



Arizona Nuclear Power Project

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March 3, 1986
ANPP 35365-EEVB/JYM/98.05

Mr. John B. Martin, Regional Administrator
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Region V
1450 Maria Lane, Suite 210
Walnut Creek, CA 94596-5638

Subject: Palo Verde Nuclear Generating Station (PVNGS)
Unit 1
Docket No. STN 50-528 (License No. NPF-41)
Notice of Violation, 50-528/85-43-01,
50-528/85-43-03
File: 86-019-026; D.4.33.2; 86-056-026

Reference: NRC Inspection Report Nos. 50-528/85-43, 50-529/85-44, Letter from
J.B. Martin to E. E. Van Brunt, Jr., dated January 30, 1986.

Dear Mr. Martin:

This letter is provided in response to the inspection conducted by Messrs. R. Zimmerman, C. Bosted and G. Fiorelli of the NRC staff on November 13 through December 27, 1985, of activities licensed by License Nos. NPF-41 and NPF-46.

Based on the results of the inspection, two violations of NRC requirements (failure of closing the 8-inch containment purge supply and exhaust isolation valves and submittal of late Licensee Event Reports (LERs)) were identified. The violations are discussed in items a. and b. in Appendix A of the referenced letter, which is provided in Attachment 1. Responses to these items are submitted herewith in Attachment 2 to this letter.

Also included in Attachment 3 are responses to other concerns mentioned in the referenced letter. These concerns include the: 1) Post Trip Review process; 2) mispositioned diesel generator jacket water makeup valve; and 3) procedural adherence.

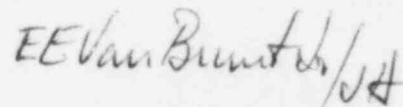
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Mr. Martin
Notice of Violation, 50-528/85-43-01,
50-528/85-43-03
ANPP-
Page 2

The response to the concern regarding errors made by the I&C Technicians will be included in the response to the Notice of Violation dated February 21, 1986, concerning the failure to bypass a radiation unit being tested. The response to this violation is scheduled to be submitted by March 24, 1986.

Very truly yours,



E. E. Van Brunt, Jr.
Executive Vice President
Project Director

EEVB/JYM/dk
Attachments

cc: A. C. Gehr (all w/a)
R. P. Zimmerman
E. A. Licitra

ATTACHMENT 1
APPENDIX A

NOTICE OF VIOLATION

Arizona Nuclear Power Project
Post Office Box 21666
Phoenix, Arizona 85036

Docket No. 50-528
License No. NPF-41

As a result of the inspection conducted on November 13 - December 26, 1985, and in accordance with NRC Enforcement Policy, 10 CFR Part 2, Appendix C, the following violations were identified:

- a. Technical Specification 3.6.1.7.b requires, in part, that the 8-inch containment purge supply and exhaust isolation valves be sealed closed to the maximum extent practicable, but may be opened for purge system operation for ALARA and respirable air quality considerations for personnel entry.

Contrary to the above, the 8-inch containment purge supply and exhaust isolation valves were not sealed closed to the maximum extent practicable during the period 10:00 PM on December 2, through 12:06 PM on December 3, 1985, in that, the valves remained open without justification following the completion of a containment personnel entry.

This is a Severity Level IV Violation (Supplement I)

- b. Technical Specification 6.6.1.a requires that the Commission be notified of Reportable Events, and a report be submitted pursuant to the requirements of 10 CFR Part 50.73.

10 CFR Part 50.73 requires, in part, that a Licensee Event Report be submitted within 30 days after discovery of any operation or condition prohibited by the plant's Technical Specifications.

Contrary to the above, the following instances of submittal of late Licensee Event Reports (LERs) were identified:

- o LER 85-70, documenting a condition prohibited by Technical Specification 3.2.3.b.3, was submitted to the Commission on October 25, 1985, 31 days after discovery, rather than 30.
- o LER 85-72, documenting a condition prohibited by Technical Specification 3.3.3.9, was submitted to the Commission on October 16, 1985, 31 days after discovery, rather than 30.

