

June 23, 2006

Mr. James M. Levine  
Executive Vice President, Generation  
Mail Station 7602  
Arizona Public Service Company  
P.O. Box 52034  
Phoenix, AZ 85072-2034

SUBJECT: PALO VERDE NUCLEAR GENERATING STATION, UNITS 1, 2, AND 3 -  
REQUEST FOR ADDITIONAL INFORMATION REGARDING TECHNICAL  
SPECIFICATION AMENDMENT SUBMITTAL (TAC NOS. MC9425, MC9426,  
AND MC9427)

Dear Mr. Levine:

By letter dated December 23, 2005, Arizona Public Service Company submitted a license amendment request for the Palo Verde Nuclear Generating Station, Units 1, 2, and 3. The request is to extend the allowed out-of-service time for one inoperable emergency diesel generator from 72 hours to 10 days, add a clarifying note to Condition F of Technical Specification (TS) 3.8.1, "AC [alternating current] Sources – Operating," and revise TS 3.4.9, "Pressurizer," to delete the words which require that the two groups of pressurizer heaters be capable of being powered from an emergency power supply.

The Nuclear Regulatory Commission (NRC) staff has reviewed the information provided and determined that additional information is required in order to complete the evaluation. The additional information being requested is enclosed. As discussed with Glenn Michael of your staff, the NRC staff is requesting a response within 30 days of the date of this letter.

If you have any questions, please contact me at 301-415-3062.

Sincerely,

/RA/

Mel B. Fields, Senior Project Manager  
Plant Licensing Branch IV  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket Nos: STN 50-528, STN 50-529  
and STN 50-530

Enclosure: Request for Additional Information

cc w/encl: See next page

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REQUEST FOR ADDITIONAL INFORMATION

ARIZONA PUBLIC SERVICE COMPANY, ET AL.

PALO VERDE NUCLEAR GENERATING STATION, UNITS 1, 2, AND 3

DOCKET NOS. STN 50-528, STN 50-529, AND STN 50-530

By letter dated December 23, 2005, Arizona Public Service Company submitted a license amendment request for the Palo Verde Nuclear Generating Station (PVNGS), Units 1, 2, and 3. The request is to extend the allowed out-of-service time (AOT) for one inoperable emergency diesel generator (EDG) from 72 hours to 10 days, add a clarifying note to Condition F of Technical Specification (TS) 3.8.1, "AC [alternating current] Sources – Operating," and revise TS 3.4.9, "Pressurizer," to delete the words which require that the two groups of pressurizer heaters be capable of being powered from an emergency power supply.

The staff has reviewed the information provided and determined that the following additional information is required in order to complete the evaluation.

1. Provide a qualitative or quantitative assessment of the following risk changes:
  - Information on risk-important components and configuration that will be affected by the proposed extension, including Diesel Fuel Oil and Pressurizer Heaters.
  - Please provide a brief discussion and related information regarding the risk quantification tool.
  - Provide a discussion of the probabilistic risk assessment (PRA) quality, with emphasis on the system(s) and train(s) affected by the amendment. The discussion may include parametric uncertainty.
  - Please provide relative risk impact on incremental conditional core damage probability (ICCDP) and incremental conditional large early release probability (ICLERP), using zero maintenance model versus regular model with baseline test/maintenance activities.
  - Are there any compensatory measures to mitigate the potential risk increases due to the amendment? If so, provide a discussion of the proposed compensatory measures and the associated benefit in both quantifiable and non-quantifiable terms.
  - Provide a brief discussion of the plant configuration control program and the on-line risk monitor.
2. Your risk assessment in the submittal was based on internal events only. Discuss the impact of potential external events and risk contributors, such as fire.

3. On page 17 of Enclosure 2 you state that your ICCDP would exceed the Regulatory Guide (RG) guideline. The intent in making the comparison of the PRA results with RG 1.177 is to demonstrate, with reasonable assurance, that Principle 4 in the "Discussion" section of RG 1.177 is being met. Please discuss how Principle 4 is being met.
4. In Table 3, Enclosure 2 of your request letter, you have recalculated internal event core damage frequency based on your new reliability number. However, Table 2 of the enclosure clearly indicated that the plant risk (ICCDP) under the proposed amendment would increase by  $6.44\text{E-}7$  and  $6.05\text{E-}7$  for EDG A and EDG B, respectively. With this proposed TS change, it appears that the risk would increase by  $6.44\text{E-}7/\text{yr}$  and  $6.05\text{E-}7/\text{yr}$ , respectively, by annualizing the ICCDP for one year. Please explain these results.
5. In your reliability recalculation presented in the second paragraph of page 17 of Enclosure 2, the increase of the actual unavailability was assumed as 5.5 days instead of the 10-day proposed extension. The 5.5 days of maintenance outage discussed implies that the TS AOT will be used as a part of your routine online maintenance activities. Please explain.
6. Please discuss the impacts of the uncertainties and risk contributors for both those explicitly accounted for in the results and those that were not.
7. According to your risk assessment, EDG A has higher risk importance than that of EDG B. Please Explain.
8. What are the risk assessment methodologies (such as FIVE) that you have employed for fire? Have you considered providing fire watch during the proposed AOT period?
9. As a part of maintenance activities associated with EDGs, is this extension a part of the routine maintenance activities? Please elaborate.
10. In diesel generator reliability, have you evaluated the Maintenance Preventable Function Failure (MPFF) under the 50.65 maintenance rule? If so, have you incorporated the MPFF in your EDG reliability?
11. How does this extension impact the station blackout (SBO) sequences? Please discuss your reliability program in general and specifically the ability and timing of the EDGs to recover from an SBO event.

Palo Verde Generating Station,  
Units 1, 2, and 3

cc:

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March 2006