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FACIL: STN-50-528 Palo Verde Nuclear Station, Unit 1, Arizona Publi 05000528
STN-50-529 Palo Verde Nuclear Station, Unit 2, Arizona Publi 05000529
AUTH. NAME AUTHOR AFFILIATION
CHAFFEE, A. E. Region 5, Office of Director
RECIP. NAME RECIPIENT AFFILIATION
VAN BRUNT, E. E. Arizona Nuclear Power Project (formerly Arizona Public Serv

SUBJECT: Ack receipt of 870619 ltr informing NRC of steps taken to correct violations noted in insp of Licenses NPF-41 & NPF-51.

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Docket Nos. 50-528 and 50-529

Arizona Nuclear Power Project
Post Office Box 52034
Phoenix, Arizona 85072-2034

Attention: Mr. E. E. Van Brunt, Jr.
Executive Vice President

Gentlemen:

Thank you for your letter dated June 19, 1987, informing us of the steps you have taken to correct the items which we brought to your attention in our letter dated May 21, 1987. Your corrective actions will be verified during a future inspection.

Your cooperation with us is appreciated.

Sincerely,
Original signed by
D. F. Kirsch
A. E. Chaffee, Deputy Director
Division of Reactor Safety and
Projects

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102-00414-EEVB/TDS
June 19, 1987

NRC Document Control Desk
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Subject: Palo Verde Nuclear Generating Station (PVNGS)
Unit 1 and 2
Docket No. STN 50-528, 529 (License NPF-41 and NPF-51)

Reply to Notice of Violation: 50-528/87-10-03 and 50-529/87-11-01

File: 87-001-493

Reference: Letter from D. F. Kirsch (NRC) to E. E. Van Brunt, Jr. (ANPP), dated May 21, 1987, NRC Inspection Reports 50-528/87-10, 50-529/87-11 and 50-530/87-12

This letter is provided in response to the inspection conducted by Messrs. R. Zimmerman, G. Fiorelli, J. Ball, K. Ivey and R. C. Sorenson on February 23 through April 4, 1987. Based on the results of the inspection, two (2) violations of NRC requirements were identified. The violations are discussed in Appendix A of the referenced letter. The violations and ANPP's response are provided in Attachment 1.

Very truly yours,

E. E. Van Brunt

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

EEVB/TDS:kj

Attachment

cc: J. G. Haynes (w/attachment)
J. B. Martin (w/attachment)
R. P. Zimmerman (w/attachment)
E. A. Licitra (w/attachment)
A. C. Gehr (w/attachment)

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ATTACHMENT 1

NOTICE OF VIOLATION

Arizona Nuclear Power Project
Post Office Box 52034
Phoenix, Arizona 85072-2034

Docket No. 50-528, 50-529
License No. NPF-41, NPF-51

As a result of the inspection conducted on February 23 through April 4, 1987 and in accordance with NRC Enforcement Policy, 10 CFR Part 2, Appendix C, the following violations were identified. Item A is associated with License No. NPF-41. Item B is associated with License No. NPF-51.

A. Technical Specification 6.8.1 states, in part, "Written procedures shall be established, implemented, and maintained covering the activities referenced below:

a. The applicable procedures recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978...."

Regulatory Guide 1.33, Revision 2, February 1978 recommends "Procedures for Control of Measuring and Test Equipment".

ANPP Procedure 34AC-9ZZ07, "M&TE Users Administrative Requirements", Revision 7, dated January 12, 1987 sections 3.0 and 4.0 state, in part, that a measuring and test equipment (M&TE) device that is overdue for calibration is nonconforming and must be properly segregated and tagged with an "M&TE Out of Service" tag.

Contrary to the above, as of March 31, 1987, Unit 1 Rotometer No. EG-4092, a M&TE device, was not deemed to be nonconforming, segregated and tagged out of service, although its calibration was overdue as of March 14, 1987.

This is a Severity Level IV Violation (Supplement 1).

ATTACHMENT 1 CONTINUED

RESPONSE TO NOTICE OF VIOLATION DATED MAY 21, 1987

I. Reason for the Violation

An evaluation conducted by the responsible department concluded that the root cause, which led to the issuance of this violation, was a failure to properly document evaluations which were conducted to substantiate a decision to continue the use of rotometer EG-4092. The basis for that decision is discussed below.

The grab sample cart with rotometer number EG-4092 was installed in the system as required by Technical Specification 3.3.3.8, Action 36, 37, and 40 due to the inoperability of installed monitor RU-145.

The requirements of the Action Statements, in summary, are to collect noble gas grab samples at least once per 12 hours, particulate/ radioiodine samples continuously, and to "estimate" the sample and process flow rates at least once per 4 hours. These requirements apply to individual monitor functions or channels. The requirements are satisfied by the use of the grab sample cart and associated equipment.

