

December 6, 1985

Docket Nos.: 50-529
and 50-530

Mr. E. E. Van Brunt, Jr.
Executive Vice President
Arizona Nuclear Power Project
Post Office Box 52034
Phoenix, Arizona 85072-2034

Dear Mr. Van Brunt:

SUBJECT: ISSUANCE OF AMENDMENTS TO CONSTRUCTION PERMITS FOR PALO VERDE
NUCLEAR GENERATING STATION, UNITS 2 AND 3

The Nuclear Regulatory Commission (NRC) has issued the enclosed Amendment No. 6 to Construction Permits CPPR-142 and CPPR-143 for PVNGS Units 2 and 3, located in Maricopa County, Arizona. The amendments are in response to your letters dated December 10, 1984 and July 16, 1985.

Each amendment modifies its respective construction permit to reflect issuance, by the NRC, of an Exemption dated November 29, 1985. The amendments are effective as of their date of issuance.

A copy of the safety evaluation supporting Amendment No. 6 is enclosed. Also enclosed is a copy of a related notice which has been forwarded to the Office of the Federal Register for publication.

Sincerely,

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George W. Knighton, Chief
Licensing Branch No. 3
Division of Licensing

Enclosures:

1. Amendment No. 6 to CPPR-142
2. Amendment No. 6 to CPPR-143
3. Safety Evaluation
4. Federal Register Notice

cc w/enclosures:
See next page

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

ARIZONA PUBLIC SERVICE COMPANY

SALT RIVER PROJECT AGRICULTURAL IMPROVEMENT AND POWER DISTRICT

EL PASO ELECTRIC COMPANY

SOUTHERN CALIFORNIA EDISON COMPANY

PUBLIC SERVICE COMPANY OF NEW MEXICO

LOS ANGELES DEPARTMENT OF WATER AND POWER*

SOUTHERN CALIFORNIA PUBLIC POWER AUTHORITY

DOCKET NO. STN 50-529

PALO VERDE NUCLEAR GENERATING STATION, UNIT 2

AMENDMENT TO CONSTRUCTION PERMIT

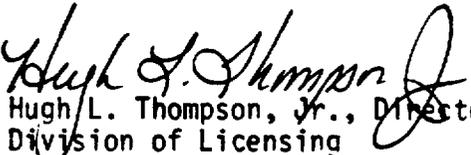
Amendment No. 6
Construction Permit No. CPPR-142

1. The Nuclear Regulatory Commission (the Commission) having found that:
 - A. The application for amendment filed by Arizona Public Service Company, on behalf of itself and Salt River Project Agricultural Improvement and Power District, El Paso Electric Company, Southern California Edison Company, Public Service Company of New Mexico, Los Angeles Department of Water and Power, and Southern California Public Power Authority, the applicants, by letters dated December 10, 1984 and July 16, 1985, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended, and the Commission's regulations set forth in 10 CFR Chapter I:
 - B. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - C. Issuance of this amendment will not result in any environmental impacts not previously considered.

*The Los Angeles Department of Water and Power will not actually become a co-owner until after Palo Verde Unit 1 is placed into commercial operation.

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2. Accordingly, Construction Permit No. CPPR-142 is amended as follows:
 - A. Change paragraph 3 to read:
 3. This permit shall be deemed to contain and be subject to the conditions specified in Sections 50.54 and 50.55 of said regulations; is subject to all applicable provisions of the Act, and rules, regulations, and orders of the Commission now or hereafter in effect, (except to the extent applicants' obligations thereunder may be modified by duly authorized exemptions); and is subject to the conditions specified or incorporated below:
 - B. Change paragraph 3.C to read:
 - C. This construction permit authorizes the applicants to construct the facility described in the application and in the hearing record, in accordance with the principal architectural and engineering criteria (except to the extent modification of such criteria may be duly authorized by exemption) and environmental protection commitments set forth therein.
3. This amendment is effective as of the date of issuance.