This is a repeat Severity Level V Violation (Supplement I)

ATTACHMENT 2

RESPONSE TO NOTICE OF VIOLATION 50-528/85-43-03 (ITEM a)

I. THE CORRECTIVE STEPS WHICH HAVE BEEN TAKEN AND THE RESULTS ACHIEVED

The immediate corrective action taken, when this problem was identified, was to secure power access purge operation and terminate the approved purge permit. During the entire period of purge operations, automatic isolation capabilities were operable so safety to the public was not compromised.

The root cause for this violation was a misinterpretation of administrative procedure 75AC-9ZZ02 which limited the duration of any power access purge to seven days in order to assure that the conditionally required weekly functional test would not be overlooked. If a purge operation required more than seven days, a new release permit would be created which would document a new functional test. In some cases, the administrative guidance was misinterpreted to mean that power access purge permits should be created for seven day periods.

II. THE CORRECTIVE STEPS WHICH WILL BE TAKEN TO AVOID FURTHER ITEMS OF NONCOMPLIANCE

Corrective actions taken to prevent recurrence have been primarily addressed in our release permit procedure in the form of a caution statement that identifies specifically when power access purge operations are permitted. The technicians responsible for the implementation of the procedure are aware of the contents of the procedure revision. Additionally, the continuing need for an in-progress power access purge will be addressed each day based on an evaluation performed by radiation protection and shift supervision.

III. THE DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Technical Specification compliance was achieved upon valve closure on December 3, 1985.

ATTACHMENT 2 (continued)

RESPONSE TO NOTICE OF VIOLATION 50-528/85-43-01 (ITEM b)

I. THE CORRECTIVE STEPS WHICH HAVE BEEN TAKEN AND RESULTS ACHIEVED

An investigation of the two late submittals of LER's revealed that the root cause was an overly cumbersome review and approval process for LER's, with multiple organizations sharing responsibility for both timeliness and adequacy. This investigation has been under constant scrutiny from the management of ANPP since the initial Notice of Violation which was issued in August of 1985 as a result of the late submittal of LER No. 85-32. At that time, the process used to identify, prepare, review, approve and submit reports was examined, and the conditions which led to the initial violation were corrected. In the case of LER 85-32, a non-conservative assumption related to reportability was made early in the identification and review process, which was not corrected soon enough to allow research and preparation of a timely report. To rectify the circumstances which led to that violation, extremely conservative criteria were imposed for the initial screening of events for reportability, and no similarly caused delays have been experienced to date.

As stated above, the management of ANPP recognized at that time that a comprehensive review and corrective measures may have been needed to fully address the overall reporting process. Detailed evaluation of this area by corporate QA/QC resulted in its issuance of a Management Corrective Action Report on August 13, 1985. Review of the MCAR, and internal discussions at the project management levels, resulted in the assignment of the Assistant Vice President, Nuclear Production, with the primary charter for developing an overall action plan and procedures to address its identified concerns.

During the period of October 1985 through January 1986, the interfaces, responsibilities and procedures used for the reporting of events, interface with regulatory agencies, and associated actions, were studied and an overall project reorganization was proposed and initiated. On February 7, 1986, the first of these changes was implemented with the naming of a Compliance Manager with overall responsibility and control in these areas. This position is being elevated to report to the Plant Manager. The Compliance Manager is in the process of implementing the required corporate restructuring, staffing evaluation, and procedure preparation to implement the plan developed. Two additional Compliance Supervisors are being selected and will join the organization in March and April. Each of these individuals will be experienced in the Project's controls and procedures, and will have previously worked in the reportability area. The balance of the staffing needs for the organization is under final review, and will be commensurate with the final scope of responsibilities assigned.

ATTACHMENT 2 (continued)

At no time have the few late LER's been late because they were not tracked properly.

To address the specific issue of late LER's, the proposed draft procedures for the new organization streamline that review and approval process, while placing additional emphasis on prompt attention to immediate corrective actions, resolution of technical issues and comprehensive actions to prevent recurrence.

