ENERGY NORTHWEST

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

August 11, 2003
G02-03-127

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Subject: **COLUMBIA GENERATING STATION, DOCKET 50-397; 60-DAY RESPONSE TO GENERIC LETTER 2003-01 "CONTROL ROOM HABITABILITY"**

Reference: Letter dated June 12, 2003, from NRC to JV Parrish (Energy Northwest), NRC Generic Letter 2003-01, "Control Room Habitability"

Dear Sir or Madam:

On June 12, 2003, the NRC issued the referenced Generic Letter requesting addressees to submit information that demonstrates the control room at their respective facilities meets current licensing and design bases and applicable regulatory requirements. The Generic Letter instructed addressees to reply within 60 days if they could not provide the requested information within 180 days. Energy Northwest herein submits its 60-day response to the Generic Letter to notify the NRC that the requested information for Columbia Generating Station cannot be provided within the 180-day period. The attached response details actions that Energy Northwest will take in order to provide the requested information and a schedule for completion of these actions.

Should you have any questions or desire additional information regarding this matter, please call Ms. CL Perino at (509) 377-2075.

Respectfully,

DK Atkinson
Vice President, Technical Services
Mail Drop PE08

Attachment: 60-Day response to Generic Letter 2003-01

cc: TP Gwynn - NRC - RIV
BJ Benney - NRC - NRR
TC Poindexter - Winston & Strawn
NRC Sr. Resident Inspector - 988C
RN Sherman - BPA/1399

A102

Background

The main control room habitability systems at Columbia Generating Station (Columbia) are designed to maintain a habitable environment for plant operators during normal and abnormal operating conditions pursuant to General Design Criteria (GDC) 19 of 10 CFR § 50, Appendix A. During accident conditions the Control Room Emergency Filtration (CREF) system provides radiological protection for control room personnel by pressurizing the control room with filtered air drawn from either of two separate remote fresh air intakes. The control room is also pressurized in the event of fire within the plant (external to the control room) to prevent ingress of smoke or combustion vapors. To ensure the necessary quality of the CREF system is maintained, and the requirements of Technical Specifications Limiting Condition for Operation (LCO) 3.7.3 are met, a periodic pressurization test is performed to demonstrate the CREF system can maintain the control room at a positive pressure at a specified flow rate.

In support of a proposed license amendment to adopt the alternative radiological source term (AST) described in Regulatory Guide 1.183, a test was performed in September 2000 to quantify unfiltered inleakage into Columbia's control room envelope. The test followed the standard test method described in American Society for Testing and Materials (ASTM) consensus standard E741, "Standard Test Method for Determining Air Change in a Single Zone by Means of a Tracer Gas Dilution." The results of the test demonstrated that control room inleakage was considerably higher than the 10.55 cfm assumed in Columbia's licensing basis. Although the test results showed the GDC 19 dose limit of 5 rem whole body was met, analysis of the measured increase of unfiltered inleakage on control room dose during post-accident conditions showed that the design basis thyroid dose of 30 rem to control room operators was exceeded. A follow-up operability assessment determined that the greater than assumed inleakage did not render the CREF system inoperable and compensatory measures have been implemented to administer potassium iodide (KI) to control room operators to reduce the control room thyroid dose to below the 30-rem limit in the event of a design basis accident. This condition of Columbia being outside of its design basis was reported to the NRC in Licensee Event Report (LER) 2000-006-01.

In November of 2002, Energy Northwest withdrew its license amendment request to adopt the AST allowed by 10 CFR § 50.67 due to errors in the submittal. At this time, these errors are being corrected and preparations are proceeding to re-perform the ASTM E741 tracer gas testing to support re-submittal of the AST license amendment request and the response to Generic Letter 2003-01. The AST license amendment request is scheduled for submittal to the NRC on or before April 30, 2004. However, this date is contingent on procuring a qualified testing vendor and adequate resources to perform ASTM E741 tracer gas testing.

Generic Letter 2003-01 instructed licensees to respond by August 11, 2003 if they could not provide the requested information by December 9, 2003. The Generic Letter further instructed licensees to address any proposed alternative course of action along with the basis for acceptability of the proposed alternative action and schedule for completion. A discussion of the information requested in GL 2003-01 and Columbia's responses are provided below.

Information requested in GL 2003-01

1. Provide confirmation that your facility's control room meets the applicable habitability regulatory requirements (e.g., GDC 1, 3, 4, 5, and 19) and that the Control Room Habitability Systems (CRHS) are designed, constructed, configured, operated, and maintained in accordance with the facility's design and licensing basis. Emphasis should be placed on confirming:

   (a) That the most limiting unfiltered inleakage into your Control Room Envelope (CRE) (and the filtered inleakage if applicable) is no more than the value assumed in your design basis radiological analyses for control room habitability. Describe how and when you performed the analyses, tests, and measurements for this confirmation.

   (b) That the most limiting unfiltered inleakage into your CRE is incorporated into your hazardous chemical assessments. This inleakage may differ from the value assumed in your design basis radiological analyses. Also, confirm that the reactor control capability is maintained from either the control room or the alternate shutdown panel in the event of smoke.

