

September 20, 2002

Mr. J. V. Parrish
Chief Executive Officer
Energy Northwest
P.O. Box 968 (Mail Drop 1023)
Richland, WA 99352-0968

SUBJECT: COLUMBIA GENERATING STATION - ISSUANCE OF AMENDMENT
RE: TECHNICAL SPECIFICATION CHANGES FOR EXTENSION OF
INSTRUMENTATION CHANNEL SURVEILLANCE TEST INTERVALS
(TAC NO. MB3881)

Dear Mr. Parrish:

The Commission has issued the enclosed Amendment No. 179 to Facility Operating License No. NPF-21 for the Columbia Generating Station (CGS). The amendment consists of changes to the Technical Specifications (TSs) in response to your application dated January 10, 2002.

The amendment revises the TSs to extend the surveillance test interval of certain instrumentation channels from the current 18 months to 24 months.

A copy of the related Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's next biweekly *Federal Register* notice.

Sincerely,

/RA/

Brian Benney, Project Manager, Section 2
Project Directorate IV
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-397

Enclosures: 1. Amendment No.179 to NPF-21
2. Safety Evaluation

cc w/encls: See next page

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ENERGY NORTHWEST

DOCKET NO. 50-397

COLUMBIA GENERATING STATION

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 179
License No. NPF-21

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by the Energy Northwest (the licensee) dated January 10, 2002, 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 rules and 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;
 - 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. NPF-21 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 179 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. The license amendment is effective as of its date of issuance and shall be implemented within 30 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Stephen Dembek, Chief, Section 2
Project Directorate IV
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of Issuance: September 20, 2002

ATTACHMENT TO LICENSE AMENDMENT NO. 179

FACILITY OPERATING LICENSE NO. NPF-21

DOCKET NO. 50-397

Replace the following pages of the Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain vertical lines indicating the areas of change. The corresponding overleaf pages are also provided to maintain document completeness.

REMOVE

3.3.1.1-5
3.3.2.1-5
3.3.3.1-3
3.3.8.2-3

INSERT

3.3.1.1-5
3.3.2.1-5
3.3.3.1-3
3.3.8.2-3

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 179 TO FACILITY OPERATING LICENSE NO. NPF-21
ENERGY NORTHWEST
COLUMBIA GENERATING STATION
DOCKET NO. 50-397

1.0 INTRODUCTION

By application dated January 10, 2002, Energy Northwest (the licensee) requested changes to the Technical Specifications (TSs) (Appendix A to Facility Operating License No. NPF-21) for the Columbia Generating Station (CGS). The proposed changes would extend the surveillance test interval (STI) for certain safety function instrumentation from the current 18-month interval to a 24-month interval. The licensee's submittal proposes TS changes, discusses the applicable regulatory requirements, and describes the instrumentation drift analysis to support the proposed STI extension.

2.0 BACKGROUND

Improved reactor fuels allow licensees to consider an increase in the duration of the fuel cycle for their facilities. The NRC staff reviewed a number of license amendment requests from individual plants to modify TS surveillance intervals to be compatible with a 24-month fuel cycle. To provide generic guidance to the licensees for preparing such license amendment requests, the staff issued Generic Letter (GL) 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," dated April 2, 1991. By following the GL 91-04 guidance, the licensee of a nuclear power plant can request a revision of the plant TSs to require performance of instrument surveillance testing on a refueling interval of 24 months, instead of the current 18-month STI. Additionally, the TS provision to allow extending the STI by 25 percent of the specified interval would effectively extend the proposed 24-month STI for completing these surveillance tests to a maximum of 30 months.

