessary to prevent recurrence.

8. Date When Full Compliance Will Be Achieved.

8.1 The revision of WPP/QCI-255.0 was completed on July 12, 1982.

APPENDIX 1

ATTACHMENT F

ALLEGED IMPROPER COMPLETION OF
ONE OR MORE ELECTRICAL TERMINATION CARDS

ALLEGED IMPROPER COMPLETION OF
ONE OR MORE ELECTRICAL TERMINATION CARDS

Section I.B. of the Notice of Violation alleges that a violation of Criteria V and XVII of Appendix B to 10 CFR Part 50 resulted from the improper completion of one electrical termination card and possibly 50 to 100 additional cards. The alleged improprieties in the completion of such card (or cards) were (i) the signature of an electrician indicating that he had made the electrical termination described on the card when, in fact, he had not done so, and (ii) the identification of a crimping tool by serial number as having been used to make the termination crimp when, in fact, a different crimping tool had actually been used.

This matter was not the subject of the CAT Inspection, but arose from an allegation made by an individual who then was or previously had been employed at Palo Verde. The the allegation, which was made to two Region V investigators and one Region V inspector on June 2, 1982, and some of the results and conclusions of the ensuing investigation are included in the Report of the Special NRC Inspection issued April 22, 1983.

Such report covers the period of the special inspection and investigations of several allegations conducted

from June 1, 1982, through March 11, 1983. The report, while disclosing the allegation respecting termination cards, did not disclose the name of the alleged nor the names of employees interviewed in the course of the special inspection.^{1/} No further disclosures of the special inspection and investigations have been made to APS. We have been informed that the NRC Office of Investigation has also made a report of its investigation, and has referred the matter to the Department of Justice for review. The Regional Administrator was unable to discuss the report of the Office of Investigation at the Enforcement Conference, because it was under review by the U.S. Department of Justice.

Following receipt of the April 22, 1983, Inspection Report, APS conducted a limited review of the matter. This review of the matter was limited, because, on advice of counsel, it was deemed that any attempt to contact and interview employees who might be the subject of the investigation could be construed as interference in a federal investigation.

On the basis of the limited review (principally a review of the April 22, 1983, Inspection Report and a record

^{1/} The alleged disclosed his identity at a news conference in Phoenix on July 14, 1983. The report referred to some of the employees interviewed as: "A", "B", "C", "D", "E", "F", "G", "H" and "J".

check), it appears to the best of APS' information and belief that the matter arose as a result of the need to replace certain electrical termination cards which had been lost and the absence of any procedure governing the replacement of such lost cards. This deficiency in procedures was corrected by revision of Work Plan Procedure/Quality Control Inspection Instruction (WPP/QCI) 255.0 on July 12, 1982. The following explanation of this procedure will assist in the understanding of this problem.

WPP/QCI 255.0 requires the craftsman performing a termination to complete the front side of a termination card where the termination is identified by (i) recording the date when the termination is made and the serial number of the crimping tool used and (ii) signing the card. The date, serial number and the craftsman's signature is not required and is not used to establish the quality of any termination. Indeed, under Appendix B to 10 CFR Part 50 quality control inspections of any work may not be conducted by any persons performing or responsible for the work. Thus, the signature of the craftsman and the crimping tool serial number are not and cannot be used or relied upon under NRC regulations to establish the acceptability of a termination.

The acceptability of a termination is determined and verified by visual inspections performed first by a Termination Engineer and subsequently and independently by a Quality Control Engineer. Each of these individuals is

required by WPP/QCI 255.0 to inspect each termination, and, if the termination is found to be acceptable, to record such fact by initialing, signing, and/or stamping appropriate spaces on the back of the termination card. These inspections are conducted in accordance with specifications set forth in 13-EM-306, and the acceptance criteria used are those established by Amp Special Industries for ring tongue terminals which are acceptable for use in nuclear power plants.

The crimp tool serial number and date recorded on the front of termination cards provides a means for identifying specific crimps accomplished during certain time periods. By utilizing this number and dates a total listing of all terminations made by a specific tool during a given time period may be obtained from the computerized data base developed from the information on the front of the termination cards. The capability to obtain such a listing is not required or useful for quality control purposes. It can be useful, however, if or when a crimping tool is found to be out of calibration, to identify the terminations made by that tool in the period between calibrations which will have to be reinspected.

The termination identified in the Notice of Violation, has been inspected and was found to be acceptable. The quality control inspection was documented in accordance with WPP/QCI 255.0. To the best of our knowledge, there has

been no substantiated allegation that either a Termination Engineer or a Quality Control Engineer has improperly stamped, initialed or signed any termination card. (See April 22, 1983, Inspection Report.) Further, as the April 22, 1983, Inspection Report shows, each of the terminations for which a replacement card was prepared was inspected by a Quality Control Engineer after the craftsman had signed the replacement card.

It is apparent from the April 22, 1983, Inspection Report that there was no intent on the part of any craftsman or his foreman or other supervisor to violate any NRC regulation since his signature and crimp tool serial number are not required by any such regulation. Nor could there be any intent to violate the required quality control inspection, because he did not and could not perform that function. The most adverse effect that could have flowed from an improper signature and the improper recording of a crimp tool serial number would be the need to recheck an excessive number of terminations if there was evidence that during the period when the termination was actually performed, crimping tools which were out of calibration were in use.

Investigation of the calibration records for crimping tools used at Palo Verde has not revealed any case where any crimping tool was out of calibration by a margin wide enough to affect the acceptability of crimps made with the tool. In fact, tests conducted to determine the effec-

tiveness of the crimping tools has shown that none of the total of 27 crimping tools which have been rejected for project use were damaged or out of calibration severely enough to produce an unsatisfactory termination.

Accordingly, in the absence of any information to the contrary as may be contained in the report of the Office of Investigation (which has not been disclosed), APS is of the opinion and belief that there is no evidence that any termination card was improperly completed by any craftsman, either on his own initiative or as a result of any direction of his foreman or other supervisor, with the intent to violate, defect or circumvent any Regulatory Requirement.

APS has also found no evidence, nor has any evidence been made available, to indicate that any inspection record completed by a quality control inspection was not completed in accordance with Regulatory Requirements. Additionally, APS has found no evidence, nor has any evidence been made available, that there are any terminations at PVNGS which are defective as a result of the alleged violation in Section I.B. of the Notice.