



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION IV  
1600 EAST LAMAR BOULEVARD  
ARLINGTON, TEXAS 76011-4511

April 16, 2019

EA-18-173

Mr. Brad Sawatzke, Chief Executive Officer  
Energy Northwest  
MD 1023  
P.O. Box 968  
Richland, WA 99352

SUBJECT: COLUMBIA GENERATING STATION – NRC INSPECTION REPORT  
05000397/2018003 NRC RESPONSE TO DISPUTED NON-CITED VIOLATION

Dear Mr. Sawatzke:

On October 31, 2018, the U.S. Nuclear Regulatory Commission (NRC) issued the subject inspection report and non-cited violation (NCV) (Agencywide Documents Access and Management System (ADAMS) Accession No. ML18304A362).

On November 29, 2018, you provided a response (ADAMS Accession No. ML18333A389), in which you contested the NCV 05000397/2018003-02 "Failure to Control Workers in a High Radiation Area (>1.0 rem per hour)," that is described in the subject inspection report. On December 27, 2018, the NRC acknowledged receipt of your response (ADAMS Accession No. ML18361A865) and informed you that we would evaluate your response and provide you the results of our evaluation.

We conducted a detailed review of your response and the applicable regulatory requirements, in accordance with Part I, Section 2.2.7, of the NRC Enforcement Manual. The NRC staff who performed the review were not involved with the original inspection effort. After careful consideration of the basis for your contention, the NRC has concluded that the inspection report correctly characterizes the performance deficiency. As such, the NRC is upholding the NCV.

The NRC's evaluation of your response to the NCV is contained in the enclosure to this letter. In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 2.390, "Public

B. Sawatzke

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*inspections, exemptions, requests for withholding,"* a copy of this letter and its enclosure will be made available electronically for public inspection in the NRC's ADAMS, accessible from the NRC Web site at <https://www.nrc.gov/reading-rm/adams.html>.

Sincerely,

*/RA/*

Scott A. Morris  
Regional Administrator

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

Enclosure:  
NRC Evaluation of Licensee Response to  
Non-Cited Violation

## NRC EVALUATION OF LICENSEE RESPONSE TO NON-CITED VIOLATION

### 1. Green NCV 05000397/2018003-02

#### Restatement of the Non-Cited Violation (NCV)

Technical Specification (TS) 5.7.2, "High Radiation Areas with Dose Rates Greater than 1.0 rem per hour (at 30 cm from the radiation source)," paragraph (b) requires, in part, that activities shall be controlled by means of a radiation work permit (RWP) that includes specification of appropriate radiation protection measures, and paragraph (e) requires, in part, that entry shall be made only after dose rates in the area have been determined and entry personnel are knowledgeable of them.

Contrary to the above, on June 20, 2017, during work in a high radiation area with dose rates greater than 1.0 rem per hour, the licensee failed to control activities by means of a radiation work permit that included specification of appropriate radiation protection measures, and entry was made prior to dose rates in the area having been determined and entry personnel knowledgeable of them. Specifically, two workers entered the reactor building truck bay (a locked high radiation area) and were present as a filter vessel with a dose rate of 52.8 rem per hour at 30 cm was being lowered into it. Prior to arrival of the health physics technician, required by the RWP for continuous radiation protection coverage for work in whole body dose rates greater than 800 millirem (mrem) per hour, one of the workers received a dose rate alarm of 1.52 rem per hour. Because a health physics technician was not present to determine the actual dose rates (in contrast to calculated dose rates that had been briefed) in the area while the load was being lowered, the workers were uninformed of the radiological conditions.

#### Summary of Licensee Response

Energy Northwest accepted that there was a performance deficiency associated with workers entering a locked high radiation area while a filter vessel was present. However, the licensee stated that the performance deficiency was a violation of TS 5.4.1 for the failure to follow the RWP requirements. Specifically, Energy Northwest contended that TS 5.7.2.b was met because a RWP was used that contained the expected dose rates in the area and included appropriate radiation protection equipment and measures, which were sufficient to control exposure if they had been followed. Energy Northwest also stated that the requirement established for continuous health physics technician coverage when dose rates exceeded 800 mrem per hour was not related to TS 5.7.2 and that the riggers were being monitored by telemetry.

Energy Northwest contended that TS 5.7.2.e was met because dose rates of the filter vessel were determined by direct survey and calculations prior to it being moved, and individuals were briefed on those conditions. The licensee also stated that there was not an opportunity to perform a survey while the load was in transit, as it would not have been in accordance with the "as low as is reasonably achievable" (ALARA) principle. Energy Northwest also pointed out that the situation which led to the NCV in question was similar to NCVs written at the Clinton Power Station and Byron Station, which were each issued as a TS 5.4.1 procedure violation.