Hugh L. Thompson, Jr., Director
Division of Licensing
Office of Nuclear Reactor Regulation

Date of Issuance: December 6, 1985

Mr. E. E. Van Brunt, Jr.
Arizona Nuclear Power Project

Palo Verde

cc:

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Chairman
Arizona Corporation Commission
2222 West Washington
Phoenix, Arizona 85007

Arizona Radiation Regulatory Agency
ATTN: Ms. Clara Palovic, Librarian
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Tempe, Arizona 85238

Mr. Charles Tedford, Director
Arizona Radiation Regulatory Agency
924 South 52nd Street, Suite 2
Tempe, Arizona 85281

Chairman
Maricopa County Board of Supervisors
111 South Third Avenue
Phoenix, Arizona 85003



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

ARIZONA PUBLIC SERVICE COMPANY
SALT RIVER PROJECT AGRICULTURAL IMPROVEMENT AND POWER DISTRICT
EL PASO ELECTRIC COMPANY
SOUTHERN CALIFORNIA EDISON COMPANY
PUBLIC SERVICE COMPANY OF NEW MEXICO
LOS ANGELES DEPARTMENT OF WATER AND POWER*
SOUTHERN CALIFORNIA PUBLIC POWER AUTHORITY
DOCKET NO. STN 50-530
PALO VERDE NUCLEAR GENERATING STATION, UNIT 3
AMENDMENT TO CONSTRUCTION PERMIT

Amendment No. 6
Construction Permit No. CPPR-143

1. The Nuclear Regulatory Commission (the Commission) having found that:
 - A. The application for amendment filed by Arizona Public Service Company, on behalf of itself and Salt River Project Agricultural Improvement and Power District, El Paso Electric Company, Southern California Edison Company, Public Service Company of New Mexico, Los Angeles Department of Water and Power, and Southern California Public Power Authority, the applicants, by letters dated December 10, 1984 and July 16, 1985, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended, and the Commission's regulations set forth in 10 CFR Chapter I:
 - B. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - C. Issuance of this amendment will not result in any environmental impacts not previously considered.

*The Los Angeles Department of Water and Power will not actually become a co-owner until after Palo Verde Unit 1 is placed into commercial operation.

2. Accordingly, Construction Permit No. CPPR-143 is amended as follows:

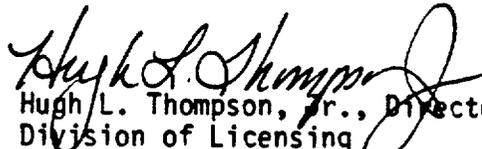
A. Change paragraph 3 to read:

3. This permit shall be deemed to contain and be subject to the conditions specified in Sections 50.54 and 50.55 of said regulations; is subject to all applicable provisions of the Act, and rules, regulations, and orders of the Commission now or hereafter in effect, (except to the extent applicants' obligations thereunder may be modified by duly authorized exemptions); and is subject to the conditions specified or incorporated below:

B. Change paragraph 3.C to read:

C. This construction permit authorizes the applicants to construct the facility described in the application and in the hearing record, in accordance with the principal architectural and engineering criteria (except to the extent modification of such criteria may be duly authorized by exemption) and environmental protection commitments set forth therein.

3. This amendment is effective as of the date of issuance.


Hugh L. Thompson, Jr., Director
Division of Licensing
Office of Nuclear Reactor Regulation

Date of Issuance: December 6, 1985



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

SAFETY EVALUATION
PALO VERDE NUCLEAR GENERATING STATION, UNITS 2 AND 3
RELATED TO AMENDMENT
TO CONSTRUCTION PERMIT NOS. CPPR-142 AND CPPR-143

Introduction

By letters dated December 10, 1984 and July 16, 1985, the Arizona Public Service Company on behalf of itself and the Salt River Project Agricultural Improvement and Power District, the Southern California Edison Company, the El Paso Electric Company, the Public Service Company of New Mexico, the Los Angeles Department of Water and Power* and the Southern California Public Power Authority (the applicants) submitted an application for amendments to Construction Permit Nos. CPPR-142 and CPPR-143 for Palo Verde Units 2 and 3.

