

UNITED STATES NUCLEAR REGULATORY COMMISSION

REGION IV 612 EAST LAMAR BLVD, SUITE 400 ARLINGTON, TEXAS 76011-4125

August 26, 2010

EA-09-258 NMED: 090773

Brian Larson, Plant Superintendent Basin Electric Power Cooperative Laramie River Station P.O. Box 489 347 Grayrocks Road Wheatland, Wyoming 82201-0489

SUBJECT: NOTICE OF VIOLATION AND PROPOSED IMPOSITION OF CIVIL

PENALTIES - \$24,700, NRC INSPECTION REPORT 030-14682/2009-001

Dear Mr. Larson:

This refers to the special inspection conducted October 6, 2009, through April 30, 2010, at the Basin Electric Power Cooperative's Laramie River Station power plant located in Wheatland, Wyoming. The inspection was chartered by the Nuclear Regulatory Commission (NRC or Commission) and conducted in response to a reportable event that occurred September 7–18, 2009. The event involved potential overexposures to members of the public to radiation from fixed nuclear gauging devices (nuclear gauges) used at the Laramie River Station. The inspection consisted of a selected examination of procedures and representative records relevant to the overexposure event, observations of activities, and interviews with personnel.

The preliminary findings of the inspection were discussed with your staff at the conclusion of the on-site portion of the inspection. A final exit briefing was conducted telephonically with you and other members of your staff on April 30, 2010, and the inspection results were documented in NRC Inspection Report 030-14682/2009-001 dated May 27, 2010 (ML101471015).

On July 14, 2010, a predecisional enforcement conference was conducted with Basin Electric Power Cooperative at the Platte County Public Library, located in Wheatland, Wyoming, to discuss the apparent violations, their significance, their root causes, and your corrective actions. This predecisional enforcement conference was open for public observation. Basin Electric Power Cooperative also provided supplemental information regarding additional corrective actions taken or planned for NRC's consideration in a letter dated July 27, 2010 (ML102140241).

Based on the information developed during the inspection and the information that you provided during the conference and in the letter dated July 27, 2010, the NRC has determined that violations of NRC requirements occurred. These violations are cited in the enclosed Notice of Violation and Proposed Imposition of Civil Penalties (Notice), and the circumstances surrounding them are described in detail in the subject inspection report. Two categories of violations are listed in the Notice to differentiate those that may be assessed a civil penalty from those that are not subject to a civil penalty. In this letter, however, the first three violations described are related to the September 2009 event and the last violation described is not related to the September 2009 event.

The NRC determined that there were several factors that contributed to the September 2009 overexposure event at the Basin Electric Power Cooperative's Laramie River Station such as, the failure to document in the work order all of the hazards (particularly radiological hazards) associated with workers' assigned duties, the failure to fully implement recommendations from a prior licensee initiated independent audit of the radiation safety program, and the rotating of the SeCoal detector armature into the full open position by the welders working on the coal chutes. Three of the violations are directly related to those factors: the failure to limit radiation exposure to members of the public as required by 10 CFR 20.1301(a)(1) (Violation I.A); the failure to post areas with caution signs where radioactive materials were used as required by 10 CFR 20.1902(e) (Violation I.B); and the failure to close and lock shutter mechanisms on nuclear gauges while work was being performed in their vicinity as required by License Condition 21 of Amendment 10 to NRC Materials License 33-18224-01 (Violation II.A).

Violation I.A involved the licensee's failure to limit radiation exposure to members of the public to less than 100 millirem in a year, the limit specified in 10 CFR 20.1301(a)(1). Specifically, as a result of work performed in the vicinity of nuclear gauges located at the Laramie River Station, six welders employed by Basin Electric Power Cooperative, and considered members of the public, received doses in excess of the public dose limit of 100 millirem for calendar year 2009. Two of the welders received doses in excess of five times the public dose limit, with the highest dose calculated at 647 millirem. Protecting public health and safety is an important part of the NRC's mission. This violation is of significant concern to the NRC because the event had a substantial potential for the welders to have received higher doses had they worked for longer periods in the vicinity of the nuclear gauges. Therefore, this violation has been categorized in accordance with the NRC's Enforcement Policy at Severity Level II. The NRC Enforcement Policy may be found on the NRC's web site at www.nrc.gov/about-nrc/regulatory/enforcement/enforce-pol.html.

