



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

June 1, 2023

EA-21-170

Robert Schuetz, Chief Executive Officer
Energy Northwest
MD 1023
P.O. Box 968
Richland, WA 99352

**SUBJECT: COLUMBIA GENERATING STATION - FINAL SIGNIFICANCE
DETERMINATION OF A WHITE FINDING, NOTICE OF VIOLATION
AND FOLLOW-UP ASSESSMENT LETTER; NRC INSPECTION
REPORT 05000397/2023090**

Dear Robert Schuetz:

This letter provides you the final significance determination of the preliminary White finding discussed in our previous communication dated January 13, 2022, which included U.S. Nuclear Regulatory Commission (NRC) Inspection Report 05000397/2021090, Agencywide Documents Access and Management System (ADAMS) Accession No. ML21347A988. The finding involved failures to implement and follow written procedures for radiation protection which resulted in an airborne radioactivity event and multiple confirmed uptakes of radioactive materials to workers.

At your request, a regulatory conference was held on March 1, 2022, to discuss your views on this issue. A summary of this meeting, that included a copy of your presentation, was issued on March 10, 2022 (ML22067A183, ML22067A184, ML22067A185, and ML22067A186). During the conference, your staff described your assessment of the significance of the finding, and the corrective actions taken to resolve the performance deficiency, including the updated root cause evaluation of the finding.

In our April 14, 2022, letter (ML22102A327), we informed you that we received new information at the regulatory conference that required additional review. We indicated that a complete understanding of this new information was necessary to support the NRC's decision-making on the underlying significance of the apparent violations and our regulatory actions.

On April 6, 2022, the NRC Office of Investigations (OI) initiated an investigation concerning the information received at the regulatory conference. On March 9, 2023, OI completed its investigation and found no willful actions on the part of your personnel. However, the NRC staff identified an additional finding, during the review of the OI exhibits, that will be addressed separately in NRC Inspection Report 05000397/2023092.

After considering the information developed during the inspection, the information you provided at the regulatory conference, and additional information obtained by OI, the NRC has concluded that the finding is appropriately characterized as White, a finding of low to moderate safety

significance. The details of the NRC's final evaluation of the significance of the finding are documented in Enclosure 2.

You have 30 calendar days from the date of this letter to appeal the NRC's determination of significance for the identified White finding. Such appeals will be considered to have merit only if they meet the criteria given in Inspection Manual Chapter 0609, Attachment 2 (ML20337A296). Submit the appeal in writing to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region IV, 1600 East Lamar Blvd., Arlington, Texas 76011-4511, and email it to R4Enforcement@nrc.gov.

The NRC has also determined that three violations of NRC requirements occurred. The circumstances surrounding the violations were described in detail in NRC Inspection Report 05000397/2021090. These violations are cited in the enclosed Notice of Violation (Notice), Enclosure 1, and involve the failure to: (A) use, to the extent practical, process or other engineering controls to control the concentration of radiation material in air; (B) control, by means of a radiation work permit, the activities in a high radiation area when dose rates were greater than 1.0 rem/hour at 30 centimeters from the radiation source; and (C) make surveys of areas that were reasonable under the circumstances to evaluate the magnitude and extent of radiation levels. The details of the NRC's final enforcement evaluation are documented in Enclosure 2.

Because the violations are related, they have been categorized collectively as an enforcement problem, which is a way of documenting violations that share a common factor (i.e., cause and effect). By grouping such violations, the NRC applies appropriate focus on the underlying factors that caused the concerns, so that licensees can develop effective and comprehensive corrective actions. In accordance with the NRC Enforcement Policy, the Notice is considered an escalated enforcement action because it is associated with a White finding.

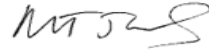
You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. If you have additional information that you believe the NRC should consider, you may provide it in your response to the Notice. The NRC review of your response to the Notice will also determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

As a result of our review of Columbia Generating Station's performance, including this White finding, we have assessed the performance of Columbia Generating Station to be in the Regulatory Response column of the NRC's Action Matrix, effective the fourth quarter of 2021. Therefore, we plan to conduct a supplemental inspection using Inspection Procedure 95001, "Supplemental Inspection Response to Action Matrix Column 2 (Regulatory Response) Inputs," when your staff has notified us of your readiness for this inspection. This inspection procedure is conducted to provide assurance that the root cause and contributing causes of risk significant performance issues are understood, the extent of condition and the extent of cause are identified, and the corrective actions are sufficient to prevent recurrence.

