

April 5, 2006

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

SUBJECT: PALO VERDE NUCLEAR GENERATING STATION, UNIT 1 - PUBLIC NOTICE
OF APPLICATION FOR AMENDMENT TO FACILITY OPERATING LICENSE
(TAC NO. MD0704)

Dear Mr. Levine:

The enclosed announcement was forwarded to the Arizona Republic for publication. This announcement relates to Arizona Public Service Company application dated March 31, 2006, for amendment to Facility Operating License No. NPF-41. The proposed amendment would allow the use of an operator action as a compensatory measure to prevent exceeding the train A shutdown cooling (SDC) system design basis vibration limit if a loop 2 reactor coolant pump (RCP) should trip or have a sheared shaft during four-RCP operation. This compensatory measure would only be used during a one-time 12 hour period for root cause data collection in Mode 3. After the root cause data collection is completed, a modification will be implemented to reduce the SDC system vibration.

Sincerely,

/RA/

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

Docket No. STN 50-528

Enclosure: Public Notice

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PUBLIC NOTICE

NRC STAFF PROPOSES TO AMEND THE OPERATING LICENSE AT THE PALO VERDE NUCLEAR GENERATING STATION, UNIT 1

The U.S. Nuclear Regulatory Commission (NRC) staff has received an application dated March 31, 2006, from Arizona Public Service Company (the licensee), for an exigent amendment to the operating license for the Palo Verde Nuclear Generating Station (Palo Verde), Unit 1, located in Maricopa County, Arizona.

The proposed amendment would allow the use of an operator action as a compensatory measure to prevent exceeding the train A shutdown cooling (SDC) system vibration operability limit if a loop 2 reactor coolant pump (RCP) should trip or have a sheared shaft during four-RCP operation. This compensatory measure would only be used during a one-time 12 hour period for root cause data collection during Mode 3 operation of the plant. After the root cause data collection is completed, a modification will be implemented to reduce the SDC system vibration.

Due to the short time interval between identification of the need for a license amendment and the planned collection of root cause data, time does not permit the Commission to publish a *Federal Register* notice allowing 30 days for prior public comment. Therefore, the licensee requested that this proposed amendment change be considered under exigent circumstances as described in 10 CFR 50.91(a)(6).

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. The licensee and the NRC staff have evaluated this proposed change with regard to the determination of whether or not a significant hazards consideration is involved. Operation of Palo Verde, Unit 1, in accordance with the proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated.

The purpose of the proposed change is to allow the use of an operator action as a compensatory measure to prevent exceeding the train A SDC system line vibration operability limits. Exceeding the SDC system line vibration operability limits for an extended period of time could ultimately result in a loss-of-coolant accident (LOCA), which is evaluated in the Updated Final Safety Analysis Report (UFSAR) Sections 6.3 and 15.6.5.

The compensatory measure would be needed only during a period of up to 12 hours in Mode 3 during data collection. During operation of four RCPs in Mode 3, the anticipated SDC line vibration is not expected to exceed the administrative limit of 2.0 ips. If a loop 2 RCP should trip or have a sheared shaft when both loop 1 RCPs are operating, the SDC line vibration could go up to approximately 3.05 ips, as observed on March 18, 2006, when such a pump configuration occurred. Licensee analyses have shown that the SDC line and valve SI-651 will remain within their operability limits when subjected to a vibration of 5.27 ips for up to 10 minutes. The proposed compensatory measure would station a dedicated reactor operator in the control room to stop a loop 1 RCP if any loop 2 RCP should trip or have a sheared shaft. This operator action has been demonstrated on the simulator and was accomplished in approximately two minutes, well within the 10 minutes needed to keep the SDC system vibration within its vibration operability limit if a loop 2 RCP should trip during four-RCP operation.

In addition, the probability of a loop 2 RCP stopping during the 12 hour period of data collection, which would require operator action, is $4.0E-5$. The low probability of the occurrence of a loop 2 RCP stopping during the 12 hour data collection, combined with the high likelihood of successful operator action to stop a loop 1 RCP within 10 minutes of the loss of a loop 2 RCP and the margin in the SDC vibration limits, assure that the proposed change does not involve a significant increase in the probability of a LOCA. The consequences of a LOCA would not be affected because the proposed change does not affect the UFSAR LOCA radiological dose analysis. The proposed change has no effect on the consequences of a postulated LOCA, because it does not change any of the methodologies or input values used in the UFSAR radiological dose analyses. The compensatory action would ensure that a vibration-induced failure would not occur, the RCS pressure boundary would remain intact, and the potential radiological consequences of a LOCA would be averted.