The violation addresses Unit 1 rotometer No. EG-4092 as an M&TE device. Typically rotometers have an accuracy, by virtue of their design, of $\pm$5%. When an in situ calibration of a rotometer is performed, accuracies of $\pm$1.0 to $\pm$2.0% may be obtained. These accuracies however, do not qualify rotometers as measuring and test equipment.

Rotometers are normally calibrated against a primary or more accurate secondary standard. These calibrations are usually performed with one part of the rotometer at "room" temperature and pressure. The accuracy, therefore, is limited by the reproducibility or correction to these conditions. I.E. Bulletin 82-49 addresses the error due to pressure differentials inherent to these instruments. This bulletin also provides the methods for correcting or minimizing the impact of the error conditions.

Based on the above discussion of design characteristics of variable area rotometers of the type used on the grab sample carts at Palo Verde, the requirements of Regulatory Guide 1.33, Revision 2 February 1978 do not apply.

In addition, 34AC-9ZZ07, "Measuring and Test Equipment (M&TE) Users Administrative Requirements", specifically exempts portable and laboratory radiac equipment and air samplers from the category of M&TE equipment.

The calibration frequency, as required by Technical Specifications, for the installed monitoring system flow measurement device is 18 months. The 6 month calibration frequency for the grab sample cart rotometer was assigned in lieu of other guidance and is more restrictive than the requirements for permanently installed plant equipment.

A rotometer, by the simplicity of its design, is not as accurate as more sophisticated flow measurement devices. This simplicity also

limits the factors contributing to a loss of calibration accuracy to one of dirt accumulation on interior surfaces in contact with the measured medium.

The design of the grab sample cart places the rotometer downstream of a particulate filter which is 90% efficient for the removal of submicron particles. This effectively eliminates the primary contributor to calibration degradation. It should be noted that thus far, no rotometer used in a grab sample cart at Palo Verde has failed calibration.

In consideration of the calibration requirements for the installed system and the inherent stability of rotometer type flow meters, system operability was not impaired by extending the calibration interval.

At the time of this event ANPP was unable to perform the calibrations of the rotometers and was solely dependent upon vendor services. The services available could not consistently provide an adequate "turn around" time on the calibrations to support the established calibration intervals. The responsible lead technician was aware that the calibration interval had been exceeded however he concluded, based upon the information discussed above, that the rotometer did not need to be removed from service. Although the basis for his decision is considered appropriate and had no effect on the operation or reliability of the monitor, his failure to properly document the decision and receive appropriate approvals for the revised calibration schedules resulted in violating established administrative controls.

II. Corrective Steps Which Have Been Taken and Results Achieved

As an immediate corrective action rotometer EG-4092 was removed from service and replaced with a calibrated rotometer on April 14, 1987.

The individuals responsible for ensuring calibration requirements are met for Radiation Protection equipment have been instructed on the proper methods to document the basis for their decisions and the administrative requirements for revising established calibration schedules when changes have been approved.

III. Corrective Steps Which Will Be Taken to Avoid Further Violations

To enable the responsible technicians to more closely monitor and control the calibration of their equipment, the rotometers will be removed from the M&TE calibration listing and subsequent calibrations will be performed by Radiation Protection under the Radiation Protection Calibration Program.

The ability of the responsible technicians to calibrate the equipment they are responsible for and the establishment of centralized accountability in this area is expected to prevent further occurrences in this area.

IV. Date When Full Compliance Will Be Achieved

The rotometers are expected to be placed in the Radiation Protection Calibration Program by June 30, 1987.

ATTACHMENT 1 CONTINUED

NOTICE OF VIOLATION

B. Technical Specification 3.4.3.1 states in part, that when in Mode 1, and only one of two required groups of pressurizer heaters is operable, the inoperable group of heaters must be restored to operable status within 72 hours, or the unit must be in at least Mode 3 within the next six hours.

Technical Specification 4.4.3.1.3 requires in part, the operability of the pressurizer heaters include the ability to connect the pressurizer heaters to their respective buses manually from the Control Room.

Contrary to the above, Unit 2 remained in Mode 1 during the interval from 5:00 P.M. on March 20 to 3:00 P.M. on March 24, 1987, a period of approximately 94 hours, when one group of pressurizer heaters could not be connected to its respective bus manually from the Control Room. Connection of that group of heaters to the bus could only be accomplished locally at the breaker.

This is a Severity Level IV Violation (Supplement 1).

