



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

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NO. STN 50-528

PALO VERDE NUCLEAR GENERATING STATION, UNIT 1

ARIZONA PUBLIC SERVICE COMPANY, ET AL

NOTICE OF ISSUANCE OF FACILITY OPERATING LICENSE

Notice is hereby given that the U.S. Nuclear Regulatory Commission (the Commission), has issued Facility Operating License No. NPF-34, (License) to 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, and Southern California Public Power Authority. This License authorizes operation of the Palo Verde Nuclear Generating Station, Unit 1 (facility) at reactor core power levels not in excess of 3800 megawatts thermal in accordance with the provisions of the License, the Technical Specifications and the Environmental Protection Plan. However, the License contains a condition currently limiting operation to five percent of full power (190 megawatts thermal). Authorization to operate at greater than five percent power will require specific Commission approval.

Palo Verde Nuclear Generating Station, Unit 1 is a pressurized water reactor which utilizes a CESSAR standard plant design and is located at the licensees' site in Maricopa County, Arizona approximately 36 miles west of the city of Phoenix. The License is effective as of the date of issuance and shall expire at midnight on December 31, 2024.

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The application for the license complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act); and the Commission's regulations. The Commission has made appropriate findings as required by the Act and the Commission's regulations in 10 CFR Chapter I, which are set forth in the License. Prior public notice of the overall action involving the proposed issuance of an operating license was published in the FEDERAL REGISTER on July 11, 1980 (45 F.R. 46941) as clarified in a notice published July 25, 1980 (45 F.R. 49732). The issuance of the operating license was approved by the Atomic Safety and Licensing Board in its Initial Decision, dated December 30, 1982.

The Commission has determined that the issuance of this license will not result in any environmental impacts other than those evaluated in the Final Environmental Statement since the activity authorized by the license is encompassed by the overall action evaluated in the Final Environmental Statement.


For further details with respect to this action, see (1) Facility Operating License No. NPF-34, with Technical Specifications (NUREG-1111) and Environmental Protection Plan; (2) the report of the Advisory Committee on Reactor Safeguards dated December 15, 1981; (3) the Commission's Safety Evaluation Report on Palo Verde dated November 1981; Supplement Nos. 1 through 7, dated February 1982, May 1982, September 1982, March 1983, November 1983, October 1984, and December, 1984, respectively; (4) the Commission's related Safety Evaluation Report on CESSAR dated November 1981; Supplement No. 1 dated March 1983; Supplement No. 2 dated September 1983; (5) the Final Safety Analysis Reports and amendments thereto; (6) the Environmental Report and supplements thereto; (7) the Draft Environmental Statement dated October 1981; and (8) the Final Environmental Statement dated March 1982.



These documents are available for public inspection at the Commission's Public Document Room, 1717 H Street, N. W., Washington, D. C., and the Phoenix Public Library, Business, Science and Technology Department, 12 East McDowell Road, Phoenix, Arizona 85004. A copy of Facility Operating License No. NPF- may be obtained upon request addressed to the U.S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Director, Division of Licensing. Copies of the Safety Evaluation Report and its Supplements 1 through 7 (NUREG-0857) and the Final Environmental Statement (NUREG-0841) may be purchased at current rates from the National Technical Information Service, Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161, and through the NRC GPO sales program by writing the U. S. Nuclear Regulatory Commission, Attention: Sales Manager, Washington, D. C. 20555. GPO deposit account holders can call 301-492-9530.

Dated at Bethesda, Maryland, the 31st day of December, 1984.

FOR THE NUCLEAR REGULATORY COMMISSION


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



ASSESSMENT OF THE EFFECT OF LICENSE DURATION ON THE MATTERS DISCUSSED
IN THE FINAL ENVIRONMENTAL STATEMENT FOR THE
PALO VERDE NUCLEAR GENERATING STATION, UNITS 1, 2 AND 3

INTRODUCTION

The Final Environmental Statement (FES) for the operation of the Palo Verde Nuclear Generating Station, Units 1, 2 and 3 (PVNGS 1-3) was published in February 1982. At that time it was staff practice to issue operating licenses for a period of 40 years from the date of issuance of the construction permit. This was approximately 30 years of operating life.

However, since the applicants have requested in their application that the operating licenses (OL) for PVNGS 1-3 then under consideration by the staff, have a duration of 40 years from the date of OL issuance, an assessment contained herein is made for those issues affected by the 40-year duration.

DISCUSSION

The staff reviewed the PVNGS 1-3 FES to determine which aspects considered in the FES are affected by the duration of the operating license. In general, the FES assesses various impacts associated with operation of the facility in terms of annual impacts and balances these against the anticipated annual energy production benefits. Thus, the overall assessment and conclusions would not be dependent on specific operating life. There are, however, two areas in which a specific operating life was assumed. These are as follows:

1. Radiological assessment are based on a 15-year plant midlife.
2. Uranium fuel cycle impacts are based on 30 years of operation.

EVALUATION

The staff's appraisal of the significance of the use of 40 years of operations rather than 30 as it affects the two areas above is presented in the following discussions:

1. Radiological Assessment - The NRC staff calculated dose commitments to the human population residing around nuclear power reactors to assess the impact on people from radioactive material released from these reactors. The annual dose commitment is calculated to be the dose that would be received over a 50-year period following the intake of radioactivity for one year under the conditions that would exist 15 years after the plant began operation.

The 15-year period is chosen as representing the midpoint of plant operation and is incorporated into the dose models by allowing for buildup of long life radionuclides in the soil. It affects the estimated doses only for radionuclides ingested by humans that have half-lives greater than a few years. For a plant licensed for 40 years, increasing the buildup period



from 15 to 20 years would increase the dose from long life radionuclides via the ingestion pathways by 10% at most. It would have much less effect on dose from shorter life radionuclides. Table C-4 of the PVNGS 1-3 FES indicates that the estimated doses via the ingestion pathways are well below the regulatory design objectives. For example, the ingestion dose to the thyroid from PVNGS Unit 1 is 1.8 mrem/yr compared to an Appendix I design objective of 15 mrem/yr. Thus, an increase of even as much as 10% in these pathways would remain well below the Appendix I guidelines and would not be significant.

2. Uranium Fuel Cycle Impacts - The impacts of the uranium fuel cycle are based on 30 years of operation of a model LWR. The fuel requirements for the model LWR are assumed to be one initial core load and 29 annual refuelings (approximately 1/3 core). The annual fuel requirement for the model LWR averaged out over a 40-year operating life (1 initial core and 39 refuelings of approximately 1.3 core) would be reduced slightly as compared to the annual fuel requirement averaged for a 30-year operating life.

The net result would be approximately 1.5% reduction in the annual fuel requirement for the model LWR. This small reduction in fuel requirements would not lead to significant changes in the impacts of the uranium fuel cycle. The staff judges that there would not be any changes to PVNGS 1-3 FES Table 5.16 (S-3) that would be necessary in order to consider 40 years of operation. If anything, the value in Table 5.16 become more conservative when a 40-year period of operation is considered.

CONCLUSIONS

The staff has reviewed the PVNGS 1-3 FES and determined that only two of the areas related to its NEPA analysis discussed in the statement were tied directly to a 30-year operating period. Based on the reasons discussed in the sections above, the staff has concluded that the impacts associated with a 40-year license duration are not significantly different from those associated with a 30-year license duration and are not significantly different from those assessed in the PVNGS 1-3 FES.