   (c) That your Technical Specifications verify the integrity of the CRE and the assumed inleakage rates of potentially contaminated air. If you currently have a ΔP surveillance requirement to demonstrate CRE integrity, provide the basis for your conclusion that it remains adequate to demonstrate CRE integrity in light of the ASTM E741 testing results. If you conclude that your ΔP surveillance requirement is no longer adequate, provide a schedule for: 1) revising the surveillance requirement in your Technical Specifications to reference an acceptable surveillance methodology (e.g., ASTM E741), and 2) making any necessary modifications to your CRE so that compliance with your new surveillance requirement can be demonstrated.

   If your facility does not currently have a Technical Specification surveillance requirement for your CRE integrity, explain how and at what frequency you confirm your CRE integrity and why this is adequate to demonstrate CRE integrity.

2. If you currently use compensatory measures to demonstrate control room habitability, describe the compensatory measures at your facility and the corrective actions needed to retire these compensatory measures.

3. If you believe that your facility is not required to meet either the GDC, the draft GDC, or the "Principle Design Criteria" regarding control room habitability, in addition to responding to 1 and 2 above, provide documentation (e.g., Preliminary Safety Analysis Report, Final Safety Analysis Report sections, or correspondence) of the basis for this conclusion and identify your actual requirements.

Energy Northwest's Plan for Response to item 1(a)

As reported in LER 2000-006-01, the measured value of inleakage into Columbia's control room exceeds the value assumed in the current design basis radiological analyses for control room habitability. Energy Northwest believes the September 2000 test overestimates actual control room inleakage. Therefore, Energy Northwest will re-perform the ASTM E741 tracer gas test to establish baseline values for unfiltered inleakage for incorporation in radiological analyses to be performed for the response to Generic Letter 2003-01, item 1(a), and for application of the AST following the guidance of Regulatory Guide 1.183. Energy Northwest will then request a license amendment to incorporate the AST into the licensing basis for Columbia. This submittal will provide analyses demonstrating that, considering the value of unfiltered inleakage, adequate radiation protection is provided to permit access to and occupancy of the control room under accident conditions without control room personnel receiving radiation exposures in excess of 5 rem Total Effective Dose Equivalent (TEDE). Energy Northwest will submit this license amendment request to the Staff on or before April 30, 2004 (subject to the previously stated contingency), and upon approval by the Staff will then be able to provide the information requested in item 1(a).

Energy Northwest's Plan for Response to item 1(b)

Energy Northwest will determine the value for the most limiting unfiltered inleakage into the CRE during a hazardous chemical event. In its final response to Generic Letter 2003-01 Energy Northwest will provide confirmation that this value is incorporated in the hazardous chemical assessment for Columbia.

Following the guidance in Regulatory Guide 1.196, Energy Northwest will perform an analysis to confirm reactor control capability is maintained from either the control room or the alternate shutdown panel in the event of smoke. Control room operators at Columbia are trained to shut down the reactor prior to evacuating the control room and egressing to the alternate remote shutdown panel. Results of this analysis will be provided in Energy Northwest's final response to Generic Letter 2003-01.

Energy Northwest's Plan for Response to item 1(c)

It is the position of Energy Northwest that the ΔP testing performed to meet Technical Specifications LCO 3.7.3 is not adequate to verify the integrity of the CRE, and the design basis inleakage rates of potentially contaminated air. Energy Northwest will request a license amendment to adopt changes to Technical Specifications contained in Technical Specifications

Task Force (TSTF) TSTF-448 as they apply to Columbia. Energy Northwest will submit the request after TSTF-448 is approved by the Staff. Upon approval of the license amendment request, Columbia's Technical Specifications will be adequate to verify the integrity of the CRE, and the assumed inleakage rates of potentially contaminated air. No modifications to Columbia's CRE are planned at this time. However, as ASTM E741 tracer gas testing progresses, modifications may become necessary if significant system configuration weaknesses are identified.

Energy Northwest's Plan for Response to item 2

Compensatory measures have been implemented at Columbia for the administration of KI to control room operators to reduce their thyroid dose to below the 30-rem limit in the event of a design basis accident. Columbia's plan for retiring this compensatory measure is to submit a license amendment request to adopt an AST pursuant to 10 CFR § 50.67 in accordance with Regulatory Guide 1.183. This submittal will provide analyses demonstrating that without the current compensatory measures, adequate radiation protection is provided to permit access to and occupancy of the control room under accident conditions without personnel receiving radiation exposures in excess of 5 rem TEDE. Energy Northwest will submit this license amendment request to the Staff on or before April 30, 2004 (subject to the previously stated contingency), and upon approval by the Staff, will retire the compensatory measures.

Energy Northwest's Plan for Response to item 3

No response to item 3 is necessary because Energy Northwest is committed to meet GDC 1, 3, 4, and 19 as they apply to control room habitability. Energy Northwest is not required to meet GDC 5 because Columbia is a single unit facility.

Columbia's Final Response to Generic Letter 2003-01

Providing the information requested in GL 2003-01 for Columbia requires submittal to, and approval by the Staff of the two aforementioned license amendment requests. Energy Northwest will request they be issued concurrently and will provide all of the information requested in Generic Letter 2003-01 within 180 days of the Staff's approval of the license amendment requests.