In accordance with 10 CFR 2.390 of the NRC's "Agency Rules of Practice and Procedure," a copy of this letter, its enclosures, and your response will be made available electronically for public inspection in the NRC Public Document Room and from the NRC's ADAMS, accessible from the NRC website at <http://www.nrc.gov/reading-rm/adams.html>. To the extent possible, your response should not include any personal privacy or proprietary information so that it can be made available to the public without redaction.

If you have any questions concerning this matter, please contact Gregory G. Warnick of my staff at 817-200-1249.

Sincerely,



Signed by Lewis, Robert
on 06/01/23

Robert J. Lewis
Regional Administrator (Acting)

Docket No. 05000397

License No. NPF-21

Enclosures:

1. Notice of Violation
2. Enforcement and Significance Evaluation

COLUMBIA GENERATING STATION - FINAL SIGNIFICANCE DETERMINATION OF A WHITE FINDING, NOTICE OF VIOLATION AND FOLLOW-UP ASSESSMENT LETTER; NRC INSPECTION REPORT 05000397/2023090 – DATED JUNE 1, 2023

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ADAMS ACCESSION NUMBER: **ML23111A237**

SUNSI Review: ADAMS: Non-Publicly Available Non-Sensitive Keyword:
 By: JGK Yes No Publicly Available Sensitive

OFFICE	SES:ACES	SHP:DIOR	C:DIOR	C:PBA	TL:ACES	RC
NAME	JKramer	NGreene	GWarnick	PVossmar	RKumana	DCylkowski
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DATE	04/26/23	04/24/23	04/25/23	04/27/23	04/25/23	04/25/23
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NOTICE OF VIOLATION

Energy Northwest
Columbia Generating Station

Docket No. 05000382
License No. NPF-38
EA-21-170

During an NRC inspection conducted from May 31 to December 2, 2021, three violations of NRC requirements were identified. In accordance with the NRC Enforcement Policy, the violations are listed below:

- A. 10 CFR 20.1701 requires, in part, that the licensee shall use, to the extent practical, process or other engineering controls to control the concentration of radioactive material in air.

Contrary to the above, on May 28, 2021, the licensee failed to use, to the extent practical, process or other engineering controls to control the concentration of radiation material in air. Specifically, the licensee did not properly plan for the use of engineering controls with enough specificity in accordance with station procedures (i.e., procedure HPI-12.90, "Contamination Control Containment Devices") to ensure proper control for installation and removal of the glove bag, which is used to prevent airborne contamination. The failure to ensure proper control of the glove bag resulted in an airborne contamination event that caused two individuals to receive internal doses of greater than 700 millirem committed effective dose equivalent.

- B. Technical Specification 5.7.2.b requires, in part, that access to, and activities in, each high radiation area with dose rates greater than 1.0 rem/hour at 30 centimeters from the radiation source shall be controlled by means of a radiation work permit.

Radiation work permit 30004732, created to control activities in a Technical Specification 5.7.2.b high radiation area, required, in part, that continuous Health Physics job coverage is provided when personnel are entering and working in areas with dose rates greater than 0.8 rem/hour.

Contrary to the above, on May 28, 2021, the licensee failed to control the activities in a high radiation area with dose rates greater than 1.0 rem/hour at 30 centimeters from the radiation source in accordance with radiation work permit 30004732. Specifically, the licensee failed to follow radiation work permit 30004732 and provide continuous Health Physics job coverage when personnel entered and worked in an area with dose rates greater than 0.8 rem/hour (i.e., 1.3 rem/hour at 30 centimeters from the radiation source). A radiation protection technician, scheduled to provide the continuous Health Physics job coverage, was unable to physically fit on the work area platform and left the workers unattended in the area. A second radiation protection technician subsequently replaced the original technician as the workers were conducting job activities in the work area.

- C. 10 CFR 20.1501(a)(2) requires, in part, that licensees shall make surveys of areas that are reasonable under the circumstances to evaluate the magnitude and extent of radiation levels; and concentrations or quantities of residual radioactivity.

