

February 23, 1988

Docket No.: 50-397

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Mr. G. C. Sorensen, Manager  
Regulatory Programs  
Washington Public Power Supply System  
P. O. Box 968  
3000 George Washington Way  
Richland, Washington 99352

POSTED 02/26/88  
50-397  
AMENDMENT 050  
NPF-021

Dear Mr. Sorensen:

SUBJECT: ISSUANCE OF AMENDMENT NO. 50 TO FACILITY OPERATING LICENSE  
NPF-21 - WPPSS NUCLEAR PROJECT NO. 2 (TAC NO. 67181)

The U.S. Nuclear Regulatory Commission has issued the enclosed Amendment No. 50 to the Washington Public Power Supply System for WPPS Nuclear Project No. 2, located in Benton County near Richland, Washington. This amendment is in response to your letter dated February 18, 1988 (G02-88-038) as supplemented by submittals dated February 19, 1988 (G02-88-041), February 22, 1988 (G02-88-043), and February 23, 1988 (G02-88-044).

This amendment revises the WNP-2 Technical Specification 3.9.7, "Crane Travel Spent Fuel Storage Pool." For the express purpose of accomodating the repair of the damage to reactor building roof which occurred on February 14, 1988, the weight limits in the Limiting Condition for Operation have been waived.

A copy of related safety evaluation supporting Amendment No. 50 to Facility Operating License No. NPF-21 is enclosed.

Sincerely,

Robert B. Samworth, Senior Project Manager  
Project Directorate V  
Division of Reactor Projects - III,  
IV, V and Special Projects  
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No.50 to Facility  
Operating License No. NPF-21
2. Safety Evaluation

cc: w/enclosures  
See next page

DO NOT REMOVE

\*See previous concurrences.

DRSP/PDV	DRSP/PDV	OGC	DRSP/PDV
*JLee	*RBSamworth:dr	JScinto	@WKnighton
02/23/88	02/23/88	02/23/88	02/23/88

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Mr. G. C. Sorensen, Manager  
Washington Public Power Supply System

WPPSS Nuclear Project No. 2  
(WNP-2)

cc:

Nicholas S. Reynolds, Esq.  
Bishop, Cook, Purcell  
& Reynolds  
1200 Seventeenth Street, N.W.  
Washington, D.C. 20036

Regional Administrator, Region V  
U.S. Nuclear Regulatory Commission  
1450 Maria Lane, Suite 210  
Walnut Creek, California 94596

Mr. G. E. Doupe, Esquire  
Washington Public Power Supply System  
P. O. Box 968  
3000 George Washington Way  
Richland, Washington 99532

Chairman  
Benton County Board of Commissioners  
Prosser, Washington 99350

Mr. Curtis Eschels, Chairman  
Energy Facility Site Evaluation Council  
Mail Stop PY-11  
Olympia, Washington 98504

Mr. P. L. Powell, Licensing Manager  
Washington Public Power Supply System  
P. O. Box 968, MD 956B  
Richland, Washington 99352

Mr. A. Lee Oxsen  
Assistant Managing Director for Operations  
Washington Public Power Supply System  
P. O. Box 968, MD 1023  
Richland, WA 99352

Mr. R. B. Glasscock, Director  
Licensing and Assurance  
Washington Public Power Supply System  
P. O. Box 968, MD 280  
Richland, Washington 99352

Mr. C. M. Powers  
WNP-2 Plant Manager  
Washington Public Power Supply System  
P. O. Box MD 927M  
Richland, Washington 99352



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

WASHINGTON PUBLIC POWER SUPPLY SYSTEM

DOCKET NO. 50-397

WPPSS NUCLEAR PROJECT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 50  
License No. DPR-21

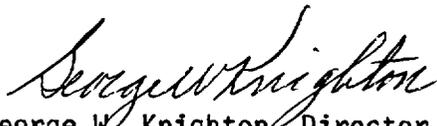
1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Washington Public Power Supply System (the Supply System, also the licensee), dated February 18, 1988 as supplemented by submittals dated February 19, February 22, and February 23, 1988, complies 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 the 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 set forth in 10 CFR Chapter I;
  - 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; and
  - 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.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-21 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 50, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



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

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: February 23, 1988

ENCLOSURE TO LICENSE AMENDMENT NO. 50

FACILITY OPERATING LICENSE NO. NPF-21

DOCKET NO. 50-397

Replace the following page of the Appendix "A" Technical Specifications with the enclosed page. The revised page is identified by Amendment number and contains a vertical line indicating the area of change.