II. THE CORRECTIVE STEPS WHICH WILL BE TAKEN TO AVOID FURTHER ITEMS OF NONCOMPLIANCE

The additional steps which will be taken to prevent further items of noncompliance are detailed above, and include completion of the reorganization, completion of the staffing evaluation, and implementation of the procedures to implement the overall program.

III. THE DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Since the occurrence of the circumstances described in the Notice of Violation, no further LER's have been submitted late. The required modifications to the project organization, staffing evaluation, and procedures are forecast for completion by April of 1986. These actions should prevent further occurrences of late LER's.

ATTACHMENT 3

POST TRIP REVIEW ADEQUACY

NRC Concern

The inspector examined the adequacy of the licensee's evaluation process for the reactor trip which occurred on December 16 and was documented in the Post Trip Review Report (PTRR) which received management approval prior to plant restart on December 18. Background information associated with the reactor trip is documented in paragraph 3.a. The implementing procedure, 79AC-9ZZ08, Post Trip Review Reporting, which specified the instruction for completing the PTRR was considered adequate; however, the evaluation of the December 16 trip was considered to lack thoroughness with regard to identifying and documenting plant anomalies and problem areas, including the implementation of appropriate corrective actions. The following examples were discussed in detail with plant management.

- a. The PTRR did not address the fact that the securing of the running main feedwater pump prior to the start of an auxiliary feedwater pump was a significant contributor to the reactor trip on low steam generator level. Further, although identified as not having been performed in the desired order by the licensee, specific operator shift briefings/training were not performed prior to restart to minimize similar future trips.
- b. The licensee's evaluation of the sequencer malfunction and corrective actions initiated prior to restart were considered adequate; however, plant management did not include the sequencer problem or actions taken to prevent recurrence in the PTRR. Rather, a reference to an addendum report to be issued by December 31, 1985, describing the sequencer problem was included in the PTRR. This report would also address longer term corrective action, if necessary. The inspector stated that although the sequencer problem was not directly tied to the reactor trip, it raised the most significant safety questions which needed to be resolved prior to restart. Thus, inclusion of more details on this issue in the PTRR report would seem to be appropriate.
- c. Similar to the item above, the "B" Chiller was repaired and root cause analysis initiated; however, no reference to the cause of the chiller trip or its effect on overall reliability was included in the PTRR.
- d. The PTRR did address the fact that the "N" Auxiliary Feedwater Pump discharge pressure gauge was valved out in preparation for performance of a surveillance test; however, it did not address the apparent lack of familiarity of Control Room personnel with the status of plant equipment and instrumentation.
- e. The PTRR did not address whether Technical Specification compliance was maintained during the initial transient and subsequent reactor trip.

ATTACHMENT 3 (Continued)

ANPP Resolution

- a. The PTRR did not address securing the running Main Feedwater Pump prior to starting the Non-Essential Auxiliary Feedwater Pump because while these actions were not taken in the preferred order, the order in which they were performed was not a significant issue for the following reasons:
- 1) According to available indication, flow was not being supplied to the Steam Generator by the running Main Feedwater Pump due to low feedwater regulating valve differential pressure. It made no difference that the running Main Feedwater Pump was secured prior to starting the Non-Essential Auxiliary Feedwater Pump.
 - 2) Operational order of starting the Non-Essential Auxiliary Feedwater Pump prior to securing the running Main Feedwater Pump is highly stressed during operator training in the Simulator. In this isolated case, the Shift Supervisor and Reactor Operator did not properly communicate to assure the intentions of the Shift Supervisor were carried out. This was corrected the following day when, at the direction of the Shift Supervisor, this crew discussed their communications during the event in an effort to enhance them. This was not considered to be a significant issue since, as stated in 1) above, the order of performance of operations did not have a significant effect on the transient and because this issue was addressed and resolved by the operating crew the following shift.