Contrary to the above, on May 27, 2021, the licensee failed to make surveys of areas that were reasonable under the circumstances to evaluate the magnitude and extent of radiation levels; and concentrations or quantities of residual radioactivity. Specifically, the licensee failed to adequately determine the work area radiation levels as documented in survey M-20210528-13, which stated, the survey “was not an extensive search for the highest exposure rate.” In addition, the licensee failed to adequately evaluate the extent of contamination levels on the piping prior to the work activity. The surveys completed prior to the event did not adequately identify work area dose rates and did not identify appropriate contamination levels, resulting in a lower risk rating to the job and less rigorous radiological controls for the activity.

These violations are categorized collectively as a problem and are associated with a White significance determination process finding.

Pursuant to 10 CFR 2.201, Energy Northwest is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with a copy to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region IV, 1600 East Lamar Blvd., Arlington, Texas 76011-4511, and the NRC Resident Inspector at the Columbia Generating Station, and email it to R4Enforcement@nrc.gov within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a “Reply to a Notice of Violation, EA-21-170” and should include for each violation: (1) the reason for the violation, or, if contested, the basis for disputing the violation or severity level; (2) the corrective steps that have been taken and the results achieved; (3) the corrective steps that will be taken; and (4) the date when full compliance will be achieved.

Your response may reference or include previous docketed correspondence if the correspondence adequately addresses the required response. If an adequate reply is not received within the time specified in this Notice, the NRC may issue an order or a demand for information requiring you to explain why your license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

If you contest this enforcement action, you should also provide a copy of your response, with the basis for your denial, to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001.

Because your response will be made available electronically for public inspection in the NRC Public Document Room and from the NRC’s ADAMS, accessible from the NRC website at <http://www.nrc.gov/reading-rm/adams.html>, to the extent possible, it should not include any personal privacy or proprietary information so that it can be made available to the public without redaction.

If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information).

In accordance with 10 CFR 19.11, you are required to post this Notice within 2 working days of receipt.

Dated this 1st day of June 2023

ENFORCEMENT AND SIGNIFICANCE EVALUATION

On March 1, 2022, the U.S. Nuclear Regulatory Commission (NRC) held a regulatory conference in the Region IV office with representatives of Energy Northwest (licensee) and NRC staff to discuss a preliminary White finding and associated apparent violations identified in NRC Inspection Report 05000397/2023090.

Enforcement Evaluation

Licensee Position of Apparent Violation 1 from Regulatory Conference Presentation:

“Energy Northwest agrees with Apparent Violation #1 but suggest some wording changes to reflect the issue. The engineering control was not planned for with enough specificity in accordance with station procedures, specifically HPI-12.90, to ensure proper control for installation and removal to prevent airborne contamination.”

NRC Position on Violation A (Apparent Violation 1):

The NRC agreed with the licensee’s suggested rewording of the violation. The edits did not change the requirement nor the violation and only changed the “Specifically” sentence wording. The revised wording is incorporated in Violation A of the Notice of Violation.

Licensee Position of Apparent Violation 2 from Regulatory Conference Presentation:

“Energy Northwest disagrees with Apparent Violation #2. The dose rates in the area at the time of the uptake event were less than those requiring continuous coverage.”

NRC Position on Violation B (Apparent Violation 2):

The NRC does not agree with the licensee’s position. The information provided by the licensee did not address the NRC’s concern. Specifically, it cited a statement, provided after the event, from the radiation protection (RP) technician that provided job coverage as the survey for the job which stated general area dose rates of 450-550 mrem/hour and 4.7 rem/hour on contact for cut No. 3. The general area was not an official 30 centimeter (cm) reading from the pipe the workers were grinding/flapping on for the job. Additionally, the on-contact dose rate closely aligns with the last documented survey for the area which had 1.3 rem/hour at 30 cm. It was noted that the workers were accessing the piping, which was also highly contaminated, as they removed the mechanical plug from the piping and flapped it internally.

Based on the review of the NRC Office of Investigations (OI) exhibits, the RP technician providing coverage was on an adjacent platform and unable to survey the area fully due to workers already working on the pipe by the time RP technicians exchanged positions. Based on these facts, the licensee was required to implement continuous coverage for the workers, who were actively working in the area of cut No. 3 while RP technicians exchanged positions. This violated the continuous coverage requirements for a high radiation area when dose rates were greater than 1.0 rem/hour at 30 cm from the radiation source, and is therefore, a violation of requirements.

Licensee Position of Apparent Violation 3 from Regulatory Conference Presentation:

“Energy Northwest disagrees with Apparent Violation #3. Adequate dose surveys were completed in the field by RP Technicians during the work activity.”