REMOVE

3/4 9-9

INSERT

3/4 9-9

## REFUELING OPERATIONS

### 3/4.9.7 CRANE TRAVEL - SPENT FUEL STORAGE POOL

#### LIMITING CONDITION FOR OPERATION

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3.9.7 Loads up to 1500 pounds may be permitted to travel over fuel assemblies in the spent fuel storage pool racks provided that the height and weight of the load above the surface of the pool water is limited per Figure 3.9.7-1 (see Note).

APPLICABILITY: With fuel assemblies in the spent fuel storage pool racks.

ACTION:

With the requirements of the above specification not satisfied, place the crane load in a safe condition. The provisions of Specification 3.0.3 are not applicable.

#### SURVEILLANCE REQUIREMENTS

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4.9.7 Crane interlocks and physical stops which prevent crane travel with loads in excess of 1500 pounds over fuel assemblies in the spent fuel storage pool racks shall be demonstrated OPERABLE within 7 days prior to and at least once per 7 days during crane operation.

Note: During the period February 19 through April 19, 1988, this Limiting Condition for Operation is waived for:

1. The installation and removal of a protective cover provided that adequate measures are taken to prevent the load from falling into the pool during transit; and
2. The movement of roof structural members weighing up to 700 pounds and of construction equipment and supplies necessary to repair the damage to the reactor building roof caused on February 14, 1988.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 50 TO FACILITY OPERATING LICENSEE NO. NPF-21  
WASHINGTON PUBLIC POWER SUPPLY SYSTEM  
WASHINGTON NUCLEAR PROJECT NO. 2  
DOCKET NO. 50-397

1.0 INTRODUCTION

By letter dated February 18, 1988, as supplemented by letters on February 19, 22, and 23, 1988, the licensee for Washington Nuclear Project No. 2 (WNP-2) requested a one-time only temporary amendment to the plant Technical Specification (TS) 3.9.7 under emergency circumstances and provided justifications for the same. Specifically, the licensee requested temporary relief from the above TS which restricts the movement of loads over fuel assemblies stored in the Spent Fuel Pool (SPF) to a maximum of 1500 lbs.; the exact allowable load depending on the weight and height of the load above the surface of the pool water. The intent and purpose of the TS is to ensure that in the event the allowable load is dropped 1) the activity release will be limited to that contained in a single fuel assembly, and 2) any possible distortion of fuel in the storage racks will not result in a critical array.

The above request is needed to install a temporary protective cover over the pool. The licensee has proposed such an installation to allow needed repairs to the roof of the Reactor Building (RB) damaged in an overpressure transient that occurred on February 14, 1988. In their submittal, the licensee stated that the cover would act as a missile shield and stop any credible missile dropping from the roof into the pool during the repair work and consequently prevent any damage to the stored fuel in the pool arising from the missile. The licensee further provided compensatory precautions they would implement during the placement and removal of the cover that would preclude the cover itself from becoming a missile hazard for the stored fuel in the SFP.

The licensee also identified an additional need for the temporary relief from the TS to allow roof repairs involving replacement and/or relocation of a limited number of structural members above the SFP. In their submittal, the licensee stated that the protective cover along with administrative controls they will impose on the repair tools, equipment and materials will preclude any credible missile penetrating the SFP during the repair work.

The licensee sought temporary relief from the TS during 1) installation and removal of the protective cover provided adequate measures are taken to prevent the load from falling into the pool during its transit over the pool, and 2) any necessary repairs to the Reactor Building roof. The licensee made the request on an emergency basis stating that currently the plant is in

cold shutdown condition and that it cannot be returned to power without completing the roof repair and that the demand for power in the region during this season warrants quick restoration of the unit to power generating condition.

## 2.0 EVALUATION

In their submittals, the licensee stated that the temporary protective pool cover will be fabricated away from the SFP in three sections and its assembled dimensions will be 38 by 45 feet to cover the pool dimensions of 34 by 40 feet. Each section will weigh approximately 7 tons. The cover will consist of 3/8-inch steel plate supported on a I beam steel gridwork of beams and stringers. The steel gridwork in turn will be supported on the Reactor Building floor and prevented from moving horizontally by cables tied to columns. The licensee stated that the compensatory measures listed below will be followed to ensure that the cover sections themselves do not become a missile hazard to the stored fuel in the pool during their installation or removal:

- a. The cover will be fabricated in three sections well away from the SFP to ensure that no construction work is done over the pool.
- b. The cover sections will be moved across the pool at a height of about 20 inches for obstruction clearance (e.g., protruding thermocouples). However, supports in place at all times during the movement of the sections will prevent any section from dropping more than approximately 6 inches. The above procedures will ensure that the cover sections overlap both edges of the pool by at least a foot at all times and that, in the event, a section is dropped it will not contact the pool but rest on the flooring near the edge of the pool.
- c. The Reactor Building crane qualified for lifting substantially higher loads than the weight of these sections and which meets the requirements for a "single failure proof crane" specified in NUREG-0612, "Control of Heavy Loads at Nuclear Power Plants", Appendix C, will be utilized for moving the cover sections over the pool during their installation and removal. When the crane is used, all rigging below the hook will be 100 percent redundant.
- d. The sections will be fastened together above the covers with the covers in place abutting each other such that no objects can drop into the pool.
- e. The cover will be secured in a manner to assure that it will not shift in a design seismic event.