Violation I.B involved the failure to conspicuously post caution signs with the words "CAUTION, RADIOACTIVE MATERIAL(S)" or "DANGER RADIOACTIVE MATERIAL(S)" in areas where nuclear gauges were used, in accordance with 10 CFR 20.1902(e). These signs were required to be posted because the Appendix C value for cesium-137 is 10 microcuries and each nuclear gauge contained a nominal 50 millicuries of cesium-137. This deficiency had been identified during a 2008 audit of the Laramie River Station's radiation safety program; however, as of the date of the September 2009 event, caution signs had not yet been posted within the vicinity of each of the 216 nuclear gauges in operation at the Laramie River Station. Caution signs in the vicinity of the nuclear gauges may have alerted the welders to the potential hazards of working

near the nuclear gauges. The licensee failed to fully implement corrective actions for this previously identified weakness in its radiation safety program. Therefore, this was found to be a contributing cause of the overexposure event and accordingly, this violation has been categorized in accordance with the NRC's Enforcement Policy at Severity Level III.

Violation II.A involved the failure to close and lock the shutter mechanisms of nuclear gauges at the Laramie River Station, as required by License Condition 21 of Amendment 10 to NRC Materials License 33-18224-01. Specifically, the nuclear gauge shutters were to be locked in the closed position while work was being performed, when a portion of an employee's body may be subject to the radiation beam of the nuclear gauge. The NRC concluded that the failure to close and lock the shutter mechanisms was a direct cause of the overexposure event. The open nuclear gauge shutters resulted in employees working near the nuclear gauges being able to enter the radiation beam and be exposed to the direct radiation beam from these nuclear gauges. Therefore, this violation has been categorized in accordance with the NRC Enforcement Policy at Severity Level III.

Violation I.C, which was not related to the September 2009 event, involved the failure to notify the NRC within 24 hours of the discovery that a fire on March 8, 2007, had damaged a nuclear gauge, as required by 10 CFR 30.50(b)(4). A radiation survey of the nuclear gauge and surrounding area was not performed until March 9, 2007. Because of the elevated exposure rates around the nuclear gauge, it was determined that the shielding of the nuclear gauge was compromised. A representative of the nuclear gauge manufacturer dismantled, packaged, and transported the damaged nuclear gauge for disposal. This was completed on May 31, 2007. However, the licensee did not notify the NRC of the damaged nuclear gauge within 24 hours of its discovery, as required by 10 CFR 30.50(b)(4). The inspector identified this event and determined that notification of the NRC was required through interviews with licensee staff during the special inspection. The NRC considers this violation significant, because the NRC's ability to meet its regulatory responsibility is impacted when a licensee fails to notify the NRC of an event in accordance with Commission regulations. Therefore, this violation has been categorized in accordance with the NRC Enforcement Policy at Severity Level III.

In accordance with the Enforcement Policy, a base civil penalty in the amount of \$11,200 is considered for a Severity Level II violation; of \$7,000 for a Severity Level III violation, which occurred on or after October 23, 2008; and of \$6,500 for a Severity Level III violation, which occurred in calendar year 2007.

Because Violation I.A. was assessed at Severity Level II, the NRC considered whether credit was warranted for *Identification* and *Corrective Action* in accordance with the civil penalty assessment process in Section VI.C.2 of the Enforcement Policy. The NRC recognizes that the licensee identified that the Laramie River Station personnel were working in the immediate vicinity of the nuclear gauges and that the shutter mechanisms of these nuclear gauges were in the open position. The NRC also recognizes that the Laramie River Station's personnel immediately stopped work in the area so that the situation could be assessed by the appropriate safety personnel. Further, when the radiation safety officer was notified of the event, he promptly began an investigation into the circumstances of the event. However, the NRC determined that credit was not warranted for *Identification* because the problem was not