NRC Position on Violation C (Apparent Violation 3):

The NRC does not agree with the licensee’s position. The information provided by the licensee did not address the NRC’s concern. Specifically, it cited a statement, provided after the event, from the radiation protection (RP) technician that provided job coverage as the survey for the job which stated general area dose rates of 450-550 mrem/hour and 4.7 rem/hour on contact with cut No. 3, as stated above. The general area is not an official 30 cm reading from the pipe the workers were grinding/flapping on for the job. Additionally, the on-contact dose rate closely aligns with the last documented survey for the area which had 1.3 rem/hour at 30 cm. It was noted that the workers were accessing the piping, which was also highly contaminated, as they removed the mechanical plug from the piping and flapped it internally. Based on the review of OI exhibits, the RP technician providing coverage was on an adjacent platform and unable to perform an adequate survey of the area due to workers already working on the pipe by the time the RP technicians exchanged positions.

Significance Evaluation

Licensee Position on the Significance Determination:

Energy Northwest characterized the significance as Green.

NRC Position on the Significance of the Finding:

The NRC does not agree with the licensee that the significance of the issue is Green, very low safety significance. The inspectors used Inspection Manual Chapter (IMC) 0609, Appendix C, “Occupational Radiation Safety Significance Determination Process,” and determined that the performance deficiency is White, low to moderate safety significance.

The licensee based its position on the timing of the intervention to the uptake event. They stated that RP technician No.1 issued a stop work order to the workers, which indicated they had another radiological barrier in place and would only yield a Green significance because it would prevent an overexposure.

The NRC does not agree that the intervention was adequate or timely because it did not prevent the uptake, which with a minor alteration, could have led to an overexposure. In the NRC staff’s view, the licensee’s remote supervisory monitoring was not adequate since the supervisor did not have the capability to directly talk to the workers and failed to timely intervene as the workers met stop work criteria, such as turning off the vacuum. Additionally, based on review of OI exhibits, workers involved in the job were unaware of a stop work order since they were already leaving the area when they were asked to be frisked.

Additionally, during the regulatory conference, the licensee stated that there were four factors that mitigated the potential for an overexposure resulting in a Green finding (NRC’s response is in the parentheses and italicized): (1) the glove bag was an engineered control (*the glove bag failed*); (2) the job coverage by RP technician No. 2 (*failed because RP technician No. 2 did not prevent the inappropriate actions by the workers*); (3) direct oversight by the RP supervisor at

the remote monitoring station (*failed because the RP supervisor did not prevent the inappropriate actions by the workers and did not intervene until the job was complete based on interviews*); and (4) tele-dosimetry (*not a factor because tele-dosimetry does not give any indication of internal exposures, which was the uncontrolled dose in this case*).

Relative to a substantial potential to exceed a regulatory limit, the NRC reviewed the licensee's total effective dose equivalent (TEDE)/ALARA evaluation, dated May 30, 2021, which determined that respiratory protection was warranted and that the estimated internal dose without a respirator could potentially yield 5.4 rem for the work associated with radiation work permit 30004732, ALARA Task 02145907-01-01. In this case, respirators were not worn.

Additionally, based on the NRC's derived air concentration (DAC) estimate, workers could have reasonably received greater than 5 rem TEDE if they were in the work area for an additional 5 minutes. However, using the 30 second travel path time estimate as provided by the licensee, overexposures (greater than 5 rem TEDE) could have occurred within only 2.5 minutes of additional stay time, which is reasonable if the workers would have been a bit slower in use of the glove bag or in their flapping process. These values were confirmed by the licensee's DAC evaluation, Calculation 2021-002, provided to the NRC, dated October 28, 2021.

The NRC used IMC 0609, Appendix C, to screen the significance of the performance deficiency because: (1) not an ALARA planning and work controls, based on planned versus actual dose; (2) it was not an overexposure, considering the maximum dose exposure was 1.3 rem total effective dose equivalent; (3) there was a substantial potential for an overexposure because there were multiple radiological barriers that failed and the level of contamination within the piping could have resulted in an overexposure; (4) it was not a shallow dose exposure or discrete radiation particle exposure; and (5) it was not a whole-body exposure within a very high radiation area. As a result, the finding screened as White.

NRC Conclusion

The NRC concluded that the three apparent violations documented in NRC Inspection Report 05000397/2023090 are valid and are categorized collectively as a problem associated with a White significance determination process finding.