Although no formal briefings/training were held with each crew, each operating crew reviewed this event. Additionally post trip reviews are formally reviewed under the Operating Department Experience Report Program. Also, a letter was issued by the Unit 1 Superintendent addressing proper operational order when transferring from the Main Feedwater Pump to the Non-Essential Auxiliary Feedwater Pump. The Post Trip Review Reporting Procedure is being revised to include a section on PTRR Shift Briefing in which the Operations Manager or designee will determine whether it is necessary for the oncoming control room crew to participate in a briefing session to assure that event circumstances and plant response are understood. The revised PTRR Procedure will be effective by March 15, 1986.

- b. It is the intent of PVNGS management to completely review and document corrective action for significant operational events such as the failure of the sequencer. The purpose of a Post Trip Review Report is to assure that all Reactor Protection and other safety related systems function as required prior to and following a trip. As such, the PTRR is used as a tool by plant management. Since the Sequencer failure was unrelated to the cause of the Reactor trip and did not create complications to mitigating the consequences of the trip, the failure of the Sequencer was not included in the PTRR. An addendum was added to the PTRR to address the Sequencer failure as a means to assure proper review of the Sequencer failure and to document and track corrective actions for that failure.

ATTACHMENT 3 (Continued)

The Sequencer failure and repairs were tracked and documented with the existing methods contained in the work control program. The operational status of the technical specification related equipment was monitored using the Technical Specification Component Condition Records (TSCCR). Following identification that high temperature was a significant contributor to the Sequencer failure, cabinet temperature was monitored and documented hourly with a specific action plan identified and documented for Operations to implement if temperature reached a predetermined level. The identified condition was evaluated and corrective action identified and completed prior to restart. Also, a DCP upgraded the cabinet fans. This was accomplished independent of the PTRR.

A procedure, separate from the PTRR procedure, is being drafted which will analyze, and specify corrective actions for significant events which are unrelated to Reactor trips. Following its implementation, events such as the Sequencer failure will be handled using the new procedure. The procedure is forecasted to be implemented by June 30, 1986.

- c. Our response to the item regarding the trip of the "B" Chiller is similar to that above for the Sequencer. The failure of the "B" Chiller was not a contributing cause to the Reactor trip.
- d. We do not attribute "...apparent lack of familiarity...with the status of plant equipment and instrumentation" to the Control Room staff. Isolation of the gauge in question was masked due to control of this activity being in a procedure and therefore not requiring a Control Board discrepancy tag. This problem was quickly recognized and corrected by deleting the requirement for isolation of this gauge from the surveillance test.

While it is true that the crew failed to recognize and remember that the Non-Essential Auxiliary Feedwater Discharge Pressure Gauge had been isolated for performance of a surveillance test, it is an overstatement to characterize them as having a general lack of familiarity with the status of plant equipment and instrumentation.

- e. Compliance with the Technical Specifications was verified in the PTRR in parts 111B, 111C, 111D, 111E and 111F. In addition, part IVC verified that no Technical Specification action statements were in effect which would prevent the Unit from returning to power. The STA verified compliance with Technical Specifications during and following the transient as part of his routine duties in such a situation. These routine actions are not noted in the PTRR.

The PTRR procedure will be upgraded to provide clarification of the process. Items addressed are listed below:

- 1) The requirement for a more detailed sequence of events was formalized.

ATTACHMENT 3 (Continued)

- 2) The review process (flow) was clarified. The Unit Superintendent was included in the review process and the requirement for the Shift Supervisor to review the PTRR was clarified. In addition, the method for controlling addenda to the PTRR was included.
- 3) Plant status data sheets were revised to provide additional information.
- 4) The Post Trip Review Committee function was clarified.
- 5) A requirement was added to specify dates or conditions by which corrective actions must be implemented.