Energy Northwest stated that their Plant Procedures Manual (PPM) 11.2.7.3, "High Radiation

Area, Locked High Radiation Area, and Very High Radiation Area Controls,” requires health physics technician (HPT) coverage before entering an area of 800 mrem per hour and GEN-RPP-11, “ALARA Program Description,” requires compliance with an RWP. Contrary to both of these requirements, a worker entered an area with greater than 800 mrem per hour dose rates without HPT coverage.

### **Licensee Conclusion**

Energy Northwest accepted that there was a performance deficiency, in that workers failed to comply with RWP and procedural guidance. However, Energy Northwest believes that this violation was a failure to comply with TS 5.4.1 vice TS 5.7.2.

### **NRC Evaluation**

The NRC staff performed an independent review of the licensee’s position as described in its response to NRC Inspection Report 05000397/2018003, dated November 29, 2018, by reviewing applicable Columbia Generating Station technical specifications, procedures, surveys, and corrective action documents as referenced below.

Technical Specification 5.7.2.b states, “Access to, and activities in, each such area shall be controlled by means of an RWP or equivalent that includes specification of radiation dose rates in the immediate work area(s) and other appropriate radiation protection equipment and measures.”

Energy Northwest contended that activities were controlled by means of an RWP that included specification of appropriate radiation protection measures. The issue, as described in the Energy Northwest position, was not that the RWP was inadequate, but rather that workers (riggers) did not follow the requirements set forth in the RWP. The NRC staff noted that RWP 30001279 requires that “continuous RP coverage is required for working in whole body dose rates greater than or equal to 800 mrem per hour.” The NRC staff also noted that Action Request (AR) 00368480 describes that riggers were briefed not to enter the truck bay on the 441 foot elevation while the filter vessel was being lowered until a HPT was present. The NRC staff concluded that, if followed, the RWP would have been sufficient to control the work appropriately. However, it was not followed. Therefore, although an adequate RWP was used, Energy Northwest did not provide adequate access control and did not *control* the work activities in accordance with TS 5.7.2.b.

Technical Specification 5.7.2.e states in part, “Except for individuals qualified in radiation protection procedures, or personnel continuously escorted by such individuals, entry into such areas shall be made only after dose rates in the area have been determined and entry personnel are knowledgeable of them.”

Energy Northwest contended that the riggers were knowledgeable of the dose rates in the area prior to entering the truck bay. Prior to the lift, a survey was conducted on the filter vessel. It was surveyed on June 10, 2017, while the container was resting on the floor on the 471 foot elevation. Anticipated dose rates were calculated for various distances from the filter vessel based upon the survey. These calculated dose rates were part of the information briefed to the riggers during the pre-job brief. The riggers were told not to enter the truck bay while the vessel was being lowered without continuous coverage by an HPT.

However, the NRC staff noted that while a pre-move radiation survey was completed, it did not provide an accurate representation of potential dose rates for the riggers, because surveying the filter vessel while it was resting on the floor indicated that the bottom of the filter vessel was not surveyed. While it was being lowered into the room, dose rates in the area would primarily be coming from the bottom of the vessel. Therefore, because conditions were uncertain and constantly changing while the filter vessel was in motion, dose rates in the area the riggers were working were unknown. The NRC concluded that only surveying the filter vessel prior to movement, especially when failing to include the bottom of the vessel as part of that survey, was not sufficient to determine the expected dose rates in the truck bay and/or while the filter vessel was in transit. As a result, the workers were not knowledgeable of the dose rates in the area, contrary to TS 5.7.2.e.

The NRC Region III staff also reviewed and compared the referenced TS 5.4.1 NCV issued at the Clinton Power Station to the event at Columbia. Region III staff independently reviewed NCV 05000397/2018003-02 "Failure to Control Workers in a High Radiation Area (>1.0 rem per hour)" and stated that based on their review, it was a valid TS 5.7.2 violation. Region III Staff also described several differences between the Columbia and Clinton scenarios.

The NRC also compared the Columbia NCV to the referenced TS 5.4.1 NCV issued at the Byron Station in which an engineer violated an RWP by entering a high radiation area. In this Byron NCV, the RWP did not require continuous HPT coverage, and the licensee provided clear instructions to the engineer which were not followed.

### **NRC Conclusion**

The NRC staff concludes that the NCV as documented in the October 31, 2018, inspection report remains valid. The NRC agrees that a TS 5.4.1 violation could have been written regarding the work evolution. However, the procedural violations led to the more significant performance deficiency, which was the lack of access control and control of work activities resulting in the presence of two workers in a locked high radiation area who were not authorized to be there without HPT coverage, and who did not have knowledge of the dose rates in the area. Therefore, the NRC is upholding NCV 05000397/2018003-02 "Failure to Control Workers in a High Radiation Area (>1.0 rem per hour)."

COLUMBIA GENERATING STATION – NRC INSPECTION REPORT 05000397/2018003 NRC  
 RESPONSE TO DISPUTED NON-CITED VIOLATION – APRIL 16, 2019

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