Regarding RB roof repairs, the licensee stated that their repair plans call for scaffolding to be erected near the SFP. Specifically, the licensee stated that the roof repair will involve moving a limited number of structural members over the pool and may additionally involve replacing up to 3 structural members, each weighing approximately 700 pounds (two I beams each 24 feet long; one I beam 27 feet long). The licensee intends to use an external crane (Manitowoc 4100 Series 1) for the above purpose. The licensee will impose the following additional safety limitations to further reduce the potential to drop objects:

- a. Normal safety factors related to lifting will be increased so that any load lifted will not exceed 50 percent of the rated capacity of the crane.
- b. All rigging below the hook will be 100 percent redundant.
- c. Structural members will be tethered at both ends or equivalently tethered to provide 100 percent redundancy to any type of rigging in process when they are not attached to the superstructure.
- d. The crane will not be used over safety-related equipment until the licensee concludes that its use will be within the scope of 10 CFR 50.59 criterion.
- e. Hand tools and equipment as applicable will be tied off during use over openings in the roof.

The licensee stated that with the imposition of the above administrative controls, structural members (i.e., a purlin or I beam) will not be credible missile hazards to the stored fuel in the SFP. The licensee has, however, determined using standard ballistic methods that in the unlikely event, a purlin (e.g., the 27 feet long I beam weighing 700 pounds) lands on end on the 3/8" steel plate of the pool protective cover, it will not penetrate the plate.

The licensee has identified a scaffolding pipe (approximately 8 feet long and 2 inches in diameter) dropped onto the SFP cover end on from 50 feet, the height of the roof above the SFP, as the maximum credible missile for the stored fuel in the pool during the roof repair work. The licensee indicated that the pool cover described above will stop this missile from entering into the pool.

In addition to the above procedures and administrative controls, the licensee has committed to put in place an industrial safety net in the area of concern during the major phase of the RB roof repair work. The licensee also stated that there is no safety-related equipment required for continued safe shutdown of the reactor which could be impacted adversely by a object dropped onto the refueling floor during the repair work.

Based on the above considerations, the staff has determined that the SFP will be adequately protected during the restoration of the RB roof. The staff has also determined that there is reasonable assurance, that movement of the identified loads over the pool during the licensee's proposed installation and subsequent removal of a protective pool cover (missile shield) and RB roof repairs will not result in any object dropping into the pool. The staff has, therefore, determined that the intent and purpose of the TS 3.9.7 will not be compromised by the proposed movement of loads over the pool during the periods specified above.

### 3.0 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 as 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 SER evaluated the potential damage to fuel which could result from an object dropping into the fuel pool. The licensee will erect a rigid cover over the fuel pool to prevent anything from falling into the pool during the repair work. The cover itself is too large to drop into the pool. It will be fabricated away from the pool and moved into place in three sections. The sections will span the pool and will be handled in such a manner as to preclude their entry into the pool. The licensee analyzed the largest potential falling object, a 700 pound structural member and found that it would not penetrate the pool cover. Furthermore, structural members will be doubly tethered to prohibit their fall. 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 the facility to be restored to the condition it was in prior to the roof damage. The utilization

of the cover over the pool during the repair prevents any objects not previously evaluated from falling into the pool. Therefore this 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 placement of the temporary rigid cover over the fuel pool actually increases the margin of safety during the repair period.

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

#### 4.0 ENVIRONMENTAL CONSIDERATION

This amendment involves a change in the installation and use of a facility component located within the restricted area as defined in 10 CFR Part 20. The staff has determined that this 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. The Commission has previously issued a proposed finding that this amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, this amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR Part 51.22(c)(9). Pursuant to 10 CFR Part 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of this amendment.

#### 5.0 CONTACT WITH STATE OFFICIAL

The NRC staff advised the Washington Energy Facility Siting Council of the final determination of no significant hazards consideration by telephone on February 23, 1988. The State had no comment on this determination.

#### 6.0 CONCLUSION

We have 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.

Principal Contributor: T. Chandrasekaran, NRR  
R. Samworth, NRR

Dated: February 23, 1988