If credible design basis events (DBEs) other than a LOCA occur in Mode 3, emergency operating procedures (EOPs) would require control room operators to trip one or more RCPs if certain RCP trip criteria are met. These events include postulated steam generator tube rupture (SGTR) and excess steam demand events such as main steam line breaks (MSLBs). If a loop 2 RCP is tripped or has a sheared shaft, the proposed compensatory action would also require the tripping of a loop 1 RCP (if a loop 1 RCP has not already tripped). The resultant two-RCP operation is bounded by existing UFSAR analyses, such as those for SGTRs in Mode 1 and MSLBs in Mode 3, which consider both loss-of-offsite power (LOOP) and no-LOOP cases with either zero or four RCPs running, respectively. Additionally, the EOPs already allow for two-RCP operation (one RCP in each loop) when pressurizer pressure remains below the safety injection actuation signal setpoint. Likewise, other UFSAR analyses remain bounding for two-RCP operation in Mode 3, particularly because control element assemblies will be fully inserted in the core during the data collection activity and because of the relatively low decay heat levels at this time.

The proposed change has no other effects on plant operations, any design function or any Mode 3 analysis that verifies the capability of structures, systems, or components to perform a design function. Therefore, the proposed amendment would not change any of the previously evaluated accidents in the UFSAR.

There is no credible single failure that would cause the loss of two loop 2 RCPs without also causing the loss of two loop 1 RCPs. Therefore, credible single failures would not result in exceeding the vibration operability limit for the SDC system.

By ensuring that the SDC system vibration operability limits are not exceeded, the SDC system will be able to perform its function as needed.

The proposed change and associated compensatory operator action does not affect any of the postulated initiators for credible DBEs in Mode 3 and, therefore, does not involve a significant increase in the probability of an accident previously evaluated. Likewise, the proposed change does not affect any of the radiological dose analyses in the UFSAR for postulated events and, therefore, does not involve a significant increase in the consequences of an accident previously evaluated.

The proposed amendment will not create the possibility of a new or different kind of accident from any previously analyzed. The proposed amendment to allow operator action to

prevent exceeding the SDC line vibration operability limits by stopping a loop 1 RCP if a loop 2 RCP trips or has a sheared shaft will not change the design function or operation of the RCS or SDC, and will not affect the ability of the RCS and SDC to perform their design functions. Therefore, the proposed change does not create the possibility of a new or different kind of accident from any previously evaluated. The possibility of a LOCA, which is a previously evaluated accident that could be affected by high SDC line vibration, was discussed above.

The proposed amendment will not involve a significant reduction in a margin of safety. The proposed change does not exceed or alter a design basis or safety limit (i.e., the controlling numerical value for a parameter established in the UFSAR or the license) and, therefore, it does not significantly reduce the margin of safety. The proposed change would allow the use of compensatory operator action in Mode 3 to trip a loop 1 RCP in the event that a loop 2 RCP tripped or had a sheared shaft during four-pump operation. Tripping a loop 1 RCP would reduce the flow rate of coolant through the core and, thereby, reduce the departure from nucleate boiling ratio. However, UFSAR safety analyses for postulated DBEs in Mode 3 (e.g., MSLB), show that fuel centerline melting and fuel clad damage would not occur, even under natural circulation conditions with no RCPs in operation. Likewise, the proposed change and compensatory operator action would not adversely affect other safety analysis conclusions with regard to maintaining subcriticality and limiting peak RCS pressure to acceptable values, such that design basis or safety limits would be exceeded or require alteration.

Following an initial review of this application, the requested amendment has been evaluated against the standards in 10 CFR 50.92 and the NRC staff has made a proposed determination that the requested amendment involves no significant hazards considerations. The change does not significantly increase the probability or consequences of any accident previously considered, nor create the possibility of an accident of a different kind, nor significantly decrease any margin of safety.

If the proposed determination that the requested license amendment involves no significant hazards consideration becomes final, the NRC staff will issue the amendment without first offering an opportunity for a public hearing. An opportunity for a hearing will be published in the *Federal Register* at a later date and any hearing request will not delay the effective date of the amendment.

If the NRC staff decides in its final determination that the amendment does involve a significant hazards consideration, a notice of opportunity for a prior hearing will be published in the *Federal Register* and, if a hearing is granted, it will be held before the amendment is issued.

Comments on the proposed determination of no significant hazards consideration may be (1) telephoned to David Terao, Branch Chief, Plant Licensing Branch IV, by collect call, which may be recorded or transcribed, to 301-415-3317, or by facsimile to 301-415-3061; (2) e-mailed to dxt@nrc.gov; or (3) submitted in writing to the Chief, Rules and Directives Branch, Division of Administrative Services, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, DC 20555. All comments received by close of business on April 4, 2006, from 7:30 a.m. to 4:15 p.m. on Federal workdays, will be considered in reaching a final determination. A copy of the application may be examined electronically through the Agencywide Documents Access and Management System (ADAMS) Public Electronic Reading Room link at the NRC Web site <http://www.nrc.gov/reading-rm/adams.html> and at the Commission's Public Document Room (PDR), located at One White Flint North, Public File

Area O1 F21, 11555 Rockville Pike (first floor), Rockville, Maryland. Persons who do not have access to ADAMS or who encounter problems in accessing the documents located in ADAMS should contact the NRC PDR Reference staff by telephone at 1-800-397-4209, 301-415-4737, or by e-mail to pdrc@nrc.gov.

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March 2006

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March 2006