GL 91-04 required licensees to evaluate the effects of the proposed STI extension on safety. For those instruments where setpoint drift does not cause instrumentation error, this evaluation should: (1) support a conclusion that the effect on safety is small, (2) confirm that historical maintenance and surveillance data do not invalidate this conclusion, and (3) confirm that the performance of surveillances at the bounding surveillance interval would not invalidate any assumption in the plant licensing basis. For those instruments where setpoint drift could introduce instrumentation error, GL 91-04 required licensees to address instrument drift when proposing an STI increase for calibrating instruments that perform safety functions. GL 91-04 stated that the effect of the increased calibration interval on instrument errors must be addressed because instrument errors caused by drift were considered when determining safety system setpoints and when performing safety analyses. Enclosure 2 of the GL 91-04 describes information required to address the effect that instrument drift caused by an increased

calibration interval can have on safety. The enclosure includes the following seven action statements that a licensee should address to justify a proposed increase in instrumentation calibration interval.

1. Confirm that instrument drift as determined by as-found and as-left calibration data from surveillance and maintenance records has not, except on rare occasions, exceeded acceptable limits for a calibration interval.
2. Confirm that the values of drift for each instrument type (make, model, and range) and application have been determined with a high probability and a high degree of confidence. Provide a summary of the methodology and assumptions used to determine the rate of instrument drift with time based upon historical plant calibration data.
3. Confirm that the magnitude of instrument drift has been determined with a high probability and a high degree of confidence for a bounding calibration interval of 30 months for each instrument type (make, model number, and range) and application that performs a safety function. Provide a list of the channels by TS instrument applications.
4. Confirm that a comparison of the projected instrument drift errors has been made with the values of drift used in the setpoint analysis. If this results in revised setpoints to accommodate larger drift errors, provide proposed TS changes to update trip setpoints. If the drift errors result in a revised safety analysis to support existing setpoints, provide a summary of the updated analysis conclusions to confirm that safety limits and safety analysis assumptions are not exceeded.
5. Confirm that the projected instrument errors caused by drift are acceptable for control of plant parameters to effect a safe shutdown with the associated instrumentation.
6. Confirm that all conditions and assumptions of the setpoint and safety analyses have been checked and are appropriately reflected in the acceptance criteria of plant surveillance procedures for channel checks, channel functional tests, and channel calibrations.
7. Provide a summary description of the program for monitoring and assessing the effects of increased calibration surveillance intervals on instrument drift and its effect on safety.

3.0 EVALUATION

The licensee proposed STI extensions for the following protective function instrumentation surveillance requirements (SRs) from the current 18-month interval to a 24-month interval.

- (1) SR 3.3.1.1.10, Function 5 of TS Table 3.3.1.1-1, Reactor Protection System (RPS) Actuation on Main Steam Isolation Valve (MSIV) Closure.

- (2) SR 3.3.3.1.3, Function 7 of TS Table 3.3.3.1-1, Post Accident Monitoring Instrumentation, Primary Containment Isolation Valve (PCIV) Position.
- (3) SR 3.3.2.1.6, Function 2 of TS Table 3.3.2.1-1, Verification that Rod Worth Minimizer (RWM) is not bypassed when Thermal Power is less than or equal to 10% Rated Thermal Power.
- (4) SR 3.3.8.2.2, RPS Electric Power Monitoring, Over-voltage, Under-voltage, and Under-frequency Instrumentation Channel Calibration.
- (5) SR 3.3.8.2.3, RPS Electric Power Monitoring System Functional Test.

The instruments tested under these SRs can be grouped into three categories:

- (A) Instruments that are not subject to setpoint drift, and the proposed SR interval change is evaluated only to support the three required conclusions of GL 91-04.
- (B) Instruments that are subject to setpoint drift, and the proposed SR interval change addresses the action statements included in Enclosure 2 of GL 91-04 and is evaluated to support the three required conclusions of GL 91-04.
- (C) Instruments that are subject to setpoint drift, and the proposed SR interval change addresses only the action statements included in Enclosure 2 of GL 91-04.

