



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

September 9, 2019

EA-18-034

Mr. Lawrence J. Corte
President and General Manager
Western Nuclear, Inc.
2801 Youngfield St., # 340
Golden, CO 80401

SUBJECT: U.S. NUCLEAR REGULATORY COMMISSION OFFICE OF INVESTIGATIONS
REPORT NO. 4-2016-015 AND NRC RECORDS REVIEW, WESTERN
NUCLEAR, INCORPORATED

Dear Mr. Corte:

This letter refers to the investigation initiated by the U.S. Nuclear Regulatory Commission's (NRC) Office of Investigations (OI) on January 25, 2016, and associated records review, related to information submitted by Western Nuclear, Incorporated (WNI) to the NRC concerning the WNI Split Rock site near Jeffrey City, Wyoming.

Based on the evidence developed during the investigation and records review, one apparent violation was identified and is being considered for escalated enforcement action in accordance with the NRC's Enforcement Policy. The current Enforcement Policy is included on the NRC's Web site at <http://www.nrc.gov/about-nrc/regulatory/enforcement/enforce-pol.html>.

The apparent violation involves the submission of inaccurate and incomplete information to the NRC in WNI's May 22, 2015 technical report in violation of Title 10 of the *Code of Federal Regulations* (10 CFR) Section 40.9(a).

The NRC's regulatory program requires timely reports and materially accurate and complete information from applicants and licensees. WNI's submission of inaccurate and incomplete information inhibited the NRC's effective regulatory oversight of a site possessing a significant amount of radioactive material. This violation negatively impacted the NRC's ability to ensure adequate protection of public health and safety.

Additionally, the NRC is concerned that the submission of inaccurate and incomplete information to the NRC in WNI's May 22, 2015, technical report may have been willful. Willful violations are of significant concern to the NRC because the NRC's regulatory programs rely upon the integrity of entities, applicants, and licensees to comply with NRC requirements.

The apparent violation is listed in Enclosure 1. A summary of the OI Investigation and the bases of the apparent violation is provided in Enclosure 2.

During a September 9, 2019, telephonic exit meeting, Ms. Michelle Burgess, Mr. Dominick Orlando, and Mr. Bill von Till of the NRC discussed this apparent violation, the significance of the issues, and the need for lasting and effective corrective action with you, Mr. Timothy Walsh and Mr. Chris Pugsley.

As discussed with you, the NRC has not made a final determination that the violation or willful misconduct occurred, or that enforcement action will be taken against WNI. Because the NRC has not made a final determination in this matter, a Notice of Violation is not being issued at this time.

Before the NRC makes its enforcement decision, we are providing you an opportunity to: (1) within **30** calendar days of the date of this letter, provide a written response to the apparent violation addressed in this letter or (2) within **10** calendar days of the date of this letter, request a pre-decisional enforcement conference (PEC).

The purpose of the written response or PEC is to obtain information to assist the NRC in making an enforcement decision, and affords you the opportunity to provide your perspective on these matters and any other information that you believe the NRC should take into consideration before making an enforcement decision. This may include information to determine whether a violation occurred and whether willfulness is involved, information to determine the significance of any violation, and information related to any corrective actions taken or planned. The information should include for the apparent violation: (1) the reason for the apparent violation or, if contested, the basis for disputing the apparent violation; (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 was, or will be, achieved. In addition to the above, you should be prepared to address: (1) the reason for the apparent willful nature of the actions; and (2) what corrective steps WNI is taking, or has taken, such that NRC should have confidence in future compliance with regulatory requirements. You may reference or include previously docketed correspondence, if the correspondence adequately addresses the required response. In presenting any corrective actions, you should be aware that the promptness and comprehensiveness of the actions will be considered in assessing any civil penalty for the apparent violation. The guidance in NRC Information Notice 96-28, "Suggested Guidance Relating to Development and Implementation of Corrective Action" may be helpful. You can find an updated excerpt from NRC Information Notice 96-28 on the NRC Web Site at <http://www.nrc.gov/docs/ML0612/ML061240509.pdf>.

If you choose to provide a written response, it should be clearly marked as a "Response to Apparent Violation in NRC Office of Investigation Report 4-2016-015 and NRC Records Review, EA-18-034." Your response should be sent to the NRC's Document Control Center, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; with a copy also mailed to Mr. Bo Pham, Deputy Director, Division of Decommissioning, Uranium Recovery and Waste Programs, Office of Nuclear Material Safety and Safeguards, 11555 Rockville Pike, Rockville, MD 20852, within **30** days of the date of this letter.

