

April 29, 1987

Docket No.: STN 50-528

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 Amendment No. 16 to Facility Operating License No. NPF-41 for Palo Verde, Unit 1 (TAC NO. 64971)

The Commission has issued the enclosed Amendment No. 16 to Facility Operating License No. NPF-41 for Palo Verde Nuclear Generating Station, Unit 1. The amendment consists of changes to the Technical Specifications in response to your application transmitted by letter dated March 23, 1987, and confirms the telephone notification given to Mr. J. Bynum, et al., of Arizona Public Service Company on March 24, 1987, that the requested change has been granted.

The amendment revises Technical Specification 3/4.11.1, on a one time basis and for a period not to exceed 60 days, to allow the release of secondary system liquid waste to the onsite evaporation pond, while the concentration of principal gamma emitters with half-lives less than 75 days exceeds 5×10^{-7} $\mu\text{Ci/ml}$, provided that the concentration does not exceed the limits of 10 CFR Part 20, Appendix B, Table II, Column 2.

A copy of the Safety Evaluation is also enclosed. Notice of Issuance and Final Determination of No Significant Hazards Consideration and Opportunity for Hearing will be included in the Commission's Monthly Notice.

Sincerely,

Original Signed by
Harry Rood for

George Knighton, Director
Project Directorate V
Division of Reactor Projects-III/IV/V and
Special Projects

Enclosures:

1. Amendment No. 16 to NPF-41
2. Safety Evaluation

cc: See next page

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

Palo Verde

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

ARIZONA PUBLIC SERVICE COMPANY, ET AL.

DOCKET NO. STN 50-528

PALO VERDE NUCLEAR GENERATING STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 16
License No. NPF-41

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. - The application for amendment, dated March 23, 1987, by the Arizona Public Service Company (APS) on behalf of itself and the 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 (licensees), complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of Act, and the regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public;
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

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2. Accordingly, the license is amended by a change to the Technical Specifications as indicated in the enclosure to this license amendment, and paragraph 2.C(2) of Facility Operating License No. NPF-41 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 16, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in this license. APS shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of March 24, 1987.

FOR THE NUCLEAR REGULATORY COMMISSION

H. Roul for

George Knighton, Director
Project Directorate V
Division of Reactor Projects-III/IV/V and
Special Projects

Enclosure:
Change to the Technical
Specifications

Date of Issuance: April 29, 1987

April 29, 1987

ENCLOSURE TO LICENSE AMENDMENT

AMENDMENT NO. 16 TO FACILITY OPERATING LICENSE NO. NPF-41

DOCKET NO. STN 50-528

Replace the following page of the Appendix A Technical Specifications with the enclosed page. The revised page is identified by Amendment number and contains vertical lines indicating the areas of change. Also to be replaced is the following overleaf page to the amended page.

Amendment Page

3/4 11-1

Overleaf Page

3/4 11-2

3/4.11 RADIOACTIVE EFFLUENTS

3/4.11.1 SECONDARY SYSTEM LIQUID WASTE DISCHARGES TO ONSITE EVAPORATION PONDS
CONCENTRATION

LIMITING CONDITION FOR OPERATION

3.11.1.1 The concentration of radioactive material discharged from secondary system liquid waste to the onsite evaporation ponds shall be limited to the lower limit of detectability (LLD) defined as 5×10^{-7} $\mu\text{Ci}/\text{ml}$ for the principal gamma emitters or 1×10^{-6} $\mu\text{Ci}/\text{ml}$ for I-131.*

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

When any secondary system liquid waste discharge pathway concentration determined in accordance with the surveillance requirements given below exceeds the specified LLD, divert that discharge pathway to the liquid radwaste system without delay or process the liquid wastes to meet the specified limits prior to release to the onsite evaporation ponds.

SURVEILLANCE REQUIREMENTS

4.11.1.1.1 Radioactive liquid wastes collected in the chemical waste neutralizer tank shall be sampled and analyzed prior to their batchwise discharge to the onsite evaporation pond in accordance with the sampling and analysis program specified in Table 4.11-1.

4.11.1.1.2 With the concentration of radioactive material in the chemical waste neutralizer tank exceeding the specified LLD, sample and analyze other secondary system discharge pathways in accordance with the sampling and analysis program specified in Table 4.11-1.

* For one time only, effective March 24, 1987, releases of principal gamma emitters with half lives less than 75 days may be allowed to exceed 5×10^{-7} $\mu\text{Ci}/\text{ml}$ but be limited to 10 CFR 20, Appendix B, Table II, Col. 2 concentrations for a period not to exceed 60 days.