ATTACHMENT 1 CONTINUED

RESPONSE TO NOTICE OF VIOLATION DATED MAY 21, 1987

I. Reason for the Violation

At 1700 MST on March 20, 1987, Palo Verde Unit 2 was in Mode 2 (STARTUP) at approximately 1 percent reactor power when a Control Room Operator discovered that the Class 1E Train "B" bank of pressurizer backup heaters could not be energized from the control room. The Assistant Shift Supervisor went to the local breaker and manually shut the breaker and manually shut the breaker energizing the heaters. The heaters then functioned properly.

The Shift Supervisor, the Day Shift Supervisor and the on duty Shift Technical Advisor then discussed the applicable Technical Specification Limiting Condition for Operation (LCO)(3.4.3.1) and agreed they were in compliance with the LCO since the heaters were capable of being powered from a Class 1E bus (BU). The applicable Technical Specification is shown on page 11 of this Attachment.

On March 27, 1987, an NRC resident inspector discussed the event with the Shift Supervisor and stated that the 18 month Technical Specification Surveillance Requirement, 4.4.3.1.3b, requires that the heaters are capable of being reconnected to their respective buses manually from the control room following a loss of power. Based on this information the Shift Supervisor initiated an investigation

to determine if the heater could have been reenergized from the control room following a loss of power. It was found that the normal circuit for the heaters is the same circuit that is used following a loss of power. Therefore, the heaters could not be reenergized from the control room after a loss of power although the heaters could have been and were energized locally.

Since the surveillance requirement could not be met, the pressurizer heaters were technically inoperable even though the Limiting Condition for Operation was met in that the pressurizer heaters were capable of being powered from Class 1E buses.

The cause of the event has been determined to be a personnel error in that the Shift Supervisor, Day Shift Supervisor and the Shift Technical Advisor did not recognize the Surveillance Requirements and believed the heaters were operable as required by the Technical Specification Limiting Condition for Operation (LCO). A contributory factor to the error is that the LCO requires that the heaters are capable of being powered from the Class 1E buses and is silent concerning manual reconnection from the Control Room.

II. Corrective Steps Which Have Been Taken and Results Achieved

As reported in LER 2-87-002 and as stated in the inspection report and the notice of violation, the heater bank was restored to operability on March 24, 1987 upon replacement of a faulty heater breaker.

As immediate corrective action, on March 30, 1987 the Operations Manager issued a memorandum to the Unit Superintendents discussing this event and emphasizing the fact that Surveillance Requirements are applicable during Operational Modes in accordance with Technical Specification 4.0.1.

Additionally, on April 8, 1987, an Operations Department Experience Report (ODER) was issued to Units' 1, 2, and 3 Shift Supervisors. The ODER is entitled "Guidelines for Determining Operability", and provides a definition for OPERABLE/OPERABILITY including Surveillance Requirement 4.0.1.

Also, the ODER provides a course of action to take when OPERABILITY is not clearly defined.

III. Corrective Steps Which Will Be Taken To Avoid Further Violations

The ODER discussed above is required reading for all shift personnel. This action is expected to preclude the occurrence of similar events.

IV. Date When Full Compliance Will Be Achieved

Compliance with the Technical Specification LCO was achieved on March 24, 1987 with the replacement of the faulty heater breaker.

The ODER is currently in the process of review by all Operations shift personnel. The review is expected to be completed by June 30, 1987.

PRESSURIZER

LIMITING CONDITION FOR OPERATION

3.4.3.1 The pressurizer shall be OPERABLE with a minimum steady-state water level of greater than or equal to 27% indicated level (425 cubic feet) and a maximum steady-state water level of less than or equal to 56% indicated level (948 cubic feet) and at least two groups of pressurizer heaters capable of being powered from Class 1E buses each having a nominal capacity of at least 150 kW.

APPLICABILITY: MODES 1, 2, and 3.

ACTION:

a. With only one group of the above required pressurizer heaters OPERABLE, restore at least two groups to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.

b. With the pressurizer otherwise inoperable, restore the pressurizer to OPERABLE status within 1 hour, or be in at least HOT STANDBY with the reactor trip breakers open within 6 hours and in HOT SHUTDOWN within the following 6 hours.

SURVEILLANCE REQUIREMENTS

4.4.3.1.1 The pressurizer water volume shall be determined to be within its limits at least once per 12 hours.

4.4.3.1.2 The capacity of the above required groups of pressurizer heaters shall be verified to be at least 150 kW at least once per 92 days.

4.4.3.1.3 The emergency power supply for the pressurizer heaters shall be demonstrated OPERABLE at least once per 18 months by verifying that on an Engineered Safety Features Actuation test signal concurrent with a loss-of-offsite power:

a. The pressurizer heaters are automatically shed from the emergency power sources, and

b. The pressurizer heaters can be reconnected to their respective buses manually from the control room.