The application requested a schedular partial exemption from General Design Criterion (GDC) 4 of 10 CFR 50, Appendix A. The limited schedular exemption granted by the Commission permits the applicants to eliminate the installation of protective devices and the consideration of the dynamic effects and loading conditions associated with postulated pipe breaks in the primary loops in the Palo Verde Units 2 and 3 primary coolant systems for a period ending with the second refueling outage of each unit, pending the outcome of rule making on this subject. In support of the application, the applicants reference two documents: a report submitted by CE by letter dated June 14, 1983 (Reference 1) and an amendment to the CE report submitted by letter dated December 23, 1983 (Reference 2).

Evaluation

The staff's detailed evaluation and basis for granting the partial exemption to the requirements of GDC 4 are delineated in the Exemption enclosed with the staff's (exemp. date) letter. A summary of the staff's evaluation, findings and conclusions are immediately below.

Summary of Evaluation Findings

The staff's evaluation of the CE submittals (References 1 and 2) concluded that there are adequate technical bases to justify that, for CESSAR plants,

*The Los Angeles Department of Water and Power will not actually become a co-owner until after Palo Verde Unit 1 is placed into commercial operation.

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guillotine type failures of the RCS main loop piping need not be considered in the design basis and hence, pipe whip restraints and jet impingement shields for the RCS piping are not required. The submittals were made to support requests, by applicants with the CESSAR plant, for an exemption to GDC 4 as it relates to pipe whip restraints and jet impingement shields on the RCS primary piping. No other changes in design requirements are addressed within the scope of the referenced reports; e.g., no changes to the definition of a LOCA nor its relationship to the regulations addressing design requirements of ECCS (10 CFR 50.46), containment (GDC 16, 50), other engineered safety features and the conditions for environmental qualification of equipment (10 CFR 50.49). The applicants' amendment request also states that no other changes in design requirements are being requested. Specifically, the NRC determined that:

- (1) The loads associated with the highest stressed locations in the main loop primary system piping were provided and are within Code allowables.
- (2) For CE plants, there is no history of cracking failure in reactor primary coolant system loop piping. CE reactor coolant system primary loops have an operating history which demonstrates their inherent stability. This includes a low susceptibility to cracking failure from the effects of corrosion (e.g., intergranular stress corrosion cracking), water hammer, or fatigue (low and high cycle). This operating history includes several plants with many years of operation.
- (3) The results of the leak rate calculations performed for CESSAR, used initial postulated throughwall flaws that are equivalent in size to that in Enclosure 1 to NRC Generic Letter 84-04 (Reference 3). CESSAR facilities are expected to have an RCS pressure boundary leak detection system which is consistent with the guidelines of Regulatory Guide 1.45 so that they can detect leakage of one (1) gpm in one hour. The calculated leak rate through the postulated flaw is large relative to the staff's required sensitivity of plant leak detection systems. The margin is at least a factor of ten (10) on leakage.
- (4) The expected margin in terms of load for the leakage-size crack under normal plus SSE loads is greater than a factor of three (3) when compared to the limit load. In addition, the staff found a significant margin in terms of loads larger than normal plus SSE loads.
- (5) The margin between the leakage-size crack and the critical-size crack was calculated. Again, the results demonstrated that a crack size margin of at least a factor of three (3) exists.

Environmental Assessment

In advance to issuing the Exemption, the Commission published in the Federal Register on November 29, 1985 (50 FR 48509) an "environmental assessment and

finding of no significant impact." It was stated in that assessment that the planned Exemption action would not have a significant effect on the quality of the human environment. The Exemption granted involves design features located entirely within the plant restricted area as defined in 10 CFR Part 20; does not affect plant radioactive and non-radioactive effluents; has no other environmental impact; and does not involve the use of resources not previously considered in the Final Environmental Statement (construction permit) for Palo Verde Units 2 and 3.

The staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has determined that the amendments involve no significant hazards considerations. Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

Conclusion

In granting the schedular partial Exemption, the staff found that the advanced fracture mechanics techniques used by the applicants provided an assurance that flaws in primary system piping will be detected before they reach a size that could lead to unstable crack growth. For this reason, further protection provided by protective devices against the dynamic effects resulting from the discharge from postulated breaks in the primary piping is unnecessary. Additionally, consideration of such dynamic effects associated with previously postulated pipe breaks is unnecessary. With full protection against dynamic effects provided by advance analysis techniques, and based on the considerations discussed above, we conclude that: (1) the proposed amendment to Construction Permit Nos. CPPR-142 and CPPR-143 permitting the use of the Exemption in construction of Palo Verde Units 2 and 3 do not involve a significant increase in the probability or consequences of accidents previously considered, do not create the possibility of an accident of a type different from any evaluated previously, do not involve a significant decrease in a safety margin, and thus do not involve a significant hazards consideration; (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner; and (3) such activities will be in compliance with the Commission's regulations, and the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Date of issuance: December 6, 1985

LIST OF REFERENCES

- (1) Letter A. E. Scherer of Combustion Engineering, Inc., to Darrell G. Eisenhut, Docket No. STN 50-470, June 14, 1983, with enclosure, "Basis for Design of Plant Without Pipe Whip Restraints for RCS Main Loop Piping".
- (2) Letter A. E. Scherer of Combustion Engineering, Inc., to Darrell G. Eisenhut, Docket No. STN 50-470F, December 23, 1983, with enclosure, "Leak Before Evaluation of the Main Loop Piping of a CE Reactor Coolant System," Revision 1, November 1983.
- (3) NRC Generic Letter 84-04, "Safety Evaluation of Westinghouse Topical Reports Dealing with Elimination of Postulated Breaks in PWR Primary Main Loops," February 1, 1984.

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UNITED STATES NUCLEAR REGULATORY COMMISSION

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

ARIZONA PUBLIC SERVICE COMPANY

SALT RIVER PROJECT AGRICULTURAL IMPROVEMENT AND POWER DISTRICT

SOUTHERN CALIFORNIA EDISON COMPANY

EL PASO ELECTRIC COMPANY

PUBLIC SERVICE COMPANY OF NEW MEXICO

LOS ANGELES DEPARTMENT OF WATER AND POWER*

SOUTHERN CALIFORNIA PUBLIC POWER AUTHORITY

PALO VERDE NUCLEAR GENERATING STATION, UNIT NOS. 2 AND 3

NOTICE OF ISSUANCE OF AMENDMENTS TO CONSTRUCTION PERMITS

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 6 to Construction Permit Nos. CPPR-142 and CPPR-143. The amendments reflect changes to two conditions contained in the Construction Permits CPPR-142 and CPPR-143 to incorporate modifications authorized by an exemption to the General Design Criterion 4 of 10 CFR 50, Appendix A. The amendments make effective the schedular partial exemption granted by the Commission, exempting the applicants from the requirement to install pipe whip restraints and jet impingement shields in the Palo Verde, Units 2 and 3 primary coolant piping system.

The application for the amendments complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's

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* The Los Angeles Department of Water and Power will not actually become a co-owner until after Palo Verde Unit 1 is placed into commercial operation.

rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the amendments. Prior public notice of the amendments was not required since the amendments do not involve a significant hazards consideration.

By January 13, 1986, the applicants may file a request for a hearing with respect to issuance of the amendments to the subject facility construction permits and any person whose interest may be affected by this proceeding and who wishes to participate as a party in the proceeding must file a written petition for leave to intervene. Requests for a hearing and petitions for leave to intervene shall be filed in accordance with the Commission's "Rules of Practice for Domestic Licensing Proceedings" in 10 CFR Part 2. If a request for a hearing or petition for leave to intervene is filed by the above date, the Commission or an Atomic Safety and Licensing Board, designated by the Commission or by the Chairman of the Atomic Safety and Licensing Board Panel, will rule on the request and/or petition and the Secretary or the designated Atomic Safety and Licensing Board will issue a notice of hearing or an appropriate order.