If you choose to request a PEC, since information related to an Office of Investigations report will be discussed and the report has not been made public, this conference will be closed to public observation. The NRC may issue a press release to announce the time and date of this closed conference. If you choose to request a PEC, you must contact Mr. Bill von Till at 301-415-0598 within **10** calendar days of the date of this letter. A PEC should be held within 30

calendar days of the date of this letter. If an adequate response is not received within the time specified or an extension of time has not been granted by the NRC, the NRC will proceed with its enforcement decision.

In addition, please be advised that the number and characterization of apparent violations described in the enclosure may change as a result of further NRC review. You will be advised by separate correspondence of the results of our deliberations on this matter.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure(s), and your response, if you choose to provide one, will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's Agencywide Documents Access and Management System (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>. To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the public without redaction. Any information forwarded to NRC should be clearly labeled on the first page with the case reference number: EA-18-034.

If you have any questions, please contact Mr. Bill von Till of my staff at (301) 415-0598.

Sincerely,

/RA/

Bo M. Pham, Deputy Director
Division of Decommissioning, Uranium Recovery
and Waste Programs
Office of Nuclear Material Safety
and Safeguards

Enclosures:

1. Apparent Violation Being Considered
for Escalated Enforcement
2. Summary of Office of Investigations Investigation
No. 4-2016-015 and Bases of Apparent Violations

REGISTERED LETTER – RETURN RECEIPT REQUESTED

SUBJECT: U.S. NUCLEAR REGULATORY COMMISSION OFFICE OF INVESTIGATIONS
REPORT NO. 4-2016-015 AND NRC RECORDS REVIEW, WESTERN
NUCLEAR, INCORPORATED **DATE: September 9, 2019**

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ADAMS Accession No.: ML18152A727***via email**

OFFICE	DUWP/MDB	DUWP/MDB	DUWP	MSST
NAME	AGendelman	CHolston	SKoenick	MBurgess
DATE	6/6/18	6/1/18	6/6/18	6/6/18
OFFICE	DUWP	OE	OGC	DUWP
NAME	MSampson	TMarenchin	DCylkowski	MSampson
DATE	6/6/18	7/3/18	7/2/18	7/5/18
OFFICE	OE	OGC	DUWP	
NAME	TMarenchin	PMoulding	BPham	
DATE	9/5/19	9/5/19	9/6/19	

OFFICIAL RECORD COPY

APPARENT VIOLATION BEING CONSIDERED FOR ESCALATED ENFORCEMENT

Apparent Violation:

Title 10 of the Code of Federal Regulations Section 40.9(a) requires, in part, that information provided to the Commission by a licensee, or information required by the Commission's regulations to be maintained by the licensee, shall be complete and accurate in all material respects.

Contrary to the above, on May 22, 2015, Western Nuclear, Incorporated (WNI) submitted information to the Commission that was inaccurate and incomplete in material respects. Specifically, on May 22, 2015, WNI submitted a technical report to the NRC that contained inaccurate and incomplete information. The purpose of the 2015 report was to compare predicted estimates provided in the 2003 groundwater report to observed results. The report provided that:

This memorandum addresses the groundwater system in the Northwest and Southwest Valleys as well as the Sweetwater River floodplain and the river system. Measured groundwater elevations, hydraulic gradients, groundwater quality and constituent loading to the Sweetwater River are compared to predicted estimates provided in the 1999 SGWCE and the 2003 Supplemental Groundwater Modeling Report for the Split Rock, Wyoming Site (MFG, 2003).

The report concludes that "[t]he data plots show good agreement between predicted and measured water elevations." The report also contains a Table 4-1 that compares "Measured and Predicted Groundwater Flow Gradients and Velocities for the Southwest Valley," including both "measured" and "computed" values for dates ranging from 1988 through 2013. However, neither the contractor nor licensee had access to a working version of the 2003 groundwater model, nor did the contractor or licensee consult data known to derive from the 2003 groundwater model or report, contrary to the explicit statements in the report.

The licensee contractor that drafted the 2015 report, which senior licensee personnel also reviewed, represented that the model data evaluated in the 2015 report were from the 2003 groundwater model and report when he knew this to be untrue.

**SUMMARY OF OFFICE OF INVESTIGATIONS INVESTIGATION
NO. 4-2016-015 AND BASES OF APPARENT VIOLATION**

On January 25, 2016, the U.S. Nuclear Regulatory Commission (NRC) Office of Investigations (OI), Region IV initiated an investigation to determine if Western Nuclear, Incorporated (WNI), based in Golden, Colorado, or its contractors, willfully provided incomplete and inaccurate information concerning groundwater flow and contaminant transport models. The investigation was concluded on February 26, 2018.

The WNI Split Rock site is a former uranium mill. WNI ceased active uranium milling operations at Split Rock in 1981. Following a standby period, WNI began decommissioning in 1986. Based upon elevated contaminant concentrations at the site, WNI began a formal corrective action plan (CAP) for groundwater in 1990.

