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 AUTH. NAME AUTHOR AFFILIATION  
 VAN BRUNT, E. E. Arizona Nuclear Power Project (formerly Arizona Public Serv  
 RECIP. NAME RECIPIENT AFFILIATION  
 MARTIN, J. B. Region 5, Ofc of the Director

*Insp 88-07*

SUBJECT: Forwards Special Event

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Arizona Nuclear Power Project

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March 10, 1988

J. B. Martin, Regional Administrator  
U. S. Nuclear Regulatory Commission  
1450 Maria Lane - Suite 210  
Walnut Creek, CA 94596

RECEIVED  
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Subject: Palo Verde Nuclear Generating Station  
Docket Nos. STN 50-528 (License NPF-41)  
STN 50-529 (License NPF-51)  
STN 50-530 (License NPF-74)  
NRC Information Request  
File: 88-056-026

Dear Mr. Martin:

On February 29, 1988 a management meeting was held with you, members of your staff and selected ANPP management. During the meeting, the event relating to the improper setting of the Limitorque limit switches on the auxiliary feedwater pump was discussed. As noted in your inspection report (528, 529, 530/88-07), the Special Plant Event Evaluation Report (SPEER) conducted as a result of the event was extensive, however, some of the issues discussed at this meeting were not specifically addressed in the report. Because of the relevance of these issues to the event, the additional information will be included as a supplement to the SPEER.

A copy of the SPEER and the additional information are attached for your information and review. If you have any questions please contact Mr. Timothy D. Shriver of my staff at (602) 393-2521.

Very truly yours,

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

EEVB/TDS/kj

Attachment

cc: O. M. DeMichele  
A. C. Gehr  
T. J. Polich

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IE-101



ATTACHMENT

During a recent meeting between the NRC Region V Staff and ANPP Management several issues were discussed that had not been specifically addressed in the SPEER. Because of their relevance to the event these issues and associated corrective actions are being documented in this Supplement to Special Plant Event Evaluation Report Number 87-02-019.

The Engineering Evaluation Request (EER) was not intended to perform modifications that could change the design basis but was intended to be a method utilized to request a technical clarification or evaluation from the Engineering Evaluation Department and provide for "minor" design changes. Therefore the process does not include the necessary controls to ensure proper maintenance of the design basis such as cross discipline reviews or approval by the Plant Manager. In the event discussed in this report the initial error occurred because current procedural controls permit the use of the EER process instead of the Site Modification or Plant Change Request process. The Limitorque limit switch settings were not included in the design base documents available to the system engineer and procedure 73PR-9ZZ04 specifically requires an EER to be used to authorize changes in Limitorque limit switch settings. Therefore the responsible system engineer did not believe the instructions he provided for resetting the switches constituted a design change. As a result, the following actions will be taken:



- a) The EER procedure will be evaluated and modified as appropriate to ensure it provides sufficient controls for its intended use. The evaluation will include consideration of the deletion of the provision made to make "minor" design changes unless specific controls (e.g. concurrence by the Nuclear Engineering Department) are satisfied. As a minimum the definition currently used for "minor change" will be evaluated and revised as necessary to ensure that its application is consistent and in accordance with current regulatory guidance. The procedure will include clear instructions to consider the potential effects on interfacing systems outside the scope of the cognizant system engineer responsible for processing any EER.

Schedule: To be completed in April, 1988.

- b) Instruction will be given to system and Nuclear Engineering Department engineers on the existing EER procedure, site modification procedure, and the design change process to ensure comprehension of the process differences. Follow-up training will be conducted if the EER procedure is modified. Instruction will also accentuate the need to consider potential effects on interfacing systems outside the scope of the cognizant system engineer responsible for processing any EER.

Schedule: To be completed in April, 1988 by System Engineering and August, 1988 by Nuclear Engineering..





- c) An audit will be conducted to determine if other design base changes have been made using the EER process.

Schedule: The audit scope is currently being developed. The audit is scheduled to begin in March, 1988.

- d) As an interim measure (as discussed in the SPEER) a memo will be issued to the system engineers requiring that all proposed modifications to Limitorque switch settings be processed in accordance with the site modification procedure. Procedure 73PR-9ZZ04 will be revised to reflect this change.

Schedule: The memo was issued March 4, 1988. The procedural revision is expected to be completed in March, 1988.

- e) The current Limitorque switch settings will be evaluated by the Nuclear Engineering Department and included in the design basis.

Schedule: To be completed in March, 1988.

- f) The Nuclear Engineering Department will conduct an evaluation to ensure that there are no other necessary parameters which are not being maintained in the design basis.

Schedule: To be completed in December, 1988.

In order to address the more generic issue concerning the overall qualifications of the system engineers the following actions will be taken:

- a) Expand and refine definition of system engineer responsibilities in EED-034.

Schedule: To be complete in April, 1988.

- b) Analyze and define specific system engineer job/performance requirements.

Schedule: To be completed in May, 1988.

- c) Evaluate each system engineer's knowledge and abilities vs. job/performance requirements for current work assignment.

Schedule: To be completed in July, 1988.

- d) Develop individualized training plan for each system engineer based on (c).

Schedule: To be completed in August, 1988.

- e) Implement system engineer training plans.

Schedule: To be completed in November, 1988

- f) Revise procedures/department instructions to implement job/performance requirements, including information systems and other resources required by the system engineer.

Schedule: To be completed in August, 1988.