As required by 10 CFR 2.714, a petition for leave to intervene shall set forth with particularity the interest of the petitioner in the proceeding and how that interest may be affected by the results of the proceeding. The petition should specifically explain the reasons why intervention should be permitted with particular reference to the following factors: (1) The nature of the petitioner's right under the Act to be made a part to the proceeding;

(2) the nature and extent of the petitioner's property, financial, or other interest in the proceeding; and (3) the possible effect of any order which may be entered in the proceeding on the petitioner's interest. The petition should also identify the specific aspect(s) of the subject matter of the proceeding as to which petitioner wishes to intervene. Any person who has filed a petition for leave to intervene or who has been admitted as a party may amend the petition without requesting leave of the Board up to fifteen (15) days prior to the first prehearing conference scheduled in the proceeding, but such an amended petition must satisfy the specificity requirements described above. Not later than fifteen (15) days prior to the first prehearing conference scheduled in the proceeding, a petitioner shall file a supplement to the petition to intervene which must include a list of the contentions which are sought to be litigated in the matter, and the bases for each contention set forth with reasonable specificity. Contentions shall be limited to matters within the scope of the amendments under consideration. A petitioner who fails to file such a supplement which satisfies these requirements with respect to at least one contention will not be permitted to participate as a party.

Those permitted to intervene become parties to the proceeding, subject to any limitations in the order granting leave to intervene, and have the opportunity to participate fully in the conduct of the hearing, including the opportunity to present evidence and cross-examine witnesses.

Since the Commission has determined that the amendments involve no significant hazards consideration, if a hearing is requested, it will not stay the effectiveness of the amendments. Any hearing held would take place while the amendments are in effect.

A request for a hearing or a petition for leave to intervene must be filed with the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Docketing and Service Branch, or may be delivered to the Commission's Public Document Room, 1717 H Street, N.W., Washington, D.C., by the above date. Where petitions are filed during the last ten (10) days of the notice period, it is requested that the petitioner promptly so inform the Commission by a toll-free call to Western Union at (800)325-6000 (in Missouri (800)342-6700). The Western Union operator should be given Datagram Identification Number 3727 and the following message addressed to George Knighton: petitioner's name and telephone number; date petition was mailed; plant name; and publication date and page number of this Federal Register notice. A copy of the petition should also be sent to the Executive Legal Director, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, and to Arthur C. Gehr, Esq., Snell & Wilmer, 3100 Valley Center, Phoenix, Arizona 85073.

Nontimely filings of petitions for leave to intervene, amended petitions, supplemental petitions and/or requests for hearing will not be entertained absent a determination by the Commission, the presiding officer or the Atomic Safety and Licensing Board designated to rule on the petition and/or request, that the petitioner has made a substantial showing of good cause for the granting of a late petition and/or request. That determination will be based upon a balancing of the factors specified in 10 CFR 2.714(a)(1)(i)-(v) and 2.714(d).

For further details with respect to this action, see (1) the application for amendment, dated December 10, 1984 later amended on July 16, 1985; (2) Amendment No. 6 to Construction Permits CPPR-142 and CPPR-143, (3) the Commission's related Safety Evaluation, and (4) Letter to E. E. Van Brunt, Jr., Arizona Nuclear Power Project from G. W. Knighton, dated November 29, 1985, Subject: Request for Exemption from a Portion of General Design Criterion 4 of Appendix A to 10 CFR Part 50 regarding the need to Analyze Large Primary Loop Pipe Ruptures as the Structure Design Basis for Palo Verde Nuclear Generating Station (Units 2 and 3). All of these items are available for public inspection in the Commission's Public Document Room at 1717 H Street, N.W., Washington, D.C. 20555 and at the Phoenix Public Library, Business, Science and Technology Department, 12 East McDowell Road, Phoenix, Arizona 85004. Items 2, 3 and 4 may be requested in writing to the U. S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Director, Division of Licensing.

Dated at Bethesda, Maryland, this 6th day of December, 1985.

FOR THE NUCLEAR REGULATORY COMMISSION



George W. Knighton, Chief
Licensing Branch No. 3
Division of Licensing