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SUBJECT: Responds to staff request to provide evaluation of spent
 fuel storage cask crane design, storage cask load path &
 storage cask loading & unloading process per NRC Bulletin
 96-002.

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WASHINGTON PUBLIC POWER SUPPLY SYSTEM

P.O. Box 968 • Richland, Washington 99352-0968

April 3, 1997
GO2-97-064

Docket No. 50-397

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D.C. 20555

Gentlemen:

Subject: **WNP-2, OPERATING LICENSE NPF-21, RESPONSE TO NRC REQUEST FOR ADDITIONAL INFORMATION RELATED TO BULLETIN 96-02, "MOVEMENT OF HEAVY LOADS OVER SPENT FUEL, OVER FUEL IN THE REACTOR CORE, OR OVER SAFETY-RELATED EQUIPMENT"**

- References:
- 1) Letter, GI2-96-289, dated December 5, 1996, NRC to JV Parrish (SS), "Request for Additional Information Related to Bulletin 96-02, Movement of Heavy Loads Over Spent Fuel, Over Fuel in the Reactor Core, or Over Safety-Related Equipment"
 - 2) Letter, GO2-82-32, dated January 13, 1982, GD Bouche (SS) to A Schwencer (NRC), "Response to NUREG-0612, Control of Heavy Loads"
 - 3) Letter, GO2-82-824, dated October 4, 1982, GD Bouche (SS) to A Schwencer (NRC), "Response to NUREG-0612, Control of Heavy Loads, Revision 1"
 - 4) NUREG-0892, Supplement 4, "Safety Evaluation Report Related to the Operation of WPPSS Nuclear Project No. 2"

In accordance with Reference 1, the Supply System hereby responds to the staff's request to provide an evaluation of our spent fuel storage cask crane (reactor building crane) design, the storage cask load path, and the storage cask loading and unloading process. The staff has requested that WNP-2 provide this evaluation to support the determination that the cask drop scenario as described in Reference 1 is not a credible accident at WNP-2.

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**RESPONSE TO NRC REQUEST FOR ADDITIONAL INFORMATION
RELATED TO BULLETIN 96-02**

Based on recent discussions with the staff, the Supply System agreed to provide additional information in this response regarding reactor building crane design. In particular, this response will provide a discussion of the chronology of applicable design codes and standards in effect during and after the crane was purchased, a discussion of crane upgrades or modifications, and a discussion of Supply System compliance with present crane design standards. Furthermore, the Supply System has committed to provide the staff with the results of a detailed review of our crane design by June 30, 1997.

The cask drop scenario as described in Reference 1 is not considered a credible event at WNP-2. WNP-2 Final Safety Analysis Report (FSAR) Section 15.7.5 notes that an analysis of a spent fuel cask drop is not required. FSAR Section 15.7.5 states that "The reactor building crane is provided with sufficient redundancy such that no credible postulated failure of any crane component required to lift, hold, and move loads, will result in the dropping of the fuel cask." Additional discussion with the staff regarding the design of the reactor building crane is documented in the Supply System response to NUREG-0612, "Control of Heavy Loads of Nuclear Power Plants" (see Reference 2). Section 2.2.3 of Reference 2 notes that the reactor building crane meets the requirements for a single failure proof crane as per NUREG 0612, Appendix C. For plants under construction, Appendix C to NUREG-0612 provides guidelines for upgrading existing cranes in lieu of complying with certain recommendations of NUREG-0554, "Single-Failure-Proof Cranes for Nuclear Power Plants." NUREG-0554 provides guidance for the design, fabrication, installation, and testing of new cranes.

The reactor building crane used at WNP-2 was purchased in 1973. The two major codes and standards used as part of the bid specification were Crane Manufacturers of America (CMAA) Specification #70, "Specifications for Electric Overhead Traveling Cranes," and ANSI B30.2, "Safety Code for Cranes, Derricks and Hoists." Reference 3 also notes that the crane was built to CMAA Specification #70 and was tested to verify conformance to ANSI B30.2. Conformance to the CMAA and ANSI guidelines is recommended by the staff in NUREG-0612, Section 5.2. Between 1975 and 1978 the Supply System used the guidance provided by the NRC in documents Branch Technical Position (BTP) APCS 9-1, "Overhead Handling Systems for Nuclear Power Plants" and Regulatory Guide (RG) 1.104, "Overhead Crane Handling Systems for Nuclear Power Plants" during plant construction. In order to comply with both the BTP and the RG, the Supply System incorporated additional enhancements to the crane's design. An additional review of subsequent reactor building crane modifications, installed since plant startup, has noted no changes in crane design that would compromise its single-failure-proof classification. Finally, Reference 2 was issued to the staff in 1982 to note compliance with the design requirements of Appendix C to NUREG-0612.

Page 3

**RESPONSE TO NRC REQUEST FOR ADDITIONAL INFORMATION
RELATED TO BULLETIN 96-02**

In Reference 4, Section 9.1.5, "Overhead Heavy Load Handling Systems," the staff noted that the guidelines of NUREG-0612 had been satisfied, and the objectives of Section 5.1 of NUREG-0612 had been met. Section 5.1 of NUREG-0612 contains subsection 5.1.6, which addresses adherence to NUREG-0554 or to Appendix C of NUREG-0612 to meet single-failure-proof design criteria.

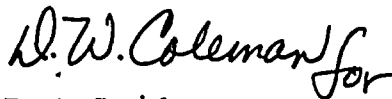
The staff requested that the Supply System perform a spent fuel cask safe load path evaluation in order to show that the cask drop scenario as described in Reference 1 is not credible. Section 2.1.3 of Reference 3 discusses acceptable safe load paths for heavy loads, including the spent fuel cask, that are moved by the reactor building crane. As is also discussed, the primary control for assuring that load handling operations remain within safe load paths is approved procedures.

The staff also requested an evaluation of the spent fuel cask loading and unloading process in order to show that the cask drop scenario as described in Reference 1 is not credible. The Supply System has not selected a vendor, nor determined the process by which spent fuel casks will be handled. Therefore, it is not possible at this time to evaluate the cask loading and unloading process. However, once the process has been identified, a review will be performed to ensure the cask handling process, as well as the cask safe load path, are in compliance with the WNP-2 licensing basis.

The Supply System is performing a detailed review of the design of our reactor building crane. This review will provide additional documentation of our compliance with the appropriate requirements of NUREG-0612 regarding single-failure-proof cranes. The Supply System will inform the staff of the results of this review by June 30, 1997.

Should you have any questions or desire additional information regarding this matter, please call me at (509)-377-4563.

Respectfully,



D. A. Swank
Manager, Regulatory Affairs
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