- g) Evaluate effectiveness of actions taken as described in items (a)-(f) and take additional action as appropriate. This evaluation will include the necessity of establishing a periodic retraining program. Schedule: Although an ongoing process, sufficient meaningful data should be available to evaluate overall effectiveness by June, 1988.

Another issue that was raised during subsequent discussions concerning the event was the adequacy of the retests performed. As discussed above, had the appropriate design change process been utilized, the specified retest would have undergone a cross discipline review which would have ensured the appropriate tests were conducted. However, the event did disclose areas within the retest program that require evaluation and strengthening. As a result the following actions will be taken:

- a) Planner Coordinators (PC's) will retain the responsibility to specify post maintenance retest requirements. As an interim step, a retest guideline will be developed and implemented as an aid in specifying an appropriate retest. Longer term corrective action will consist of developing a retest manual detailing generic post maintenance test requirements for components.

Schedule: The interim retest guideline is scheduled to be completed in July, 1988. The retest manual is scheduled to be complete in December, 1989.

- b) Shift Supervisors or Work Control Shift Supervisors will continue to concur with post maintenance retest to the extent that the retest is



sufficient to satisfy Technical Specification requirements for operability. This constitutes a clarification of the scope for the Shift Supervisor and/or Work Control Shift Supervisor, thus, the necessary change to Work Control (30AC-9ZZ01) will be promulgated to clarify both the PC's and SS's responsibilities.

Schedule: To be completed in July, 1988.

- c) A procedure change to Administrative Controls for design changes will be made to emphasize the system engineers' responsibility to specify retests necessary to assure confirmation of the design basis and operability of effected systems or equipment are met following a design change. Thus retests for design changes will receive the same level of scrutiny.

Schedule: To be completed in April, 1988.

- d) Instruction will be provided to the responsible organizations to address the above procedural changes.

Schedule: To be completed in April, 1988.

The EER and associated work document authorizing the limit switch adjustment received numerous reviews. However, the error which subsequently lead to the inoperability of the auxiliary feed pump was not identified. As noted by the NRC and ANPP from the personnel interviews that were conducted, various individuals reviewing and signing the document had different views concerning what they were reviewing the document for and what their signature meant. As a result, the following actions will be taken:



- a) The EER procedure will be revised to insure each review is clearly defined as to its intended scope and that the approval level is appropriate for the activity.

Schedule: To be completed in April, 1988.

- b) Administrative Control procedures governing surveillances, work control, and design changes will be reviewed and revised as necessary to ensure each review is clearly defined as to its intended scope and that the approval level is appropriate for the activity.

Schedule: To be completed in September, 1988.

- c) Other procedures will be reviewed as above during the normal periodic review process required by ANSI N18.7 - 1976.

In order to ensure that the Quality Assurance/Quality Control reviews and inspections are conducted in an independent manner and in a manner to ensure quality, the following actions will be taken:

- a) Instructions for work order review will be revised to ensure that quantitative/qualitative acceptance criteria are either provided in the work step or clearly referenced in the work step. References or supporting documentation not germane to the inspection will not be included in the inspection instructions.

Schedule: To be completed in March, 1988.





- b) This event will be reviewed with the Quality Engineers performing work order reviews, the Mechanical Quality Engineering Supervisor, and the Manager, Quality Systems and Engineering. This will be done to reemphasize the need for clearly identified and documented acceptance criteria.

Schedule: To be completed in March, 1988.

- c) Instruction QA01.00.03, "Conduct of Quality Control Department Activities", describes the day to day activities of QC department personnel and their responsibilities. This instruction (in final review at this time) includes management guidance that states;

- 1) "Quality Control Inspectors shall accept only that work which is included in the work document."
- 2) "Quality Control Inspectors shall base the results of an inspection only for the work that is directly observed and verified."

Schedule: To be completed in April, 1988.

- d) Discussions will be held with QC inspectors to emphasize that they review the manner in which holdpoint acceptance criteria are specified for the work they are inspecting and, if not satisfactory, to pursue resolution of their concerns with appropriate personnel.

Schedule: To be completed in March, 1988.



- e) An evaluation will be conducted to determine if an expansion of the existing training program is warranted and if the implementation of a long range training program, similar to the program developed for the system engineers, would be appropriate for the Quality Systems/Engineering Department.

Schedule: To be completed in June, 1988.

As a result of interviews held with individuals involved in this event, questions have arisen regarding Management's expectations. Although Executive Level Management has consistently voiced a priority system of safety first, quality second, and then cost and schedule; there are indications that this system is not being consistently applied at the point where work is being done.

Therefore the following actions will be taken:

- a) To emphasize the accountability of the supervisors, it will be mandatory that individual errors committed by cognitive personnel assigned be reflected in the Supervisors' performance evaluations.
- b) Directions will be provided to procedure reviewers to ensure responsibilities, particularly in those cases where departmental jurisdiction's interface, are clearly defined and that the wording is such that accountability for the actions implemented will be understood by the responsible organizations.

Schedule: To be completed in April, 1988.



c) Current event investigation techniques will be evaluated for the inclusion of potential enhancements. If required, an implementation schedule will be developed based upon the results of that evaluation.  
Schedule: To be completed in September, 1988.

d) To further promote ANPP Management's commitments to procedural adherence and attention to detail, these principles will be incorporated into the selection process for the "Nuclear Excellence Award Program" which is currently being revised. Among other acknowledgements the recipients of this award will be the subject of an article published in the "Reactor". This is being done to reinforce management's expectations and ideals that top performance in areas such as procedural adherences and attention to detail will be recognized and rewarded.

Schedule: To be completed in May, 1988.

