



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

FEB 14 1979

Docket Nos. STN 50-592
and STN 50-593

Mr. E. E. Van Brunt, Jr.
Vice President - Nuclear Project
Management
Arizona Public Service Company
P. O. Box 21666
Phoenix, Arizona 85036

Dear Mr. Van Brunt:

SUBJECT: ANTICIPATED TRANSIENTS WITHOUT SCRAM (ATWS) - PALO VERDE
NUCLEAR GENERATING STATION, UNITS 4 AND 5

Potential modifications to nuclear reactor facilities that may be necessary to resolve staff concerns have been identified in a Staff Report, "Anticipated Transients Without Scram for Light Water Reactors," NUREG-0460, Volume 3, December 1978. For the Palo Verde 4 and 5 facility, these modifications are:

- (1) Provision of diverse actuation circuitry for mitigating systems. This diversity can be attained by implementation of (a) or (b) below:
 - (a) Provision of a diverse, four-channel supplementary protection system (SPS) described by Combustion Engineering. It would be diverse and independent from the reactor trip system. The staff would require that such a system meet IEEE-279.
 - (b) Provision of actuating circuitry for some existing systems (i.e., primary system relief valves, turbine trip, and auxiliary feedwater) that is diverse from the reactor scram system.
- (2) Provision of increased pressure relief capacity, through the addition of pressurizer safety valves, sufficient to comply with Service Level C of the ASME code for the ATWS events specified in the next paragraph. Further analysis may show that a larger pressurizer, increased auxiliary feedwater flow rate, or some combination of these design variables would reduce or substitute for this requirement in future designs.

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- (3) Demonstration of the functionability of valves needed for long-term cooling following conditions calculated for specified ATWS events. This demonstration would include the postulated initiating events described in Appendix IV of NUREG-0460, Section IV.2, and prescription four in Table 7 of Appendix VII of NUREG-0460 (99 percent MTC and reliability based failure assumptions).

Volume 3 of NUREG-0460, which describes the rationale for specifying these plant modifications, is currently being reviewed by the Advisory Committee on Reactor Safeguards. We plan to issue requests to all reactor vendors to supply generic analyses of ATWS mitigation capability and anticipate presenting to the Commission in May 1979 our recommendations for its actions to resolve the ATWS issue.

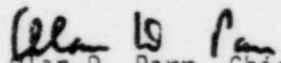
Although deliberations are ongoing, we are concerned that the design of the Palo Verde 4 and 5 facility might proceed over the coming months so as to preclude full implementation of the design modifications to satisfy the recommendations in NUREG-0460, Volume 3, should they eventually be adopted by the Commission, either with or without rule making. As indicated in NUREG-0460, Volume 3, the resolution of this issue for Palo Verde 4 and 5 may require implementing some or all of the plant modifications of Alternative 4 discussed in NUREG-0460, Volume 3, Section 2.2 and summarized above.

Therefore, provide a commitment that Palo Verde 4 and 5 will be designed such that implementation of the above three potential requirements will not be compromised by construction.

Provide your response to this request by March 7, 1979 or, if you cannot meet that date, advise us of a date by when you can provide a response.

If you need additional clarification of this report, please advise us.

Sincerely,


Alan D. Parr, Chief
Light Water Reactors Branch No. 3
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cc: See next page

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