

The proposed changes will not affect the operation of structures, systems, [or] components, and will not reduce programmatic controls such that plant safety would be affected. The changes in the organization will continue to provide necessary oversight and control of administrative processes. [The changes in the plant organization are also not initiators of an accident.] Therefore, the proposed changes do not create the possibility of a new or different kind of accident from any previously evaluated.

3. The proposed change does not involve a significant reduction in a margin of safety.

These changes are administrative and will not diminish any organizational or administrative controls currently in place. The proposed changes will not affect the operation of structures, systems, [or] components, and will not reduce programmatic controls such that plant safety would be affected. Therefore, the proposed changes do not involve a significant reduction in a margin of safety.

Based on the above, APS concludes that the activities associated with the proposed amendment(s) present no significant hazards consideration under the standards set forth in 10 CFR 50.92 "Issuance of Amendment," (c) and, accordingly, a finding of "no significant hazards consideration" is justified.

The NRC staff has reviewed the licensee's analysis and, based on that review, it appears that the three standards of 10 CFR 50.92(c) are satisfied. Therefore, the NRC staff proposes to determine that the request for amendments involves no significant hazards consideration.

*Attorney for licensee:* Kenneth C. Manne, Senior Attorney, Arizona Public Service Company, PO Box 52034, Mail Station 7636, Phoenix, Arizona 85072-2024.

*NRC Section Chief:* Stephen Dembek.

*Calvert Cliffs Nuclear Power Plant, Inc., Docket No. 50-317, Calvert Cliffs Nuclear Power Plant, Unit No. 1, Calvert County, Maryland*

*Date of amendment request:* May 1, 2003.

*Description of amendment request:* The proposed amendment would increase the maximum enrichment limit of the fuel assemblies that can be stored in the Unit 1 spent fuel pool by taking credit for soluble boron in maintaining acceptable margins of subcriticality.

*Basis for proposed no significant hazards consideration determination:* As required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue of no significant hazards consideration which is presented below:

1. Would not involve a significant increase in the probability or consequences of an accident previously evaluated.

The proposed change will increase the maximum enrichment limit of the fuel assemblies that can be stored in the Unit 1

spent fuel pool (SFP) by taking credit for soluble boron in maintaining acceptable margins of subcriticality. The proposed change will modify Technical Specification 4.3.1 "Criticality" and add Technical Specification 3.7.16 "Spent Fuel Pool Boron Concentration." The postulated accidents for the SFP are basically four types: (1) dropped fuel assembly on top of the storage rack, (2) a misloading accident, (3) an abnormal location of a fuel assembly, and (4) loss-of-normal cooling to the SFP.

There is no increase in the probability of a fuel assembly drop accident in the SFP when considering the higher enriched fuel or the presence of soluble boron in the SFP water. Dropping a fuel assembly on top of the SFP storage racks is not credible at Calvert Cliffs due to the design of the spent fuel handling machine and due to the height of the SFP storage racks. The handling of the fuel assemblies has always been performed in borated water and will not change as a result of crediting soluble boron in the SFP criticality analysis. The proposed change does not change the general design and characteristics of the fuel assemblies. Therefore, the proposed change does not increase the probability of a fuel assembly drop accident.

There is no increase in the probability of the accidental misloading of irradiated fuel assemblies into the SFP storage racks when considering the higher enriched fuel or the presence of soluble boron in the SFP water for criticality control. Fuel assembly placement will continue to be controlled pursuant to approved fuel handling procedures.

Due to the design of the SFP storage racks, an abnormal placement of a fuel assembly into the SFP storage racks is not possible. Also, the design of the SFP prevents an inadvertent placement of a fuel assembly between the outer most storage cell and the pool wall. The proposed change does not make any change to the design of SFP. Therefore, there is no increase in the probability of abnormal placement of a fuel assembly into the SFP storage racks.

The proposed change will not result in any changes to the SFP cooling system, and the fuel assembly design and characteristics are not changed by an increase in fuel enrichment. Therefore, there is no increase in the probability of a loss of SFP cooling. Also, since a high concentration of soluble boron has always been maintained in the SFP water, there is no increase in the probability of the loss of normal cooling to the SFP water considering the presence of soluble boron in the pool water for criticality control.

There is no increase in the consequences of an accidental drop or accidental misloading of a maximum enriched fuel assembly into the SFP storage racks, because the criticality analysis demonstrates that the pool will remain subcritical following either event, even if the pool contains a boron concentration less than the proposed Technical Specification limit. The proposed Technical Specification limit will ensure that an adequate SFP boron concentration will be maintained.

There is no increase in the consequences of a loss-of-normal SFP cooling because the

Technical Specification boron concentration provides significant negative reactivity. Loss of the SFP water via boiling will not result in a loss of soluble boron, since the soluble boron is not volatile. Therefore, loss of spent fuel pool cooling system without makeup flow is not a mechanism for boron dilution. Even in the unlikely event that soluble boron in the SFP is completely diluted via unborated makeup flow, a pool completely filled with maximum enriched unburned assemblies will remain subcritical by a design margin of k-effective not to exceed 0.986.

Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. The proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

The proposed change will increase the maximum enrichment limit of the fuel assemblies that can be stored in the Unit 1 SFP by taking credit for soluble boron in maintaining acceptable margins of subcriticality. Increasing the maximum enrichment limit does not create a new type of criticality accident.

Soluble boron has been maintained in the SFP water and is currently required by procedures. Therefore, crediting soluble boron in the SFP criticality analysis will have no effect on normal pool operation and maintenance. Crediting soluble boron will only result in increased sampling to verify the boron concentration. This increased sampling will not create the possibility of a new or different kind of accident.

A dilution of the SFP soluble boron has always been a possibility. However, the boron dilution event previously had no consequences, since boron was not previously credited in the accident analysis. The initiating events that were considered for having the potential to cause dilution of the boron in the SFP to a level below that credited in the criticality analyses fall into three categories: dilution by flooding, dilution by loss-of-coolant induced makeup, and dilution by loss-of-cooling system induced makeup. The spent fuel pool dilution analysis demonstrates that a dilution that could increase the rack k-effective greater than 0.95 is not a credible event. It is not credible that dilution could occur for the required length of time without operator notice, since this event would activate the high level alarm and initiate Auxiliary Building flooding. In addition, in excess of 1,043,000 gallons of unborated water must be added to the SFP to reach the minimum soluble boron concentration. This is more water volume than is contained in both pretreated water storage tanks and also more water volume than is contained in the demineralized water storage tank and both condensate storage tanks combined. Even in the unlikely event that soluble boron in the SFP is completely diluted, the SFP will remain subcritical by a design margin of k-effective will not exceed 0.986.

The proposed change will not result in any other change in the plant configuration or equipment design. Therefore, the proposed