revealed as the result of a licensee self-monitoring effort, such as conducting an audit, a test, a surveillance, a design review, or troubleshooting. Rather the issue was identified as a result of an event. In addition, the problem persisted over a period of time offering the licensee ample opportunity for discovery. Conversely, based on your prompt and comprehensive corrective actions, the NRC has determined that *Corrective Action* credit is warranted. Your corrective actions included providing training to employees of the mechanic/welder, instrument, laboratory, and electrical shops regarding operation of nuclear gauges at the Laramie River Station, with particular emphasis on this event and the nuclear gauges; adding this training to required annual training for the Laramie River Station employees; and enhancing supervisor training on their responsibilities related to nuclear gauge safety. In addition, the NRC acknowledges your planned campaign to ultimately replace the SeCoal gauges with alternate technology.

- 4 -

Regarding the Severity Level III violations, because your facility has not been the subject of escalated enforcement actions within the last 2 inspections, the NRC considered whether credit was warranted for *Corrective Action* in accordance with the civil penalty assessment process in Section VI.C.2 of the Enforcement Policy. The NRC has determined that no *Corrective Action* credit is warranted for the violation of 10 CFR 20.1902(e) (Violation I.B) because the licensee was made aware of the requirement for caution signs to be posted near the nuclear gauges in October 2008, but failed to promptly correct the deficiency with respect to the SeCoal nuclear gauges in question.

However, the NRC determined that the corrective actions taken regarding the failure to close and lock the shutter mechanism on the nuclear gauge, in accordance with a condition of your license, were sufficient to warrant *Corrective Action* credit. Your corrective actions included revising your operating procedures to address nuclear gauging devices and revising your work management process so that potential nuclear hazards are identified early in the planning process. Specifically, the revised procedures require that the nuclear gauge shutter be closed and locked at the beginning of an extended outage, and that the radiation safety officer will verify and document this action.

Finally, the NRC determined that no *Corrective Action* credit is warranted for the violation of 10 CFR 30.50(b)(4) (Violation I.C) because the corrective actions implemented by the licensee were not prompt or comprehensive. The licensee did not conduct a thorough investigation upon discovery that a nuclear gauge was involved in the March 8, 2007, fire at the Laramie River Station. The licensee did not conduct a comprehensive radiation survey, did not conduct interviews of personnel working around the nuclear gauge, and did not determine if personnel were exposed to radiation, as a result of the compromised nuclear gauge shielding. In addition, it does not appear that the corrective actions include steps to ensure that the radiation safety officer is sufficiently knowledgeable of all applicable NRC reporting requirements.

Therefore, to emphasize the importance of compliance with dose limits and reporting requirements, and of prompt identification and prompt and comprehensive correction of violations, I have been authorized, after consultation with the Director of the Office of Enforcement, to issue the enclosed Notice in the amount of \$24,700. This civil penalty is assessed based on the base civil penalty for a Severity Level II violation (\$11,200) and the base civil penalty for SL III violations

(\$7,000 for violations that occurred after October 23, 2008, and \$6,500 for the violation which occurred in 2007). In addition, issuance of this Notice constitutes escalated enforcement action that may subject you to increased inspection effort.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. The NRC will use your response, in part, to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response, will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC's Web site at www.nrc.gov/reading-rm/pdr.html or www.nrc.g

If you have any questions concerning this letter or the enclosed Notice, please contact Mr. William B. Jones of my staff at 817-860-8182.

Sincerely,

/RA/ RJC for

Elmo E. Collins Regional Administrator

Docket: 030-14682 License: 33-18224-01

Enclosures:

1. Notice of Violation and Proposed Imposition of Civil Penalties

2. NUREG/BR-0254 Payment Methods (Licensee only)

cc w/Enclosure 1: Scott W. Ramsay Radiation Safety Officer Wyoming Office of Homeland Security 2421 E. 7th Street Cheyenne, WY 82001 Basin Electric Power Cooperative - 6 -

EA-09-258 NMED: 090773

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RIV Materials Docket File DNMS Secretarial File

Carolyn.Faria-Ocasio@nrc.gov;