Category "A" Instrumentation SR

SR 3.3.1.1.10 is applicable to category "A" instruments and specifies SRs for the instrumentation that initiates RPS actuation on MSIV closure. SR 3.3.3.1.3 specifies SRs for several post accident monitoring (PAM) instrumentation functions including category "A" instruments for PCIV position indication. These instruments are bi-state limit switches which are mechanically actuated by their associated valves and whose closed or open position with respect to their associated safety valve's open or closed position is fixed. These instruments are not susceptible to instrumentation setpoint drift and, therefore, no instrumentation error was considered in the licensee's setpoint analysis for the valve operation. As such, the licensee did not address the GL 91-04, Enclosure 2 action statements for these instruments and only provided an evaluation to support the conclusion that the effect on safety is small, performance of surveillance at the bounding surveillance interval would not invalidate any assumption in the plant licensing basis, and historical maintenance and surveillance data do not invalidate this conclusion. The licensee used surveillance test data covering a span of 8 years to support their conclusion. The staff's review of the licensee's evaluation found that the licensee provided sufficient acceptable bases for each of the three required conclusions. Therefore, the proposed change of the SR 3.3.1.1.10 interval and changing the SR 3.3.3.1.3 interval application to the PAM function of PCIV position indication from the current 18 months to 24 months is acceptable.

Category "B" Instrumentation SR

SR 3.3.2.1.6 is applicable to category "B" instruments and specifies the SR for the instruments providing verification of automatic bypass of the RWM when rated thermal power is 10 percent or less. Four Rosemont transmitters of identical make, model, and range provide thermal power signals to the RWM, and two redundant General Electric (GE) programmable logic controllers (PLCs) process these signals to generate the bypass signal. The PLCs are not susceptible to instrument setpoint drift; however, the Rosemont transmitters, being analog devices, are inherently subject to setpoint drift. As such, the licensee evaluated the effects of the SR interval change on the PLCs to support the conclusion that the effect on safety is small, performance of surveillance at the bounding surveillance interval would not invalidate any assumption in the plant licensing basis, and historical maintenance and surveillance data do not invalidate this conclusion. For the Rosemont transmitters, the licensee evaluated the CGS instrument surveillance test program, the CGS instrument setpoint analysis, and the 12-year period of as-found and as-left calibration data to address the seven action statements as required. The staff review of the licensee's evaluation found that the licensee provided sufficient acceptable bases for each of the three required conclusions and adequately addressed each of the seven required action statements. The staff, therefore, finds the proposed change of the SR 3.3.2.1.6 interval from the current 18 months to 24 months acceptable.

Category "C" Instrumentation SR

SR 3.3.8.2.2 and SR 3.3.8.2.3 are applicable to category "C" instruments and respectively specify channel calibration and a system functional test for voltage and frequency relays in the RPS electric power monitoring system. This electric power monitoring system is called electrical protection assembly (EPA), and its safety function is to protect the loads connected to the RPS bus from the effects of sustained abnormal voltage and frequency conditions by isolating the bus from its power source. The relays in the EPA are analog devices and are subject to setpoint drift. The licensee evaluated the CGS instrument surveillance test program, CGS instrument setpoint analysis, and the 11-year period of as-found and as-left surveillance test data to address the seven action statements as required. The staff review of the licensee's evaluation found that the licensee adequately addressed each of the seven required action statements. The staff, therefore, finds the proposed change of SR 3.3.8.2.2 and SR 3.3.8.2.3 intervals from the current 18 months to 24 months acceptable.

On the basis of the above review and justifications for TS changes, the NRC staff concludes that the licensee's proposed TS changes are acceptable.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Washington State official was notified of the proposed issuance of the amendment. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes surveillance requirements. The NRC staff has determined that the 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 the amendment involves no significant hazards consideration, and there has been no public comment on such finding (67 FR 50951). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

6.0 CONCLUSION

The Commission has 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 the amendment will not be inimical to the common defense and security or to the health and safety of the public

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Date: September 20, 2002

Columbia Generating Station

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