TABLE 4.11-1

RADIOACTIVE LIQUID WASTE SAMPLING AND ANALYSIS PROGRAM

SECONDARY SYSTEM LIQUID RELEASE PATHWAY	SAMPLING FREQUENCY	MINIMUM ANALYSIS FREQUENCY	TYPE OF ACTIVITY ANALYSIS	LOWER LIMIT OF DETECTION (LLD) ^a ($\mu\text{Ci/mL}$)
A. Batch discharges^b				
1. Chemical Waste Neutralizer Tank	P Each Batch	P Each Batch	Principal Gamma Emitters ^c	5×10^{-7}
			I-131	1×10^{-6}
2. Steam Generator Blowdown Low TDS Sump*	P Each Batch	P Each Batch	Principal Gamma Emitters ^c	5×10^{-7}
			I-131	1×10^{-6}
3. Condensate Polishing Low TDS Sump*	P Each Batch	P Each Batch	Principal Gamma Emitters ^c	5×10^{-7}
			I-131	1×10^{-6}
B. Continuous Releases^d				
1. Turbine Building Sump*	D Grab Sample	D Grab Sample	Principal Gamma Emitters ^c	5×10^{-7}
			I-131	1×10^{-6}
2. Condenser Area Sumps*	D Grab Sample	D Grab Sample	Principal Gamma Emitters ^c	5×10^{-7}
			I-131	1×10^{-6}

*Sampling and analysis for pathways 2 and 3 under batch discharges and 1 and 2 under continuous releases are required only when concentration for chemical waste neutralizer tank pathway exceeds the LLD.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 16 TO FACILITY OPERATING LICENSE NO. NPF-41
ARIZONA PUBLIC SERVICE COMPANY, ET AL.
PALO VERDE NUCLEAR GENERATING STATION, UNIT NO. 1
DOCKET NO. STN 50-528

1.0 INTRODUCTION

By letter dated March 23, 1987, the Arizona Public Service Company (APS) on behalf of itself, the 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, and Southern California Public Power Authority (licensees), requested an emergency change to the Technical Specifications (Appendix A to Facility Operating License NPF-41) for the Palo Verde Nuclear Generating Station, Unit 1. The proposed change would revise Technical Specification 3/4.11.1, on a one time basis and for a period not to exceed 60 days, to allow the release to the onsite evaporation pond of secondary system liquid waste with radioactive concentrations in excess of 5×10^7 $\mu\text{Ci/ml}$, provided that 10 CFR Part 20 limits are not exceeded.

2.0 DISCUSSION

Palo Verde Unit 1 returned to power operation during March 1987 following an outage to repair a Steam Generator (S/G) tube leak and to plug S/G tubes which had exhibited wear. After resumption of power, it was determined that the required cleanup activities of the secondary system, due to the primary to secondary leakage which occurred in January 1987, could not be completed during power operation without exceeding the Limiting Condition for Operation (LCO) for Specification 3/4.11.1, "Secondary System Liquid Waste Discharges to Onsite Evaporation Ponds."

Specification 3/4.11.1 states that, "the concentration of radioactive material discharged from secondary system liquid waste to the onsite evaporation ponds shall be limited to the lower limit of detectability (LLD) defined as 5×10^7 $\mu\text{Ci/ml}$ for the principal gamma emitters or 1×10^6 $\mu\text{Ci/ml}$ for I-131." This specification is provided to ensure that at any time during the life of the nuclear station (i.e., Palo Verde, Units 1, 2 and 3) the annual total body dose due to ground contamination of an UNRESTRICTED AREA, arising from

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transportation and deposition by wind on the UNRESTRICTED AREA of the accumulated activity discharged to the onsite ponds from the secondary system of the plant (if the ponds get dried up and not cleaned up), is within the guidelines of 10 CFR Part 20 for the above-mentioned postulated event.

Restricting the concentrations of the secondary liquid wastes discharged to the onsite evaporation ponds will restrict the quantity of radioactive material that can be accumulated in the ponds. This, in turn, provides assurance that in the event of an uncontrolled release of the ponds' contents to an UNRESTRICTED AREA, the resulting total body exposure from ground contamination to a member of the public at the nearest exclusion area boundary will be less than 0.5 rem per year.

As soon as the licensees became aware that the LCO for Specification 3/4.11.1 would not be met with continued operation of Palo Verde Unit 1, they informed the staff of the situation and submitted a request for an emergency technical specification change by letter dated March 23, 1987. The requested action was to allow continued operation for a period beginning March 24, 1987 and ending May 23, 1987, while the concentration of principal gamma emitters with half lives less than 75 days in the secondary system liquid waste exceeds 5×10^7 $\mu\text{Ci/ml}$, provided that the concentration does not exceed the limits of 10 CFR Part 20, Appendix B, Table 11, Column 2.

In their request, the licensees stated that every effort to avoid the emergency situation was made (e.g., by processing the waste to lower concentrations). They also stated that failure to grant relief by March 24, 1987 would result in derating the plant followed by shutdown of the unit.

In their evaluation of the proposed request, the licensees stated that the proposed change will not reduce the margin of safety as defined in the basis for any Technical Specification. The basis for Specification 3.11.1.1 uses the guidelines of 10 CFR 20 which, as noted by the proposed footnote to the specification, will be the limiting factor for principal gamma emitters with half lives less than 75 days. The licensees conclude that this provides assurance that the resulting total body annual exposure from ground contamination to a member of the public at the nearest exclusion area boundary, in the event of uncontrolled release of the contents of the onsite evaporation pond, will be within those limits.