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NOTICE OF VIOLATION AND PROPOSED IMPOSITION OF CIVIL PENALTIES

Basin Electric Power Cooperative Wheatland, Wyoming

Docket 030-14682 License 33-18224-01 EA-09-258

During an NRC special inspection conducted from October 6, 2009, through April 30, 2010, violations of NRC requirements were identified. In accordance with the NRC Enforcement Policy, the NRC proposes to impose civil penalties pursuant to Section 234 of the Atomic Energy Act of 1954, as amended (Act), 42 U.S.C. 2282, and 10 CFR 2.205. The particular violations and associated civil penalties are set forth below:

I. Violations Assessed a Civil Penalty

A. 10 CFR 20.1301(a)(1) states that each licensee shall conduct operations so that the total effective dose equivalent to individual members of the public from the licensed operations does not exceed 0.1 rem (1mSv) in a year.

Contrary to the above, the licensee failed to conduct operations so that the total effective dose equivalent to individual members of the public from the licensed operations does not exceed 0.1 rem (1 mSv) in a year. Specifically, the licensee reported that six members of the public received doses in excess of 0.1 rem (100 millirem) in calendar year 2009 from licensed activities at the Basin Electric Power Cooperative's Laramie River Station. The six individuals were Laramie River Station employees not designated as radiation workers. The six individuals received doses in the range of 139 to 647 millirem while working near fixed nuclear gauges during the month of September 2009.

This is a Severity Level II violation (Supplement IV). Civil Penalty - \$11,200

B. 10 CFR 20.1902(e) requires that the licensee shall post each area or room in which there is used or stored an amount of licensed material exceeding 10 times the quantity of such material specified in Appendix C to Part 20 with a conspicuous sign or signs bearing the radiation symbol and the words "CAUTION, RADIOACTIVE MATERIAL(S)" or "DANGER, RADIOACTIVE MATERIAL(S)." The amount of cesium-137 specified in Appendix C to Part 20 is 10 microcuries.

Contrary to the above, from November 16, 2008, to September 18, 2009, the licensee failed to post each area in which there is used licensed material exceeding 10 times the quantity of such material specified in Appendix C to Part 20 with a conspicuous sign bearing the radiation symbol and the words "CAUTION, RADIOACTIVE MATERIAL." Specifically, the posting signage around the SeCoal nuclear gauges was not present at the time that work on the Unit 3 feeder coal chutes was performed. Each SeCoal nuclear gauge contained cesium-137 in excess of 10 microcuries.

This is a Severity Level III violation (Supplement IV). Civil Penalty - \$7,000

C. 10 CFR 30.50(b)(4) requires that the licensee shall notify the NRC within 24 hours after the discovery of an unplanned fire or explosion damaging any licensed material or any device, container, or equipment containing licensed material when: (i) the quantity of material involved is greater than five times the lowest annual limit on intake specified in Appendix B to §§ 20.1001-20.2401 of 10 CFR Part 20 for the material; and ii) the damage affects the integrity of the licensed material or its container.

Contrary to the above, the licensee failed to notify the NRC within 24 hours after the discovery of an unplanned fire on March 8, 2007, that damaged the integrity of a licensed device containing licensed material in a quantity greater than five times the lowest annual limit on intake specified in Appendix B to §§ 20.1001-20.2401 of 10 CFR Part 20 for the material. Specifically, a fixed nuclear gauge mounted in the immediate vicinity of a fire at the licensee's facility was damaged and the licensee failed to notify the NRC within 24 hours. The nuclear gauge contained a nominal 50 millicuries of cesium-137, a quantity greater than five times the lowest annual limit on intake specified in Appendix B to §§ 20.1001-20.2401 of 10 CFR Part 20 for the material. Lead was found directly below the nuclear gauge, and a radiation survey of the nuclear gauge and the surrounding area was performed. The radiation levels measured 2 feet from the nuclear gauge, with the shutter closed, were 80 millirem per hour. This indicated that the nuclear gauge shielding had been compromised.

