

WNP-2

Washington Public Power Supply System

P.O. Box 968 3000 George Washington Way Richland, Washington 99352 (509) 372-5000

February 23, 1984

Docket No. 50-397

Mr. R. A. Scarano, Director
Division of Radiological Safety and
Safeguards Programs
U.S. Nuclear Regulatory Commission
Region V
1450 Maria Lane, Suite 210
Walnut Creek, California 94596

Subject: NUCLEAR PROJECT NO. 2
NRC INSPECTION NOVEMBER 28 - DECEMBER 20, 1983

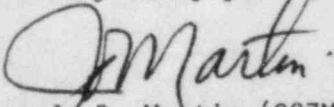
Dear Mr. Scarano:

The Washington Public Power Supply System hereby replies to the Notice of Deviation contained in Appendix B of your letter dated January 25, 1984. Our reply pursuant to the provisions of Section 2.201, Title 10 Code of Federal Regulations, consists of this letter and Appendix A (attached).

In Appendix A, an explanation of the deviation is presented, the corrective actions taken with results achieved are outlined and the date of full compliance is specified.

Should you have any questions concerning our response, please do not hesitate to contact me.

Very truly yours,



J. D. Martin (927M)
WNP-2 Plant Manager

Attachment

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Notice of Deviation
Washington Public Power Supply System

License No. NPF-21
Docket No. 50-397

As a result of an inspection conducted between November 28 and December 20, 1983 and in accordance with NRC Enforcement Policy 10 CFR 2, Appendix C, the following deviation was identified.

The Final Safety Analysis Report (FSAR) states in paragraph 12.1.1 that: "The radiation protection practices are based, when practicable and feasible, on Regulatory Guide(s) 8.8, Revision 3 and 8.10, Revision 1." Regulatory Guide 8.8, Revision 3, paragraph C.2.b.(6) states: "The exposure of station personnel to radiation from pipes carrying radioactive material can be reduced by means of shielded chases." FSAR paragraph 9.3.2.2.4 states: "Sample lines containing highly radioactive fluids are routed away from corridors or occupied areas or are shielded when entering occupied areas." FSAR paragraph 12.3.1.3.3 states: "Radioactive piping routed through lower radiation zones is enclosed within a shielded tunnel".

Contrary to these commitments the reactor coolant sample line runs unshielded from the X27 penetration on the reactor building 501' elevation across the corridor between the reactor and turbine building, down the stair well to the 441' elevation of the turbine building then down the corridor to sample room 116. As of December 20, 1983, the line was not shielded, lagged or otherwise protected to minimize personnel hazard from this high temperature, high pressure and potentially highly radioactive source.

This is a deviation.

The deviation results from a perceived discrepancy between stated design policy in the FSAR versus applied practice in the installation of the reactor coolant sample line (SP-1) and its routing to sample rack, SR-1, in the turbine building. Our calculations indicate that the radiation dose rates from this source do not exceed 0.66 mr/hr at 1 foot from the sample line using the same calculational technique and source terms employed in other FSAR shielding design calculations. The source terms were comprised of steady-state corrosion products, long-lived fission product buildup assuming a 1% failed fuel inventory and the normal short-lived activation products associated with equilibrium cycle plant operation. In addition the sample line is automatically isolated on main steam high radiation levels which are indicative of failed fuel in excess of the assumptions used in this assessment.

Clearly the sample line does not represent a highly radioactive source term nor does it cause concern in the lower radiation zones of the turbine building. The sample line does not need to be shielded over any portion of its traverse to sample rack SR-1.

The sample line design pressure and temperature are 1250 psig and 575°F respectively. The line is of all welded construction, hydrostatically tested to 1875 psig with expansion loops to reduce thermal stresses. It is supported to seismic category I requirements in the reactor building and to seismic category II requirements in the turbine building. The pressure retaining capability of the sample line is thus assured.

Plant design specifications require that this sample line be insulated. Construction completion activities include insulation of sample line SP-1.

With the insulation of the sample line, it is the Supply System's position that adequate measures have been taken to protect personnel from the high temperature, high pressure and potentially highly radioactive source hazards associated with the line. Clarification of the design intent in the Final Safety Analysis Report is required to preclude further confusion as to our commitments implied therein.

Corrective Actions Which Have Been Taken and Results Achieved

A design assessment of the sample line routing and personnel hazard it represents was performed. The assessment concluded the the line should be insulated but that shielding was not required. Proper implementation of the design specifications assured the pressure-retaining capability of the line. An entry into the Plant Tracking Log (PTL) with a milestone completion date tied to test condition heatup has been made to identify the need to complete the reactor coolant sample line insulation prior to attaining rated reactor temperature and pressure. In addition a Maintenance Work Request (MWR) has been generated to provide work direction to complete the insulation activity (PTL #3970, MWR #AY2687). In summary, the work to complete the sample line has been identified and is presently underway.

Corrective Actions to Avoid Recurrence

The sample rack, SR-1, and the line routing will be added to the Standard Survey data sheets of Power Ascension Test Procedure, 8.2.2, Radiation Measurements through a procedure revision. This establishes these locations as radiation base points (RBP) which will be continually monitored over the course of the test program. Based upon dose rates measured in these areas which can be attributed to the line, an assessment of the need to continue to monitor these locations into several operating cycles will be made after the plant begins commercial operation. This approach is designed to confirm the basic assumptions of the current analysis. Any need to alter the existing plant design would be identified and appropriate design changes could be generated if required at that time.

The FSAR sections 9.3.2.2.4, Sample Piping Design and 12.3.1.3.3, Field Routing of Piping will be revised to provide clarification of the design approach utilized to install the reactor coolant sample line. This revision indicates that the expected radiation levels from such sources dictate whether a line needs to be shielded or not relative to the radiation zone designation in which the line is routed. That is, if a dose rate from a source in a particular area exceeds the radiation levels specified for that zone then appropriate measures such as shielding or re-routing would be taken to maintain the desired zone designation.

Date of Full Compliance

The FSAR revision will be included in FSAR amendment 35, presently scheduled for submittal in July, 1984. The insulation of sample line SP-1 is expected to be completed 1 April 1984, while the procedure revision is anticipated to be in place by March 21, 1984. The date of full compliance is therefore established as 1 August 1984.