ATTACHMENT 3 (Continued)

MISPOSITIONED DIESEL GENERATOR JACKET WATER MAKEUP VALVE

NRC Concern

On November 29, 1985, the inspector observed that the "A" Diesel Generator jacket water makeup valve (DGA-V004) was in the closed, rather than the normally open position. The makeup valve is a small, manual valve with a non-critical function. The Control Room alignment sheets and status print incorrectly indicated the valve was open. Upon informing operating shift personnel of the mispositioned valve, it was promptly returned to the proper, open position. The licensee's investigation was unable to conclusively determine how the valve became closed. On December 2, 1985, the inspector observed that the above valve was in the proper open position; however, the alignment sheets and status print now showed the valve as closed. The licensee determined that the valve was closed during a jacket water heater replacement performed on November 30 and December 1, and the Control Room status systems were not updated following reopening of the valve. The inspector discussed the mispositioned valve and the two instances of maintaining inaccurate valve status in the Control Room with licensee management. The inspector also reviewed a large sample of valve position verifications performed without identification of discrepancies by the licensee's Quality Assurance Department. The adequacy of the licensee's valve position controls will be reviewed as a follow-up item.

ANPP Resolution

In both cases, the operator took prompt action upon realizing that the valve position did not correspond to the Control Room alignment sheets and status prints. This appears to be an isolated occurrence substantiated by the extensive monitoring program by Quality Assurance. The monitoring program includes checking valve status and the corresponding Control Room alignment sheets and status print. The number of deficiencies noted by QA has been small, indicating that the overall program is working. QA monitoring is frequent, sometimes 2 or 3 times a month. Whenever a significant number of valve manipulations and/or significant maintenance has been done on a system, a complete system realignment is generally performed to minimize any errors that could be due to the valve status file.

Additionally, it should be noted that no locked valve or breaker, required to be locked in a specific position, has been found out of the required position for the mode the plant was in during the extensive monitoring by Quality Assurance.

ATTACHMENT 3 (Continued)

PROCEDURE ADHERENCE

NRC Concern

On December 3, 1985, at about 8:10 A.M., a leaking main condenser tube plug resulted in a high silica concentration of .37 ppm in the No. 1 Steam Generator. Procedure 74AC-9ZZ04, Systems Chemistry Specifications, step 5.3.4.1, required that with a silica concentration greater than .3 ppm (action level 3) shutdown was required within four hours. Responsible chemistry personnel identified that the specified required action level 3 was in error, and that in accordance with the PWR Secondary Water Chemistry Guidelines prepared by the Steam Generator Owners Group, the proper action level should be level 1, which required that the concentration be returned to within normal range within one week. The licensee did increase steam generator blowdown and the silica concentration was returned to acceptable levels at about 11:50 A.M., prior to exceeding the four hour action level 3. The inspector noted that a procedure change to 74AC-9ZZ04, step 5.3.4.1 was not initiated to correct the erroneous action level from a level 3 to a level 1 with greater than .3 ppm silica.

Based on discussions with Chemistry and Operations staff, the inspector learned that no plans to commence a plant shutdown were considered due to the knowledge of the procedure error and action to initiate a procedure change to correct the error in "real time" was not pursued, apparently due in part to the fact that changes to 74AC-9ZZ04 require a Plant Review Board approval prior to implementation.

The inspector informed licensee management that the potential deviation from step 5.3.4.1 appeared to indicate a lack of understanding on the part of plant personnel concerning when a procedure change is required.

Corporate, plant and Quality Assurance management stressed to the inspector their policy of commitment to procedure compliance.

The inspector expressed concern that basic procedure adherence must be understood and appreciated at all levels of the organization for company policy to be effectively carried out. The area of procedure adherence will continue to be evaluated as part of the routine inspection program.

ANPP Resolution

Procedure 74AC-9ZZ04 has been revised to correct the required action level change for silica concentrations greater than .3 ppm. The action level has been changed from level 3 to level 1.

In addition, provisions have been made in Procedure 74AC-9ZZ04 to permit the Chemical Services Manager or his designee to modify system chemistry specifications (excluding Technical Specification related specifications) by performing and documenting an evaluation of the condition and effect using a sound technical basis for the change. This will help ensure procedure compliance and still provide flexibility in plant operation.

ATTACHMENT 3 (Continued)

Senior management is committed to full compliance with procedures. This commitment has been stressed at meetings between various levels of management, including meetings between the Vice President, Nuclear Production, and the plant personnel. This commitment will continue to be stressed and individuals will be held accountable for procedure violations.