This is a Severity Level III violation (Supplement IV). Civil Penalty - \$6,500

II. Violation Not Assessed a Civil Penalty

A. License Condition 21 of Amendment 10 to NRC Materials License 33-18224-01 states, in part, that the licensee shall assure that the shutter mechanism of each device is locked in the closed position during periods when a portion of an individual's body may be subject to the direct radiation beam.

Contrary to the above, during the period of September 7-18, 2009, the licensee failed to assure that the shutter mechanism of each device was locked in a closed position during periods when a portion of an individual's body may be subject to the direct radiation beam. Specifically, the licensee did not close and lock the nuclear gauge shutters after plant operations had stopped and prior to allowing welders to begin work associated with coal chutes upon which the nuclear gauges were mounted. As a result, the welders performed work in the direct radiation beam of the nuclear gauges.

This is a Severity Level III violation (Supplement VI).

Pursuant to the provisions of 10 CFR 2.201, Basin Electric Power Cooperative is hereby required to submit a written statement or explanation to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, within 30 days of the date of this Notice of Violation and Proposed Imposition of Civil Penalties (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation: EA-09-258" and should include for each alleged violation: (1) admission or denial of the alleged violation; (2) the reasons for the violation if admitted, and if denied, the basis for denying the validity of the violation; (3) the corrective steps that have been taken and the results achieved; (4) the corrective steps that will be taken; and (5) 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 the NRC should not take other action as may be proper. Consideration may be given to extending the response time for good cause shown. Under the authority of Section 182 of the Act, 42 U.S.C. 2232, this response shall be submitted under oath or affirmation.

Within the same time provided for the response required under 10 CFR 2.201, the licensee may pay the cumulative amount of the civil penalties proposed, in accordance with NUREG/BR-0254 and by submitting to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, a statement indicating when and by what method payment was made, or may protest imposition of the civil penalties, in whole or in part, by a written answer addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission. Should the licensee fail to answer within 30 days of the date of this Notice, the NRC will issue an order imposing the civil penalties. Should the licensee elect to file an answer in accordance with 10 CFR 2.205 protesting the civil penalties, in whole or in part, such answer should be clearly marked as an "Answer to a Notice of Violation" and may: (1) deny the violations listed in this Notice, in whole or in part; (2) demonstrate extenuating circumstances; (3) show error in this Notice; or (4) show other reasons why the penalties should not be imposed. In addition to protesting the civil penalties, in whole or in part, such answer may request remission or mitigation of the penalties.

In requesting mitigation of the proposed penalties, the response should address the factors addressed in Section VI.C.2, "Civil Penalty Assessment," of the Enforcement Policy. Any written answer addressing these factors pursuant to 10 CFR 2.205, should be set forth separately from the statement or explanation provided pursuant to 10 CFR 2.201, but may incorporate parts of the 10 CFR 2.201 reply by specific reference (e.g., citing page and paragraph numbers) to avoid repetition. The attention of the Licensee is directed to the other provisions of 10 CFR 2.205, regarding the procedure for imposing civil penalties.

Upon failure to pay any civil penalties which subsequently have been determined in accordance with the applicable provisions of 10 CFR 2.205 to be due, this matter may be referred to the Attorney General, and the penalties, unless compromised, remitted, or mitigated, may be collected by civil action pursuant to Section 234c of the Act, 42 U.S.C. 2282c.

The responses noted above, i.e., Reply to Notice of Violation, Statement as to payment of civil penalties, and Answer to a Notice of Violation, should be addressed to: Roy P. Zimmerman, Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, One White Flint North, 11555 Rockville Pike, Rockville, MD 20852-2738, with a copy to Elmo E. Collins, Regional Administrator, U.S. Nuclear Regulatory Commission, Region IV, 612 East Lamar Blvd., Suite 400, Arlington, TX 76011-4125.

Because your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), 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. ADAMS is accessible from the NRC's Web site at www.nrc.gov/reading-rm/pdr.html or www.nrc.gov/reading-rm/pdr.html or www.nrc.gov/reading-rm/adams.html. 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 that such material is withheld from public disclosure, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim (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). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

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

Dated this 26th day of August 2010