3.0 EVALUATION

The staff has evaluated the proposed change and finds that it is an emergency situation since failure of the NRC to take action would result in Palo Verde, Unit 1 being derated and subsequently shutdown.

The need for the proposed action was not determined until after the Unit returned to power operation in March 1987. The licensees used every effort to avoid the emergency request without success. The staff has reviewed the facts concerning the request and concluded that the licensees have made a timely submittal, that power operation cannot continue without NRC action, and that action by the licensees could not preclude this situation.

The action requested by the licensees is to change Specification 3/4.11.1, on a one time basis and for a period not to exceed 60 days, by allowing the concentration of secondary system liquid waste released to the onsite evaporation pond to exceed 5×10^7 $\mu\text{Ci/ml}$ for principal gamma emitters with half lives less than 75 days, provided that the concentration does not exceed the limits of 10 CFR Part 20, Appendix B, Table II, Column 2.

The staff has reviewed the effects of the proposed change and has determined that it will not significantly decrease the degree to which the specification provides assurance that, at any time during the life of the nuclear station (i.e., Palo Verde, Units 1, 2 and 3), the annual total whole body dose to the public, due to a postulated accident with the pond, will be within the guideline values of 10 CFR Part 20. The calculated dose to the public is determined by assuming that the onsite evaporation pond dries up after the completion of plant life for the three units and that the remaining accumulated activity, which had been discharged from the plant secondary systems, causes ground contamination in an unrestricted area due to transportation and deposition by wind.

Based on the above evaluation, the staff concludes that the proposed change is acceptable. Staff approval of the request was granted to the licensees by phone on March 24, 1987.

4.0 FINAL NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

The Commission has provided standards for determining whether a significant hazards consideration exists as stated in 10 CFR 50.92. A proposed amendment to an operating license for a facility involves no significant hazards consideration if operation of the facility in accordance with a proposed amendment would not: (1) Involve a significant increase in the probability or consequences of an accident previously evaluated; (2) Create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) Involve a significant reduction in a margin of safety.

A discussion of these standards and they relate to the amendment request follows.:

Standard 1 - Involve a significant increase in the probability or consequences of an accident previously evaluated.

The proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated. The previously evaluated accident for the onsite evaporation ponds is the annual total body dose due to ground contamination of an unrestricted area, arising from the transportation and deposition by wind of the accumulated activity discharged to the ponds during the life of the plant in the event that the pond dries up. The Technical Specifications are being changed to allow continued operation of the unit for 60 days while the concentration of radioactive material discharged from secondary system liquid waste to the onsite evaporation ponds is above the lower limit of detectability but within the limits of 10 CFR Part 20, Appendix B, Table II. Since the half life of the material involved is less than 75 days, this will have a negligible effect on the previously evaluated event. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

Standard 2 - Create the possibility of a new or different kind of accident from any accident previously evaluated.

The proposed amendment will not create the possibility of a new or different kind of accident from any accident previously evaluated because the proposed amendment does not vary, effect or provide any physical changes to the facility. This proposed change only allows for temporary discharge to the onsite pond of higher concentrations of radioactive liquids which have been generated during normal processing/regeneration of condensate polisher resins. The small amounts ($<2 \times 10^6$ $\mu\text{Ci/ml}$) of total activity present in regeneration wastes which will be discharged into the onsite evaporation ponds are within the limits of 10 CFR Part 20, Appendix B, Table II. For these reasons, it has been determined that the proposed amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated.

Standard 3 - Involve a significant reduction in a margin of safety.

The requested amendment does not involve a significant reduction in a margin of safety because the proposed change does not affect the design basis of the plant. The existing limits for concentrations of radioactive material discharged from secondary system liquid waste to the onsite evaporation ponds will remain at 5×10^7 $\mu\text{Ci/ml}$ for principal gamma emitters. However, releases of principal gamma emitters with half lives less than 75 days may be allowed to exceed 5×10^7 $\mu\text{Ci/ml}$ but will be limited to 10 CFR 20, Appendix B, Table II concentrations for a period not to exceed 60 days and will remain onsite in the evaporation pond. For these reasons, it has been determined that the change does not involve a significant reduction in the margin of safety.

The staff, therefore, concludes that operation of the facility in accordance with the proposed change does not represent a significant hazards consideration.

5.0 CONTACT WITH STATE OFFICIAL

The NRC staff advised the Arizona Radiation Regulatory Agency of the final determination of no significant hazards consideration by phone on March 24, 1987. The State had no comments on this determination.

6.0 ENVIRONMENTAL CONSIDERATION

This amendment involves changes in the installation or use of facility components located within the restricted area. The staff has determined that the amendment involves 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. Accordingly, the amendment meets 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 this amendment.

7.0 CONCLUSION

The staff has concluded, based on the considerations discussed above, that (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public. We, therefore, conclude that the proposed change is acceptable.

Principal contributors: C. Nichols, E. Licitra

Dated: April 29, 1987