In 2003, WNI submitted for NRC review and approval groundwater flow and transport models, including model results that provided the basis for requested alternate concentration limits (ACLs) in the site's Southwest Valley, and termination of WNI's CAP (Agencywide Documents Access and Management System [ADAMS] Accession Nos. ML030760338 and ML030760346).

In 2006, the NRC accepted this modeling approach, accepted WNI's monitoring-well plan, established ACLs based on the 2003 model and report, and terminated WNI's CAP, essentially concluding that no further remediation was needed at the site, and that WNI need only continue to monitor groundwater flow and contaminant concentrations to confirm model predictions prior to license termination (ADAMS Accession No. ML062760520).

Based upon later review and input from the Department of Energy, the NRC raised significant concerns to the licensee regarding the 2003 model (ADAMS Accession No. ML13241A105). The NRC observed that "model predictions do not explain the data collected over most of the last decade, showing increases in several constituents in wells downstream of the POCs [Point of Compliance wells]." Measured values for nitrate exceeded the ACL values, and that the exceedances were in locations that were not consistent with the 2003 submittal--wells downgradient from the Point of Compliance. The NRC requested that "WNI . . . update its ground water and transport models to reflect recent data and to demonstrate that the concentrations at the proposed IC [institutional control] boundaries will be protective (i.e. meet maximum contaminant levels or background)." However, the licensee continued to assert that the 2003 model remained valid and protective, but did not provide the NRC with acceptable model validation despite the exceedances at unexpected locations (see, e.g., ADAMS Accession No. ML15091A527).

In May 2015, in response to continuing NRC staff technical concerns about the licensee's modeling given the ACL exceedances and their locations, WNI submitted a technical report, which was principally prepared by a contractor, L. Toby Wright, whose purpose was to compare observed groundwater values to the 2003 model's predictions (ADAMS Accession No. ML15162A364; WNI was required to establish "a ground water and surface water monitoring network to track ground water contamination and assess model predictions"). The 2015 report thus sought to address NRC "questions regarding the consistency of recent groundwater and surface water quality monitoring results with the predicted conditions that were the basis for the approved ACLs and points of exposure." With respect to the Southwest Valley, the 2015 report concluded that "[t]he data plots show good agreement between predicted and measured water elevations." The report also contains a Table 4-1 that compares "Measured and Predicted

Groundwater Flow Gradients and Velocities for the Southwest Valley,” including both “measured” and “computed” values for dates ranging from 1988 through 2013.

The May 2015 report did not resolve the NRC staff’s technical concerns or WNI’s obligation to validate the groundwater model (ADAMS Accession No. ML062910216). In order to resolve its technical concerns, the NRC staff requested that WNI provide additional groundwater flow and transport data, as well as 2003 groundwater model data for the Southwest Valley (ADAMS Accession No. ML15223B126). But WNI did not provide the requested information (see, e.g., ADAMS Accession No. ML15324A211). On December 8, 2015, the NRC’s Office of Investigations issued a request to WNI for documents including all electronic input and output files developed to simulate and calibrate the model supporting the 2003 Report.

In response to the OI request for these specific documents and data files, WNI stated in April 2016 that it had attempted to retrieve the model files that were sent to the NRC in 2003, but did not believe that the model files WNI had recovered to date were those sent to the NRC in 2003, and that the ones WNI had recovered would not run properly. This was of further concern to NRC staff, given that the 2015 report represented to the NRC that the 2003 model and observed results were compared and in good agreement.

In October 2016, WNI submitted a revised groundwater analysis (ADAMS Accession No. ML16328A410) that used a different technical approach. This revised approach did not rely upon the 2003 modeling or report.

The model files that were submitted to the NRC with the 2003 license amendment request did not run (ADAMS Accession No. ML16208A464). WNI has not been able to locate working 2003 model files, and stated in February 2017 that the original files submitted in 2003 did not run, contrary to its previous statement.

In an August 24, 2017 interview with NRC OI, Mr. Wright, the WNI contractor that prepared the 2015 report, stated that the source of the predicted groundwater values in the May 2015 report was another contractor who gave him spreadsheet data, but that he did not know the source of the data. Mr. Wright described the data used in the comparison as “results consistent with the information presented in the 2003 groundwater modeling report,” but not results from the 2003 model.

In a written declaration that Mr. Wright submitted to NRC subsequent to his interview with OI, he stated that he retrieved “copies of electronic files from Tetra Tech,” and that he subsequently requested and received an excel spreadsheet from another contractor that he understood “represented predicted groundwater elevations for specific groundwater monitoring wells in and around the Split Rock site from electronic flow model output files retrieved from Tetra Tech and that these output files represented results consistent with the information presented in the 2003 groundwater modeling report.”