

February 4, 2015

EA-13-176

Ms. Kim White, Quality Assurance Manager
Westinghouse Western Zirconium, Inc.–Ogden
10,000W 900S
Ogden, UT 84404

SUBJECT: NUCLEAR REGULATORY COMMISSION INSPECTION REPORT NO.
99901426/2013-201 REVISED NOTICE OF VIOLATION

Dear Ms.White:

The U.S. Nuclear Regulatory Commission (NRC) conducted an inspection at the Westinghouse Western Zirconium, Inc. facility in Ogden, Utah, from May 7–8, 2013, and identified two violations of regulatory requirements. On June 24, 2013, the NRC issued a Notice of Violation (NOV) and Inspection Report 99910426/2013-201 citing two violations of 10 CFR Part 21 (ADAMS Accession No. ML13163A042). Based on the additional information and NRC review, the NOV has been revised to clarify the different performance deficiencies against this regulation. The revised NOV identifies two examples of a Severity Level IV violation of Title 10 of the *Code of Federal Regulations* (10 CFR) Part 21, Section 21.21(a) at the Westinghouse Western Zirconium facility in Ogden, Utah (Westinghouse or Western Zirconium).

1. Western Zirconium Line Stop Procedure failed to comply with 10 CFR 21.21(a)

The violation concerned the Western Zirconium Line Stop Procedure, Revision 4, dated July 20, 2012. In violation of 10 CFR 21.21(a), Western Zirconium failed to adopt appropriate procedures to ensure the evaluation of deviations and failures to comply associated with substantial safety hazards as soon as practicable and, except as provided in paragraph 10 CFR 21.21(a)(2), in all cases within 60 days of discovery (ADAMS Accession No. ML13163A042). Western Zirconium did not contest this violation and stated that it had revised the Western Zirconium procedures in its response dated July 22, 2013, (referenced WZ-PA-13-026 ADAMS Accession No. ML13213A226).

Western Zirconium submitted its Line Stop Procedure, Revision 5, by letter to the NRC dated July 22, 2013, (ADAMS Accession No. ML13205A392 at pp. 4 to 19). The NRC staff reviewed the changes to sections 2.5 and 8.2.1.4 and corrective actions undertaken by Western Zirconium. The changes to the procedure ensure deviations will be *discovered*, entered into Western Zirconium's corrective action program, and evaluated to determine whether a defect with a substantial safety hazard was involved. The changed procedure ensures that a safety evaluation of a deviation will be completed *within 60 days of the discovery* of the deviation. The staff has no further questions or comments on this issue. Western Zirconium is not required to respond again to this violation.

2. **Western Zirconium's failure to file an Interim Report within 60 days of the discovery that four lots of Global Nuclear Fuel Zr2 bars failed grain size and metallography tests by showing atypical grains (a deviation) was a violation of 10 CFR 21.21(a)**

Westinghouse disputed this violation in its July 22, 2013, response to NOV 99901426/2013-201 (ADAMS Accession No. ML13205A392 at pp. 1 to 3) and in the September 13, 2013 amended response to the NOV (ADAMS Accession No. ML13269A197 at pp. 2 to 3). Based on the additional information and NRC review, the staff is issuing a revised violation that identifies three related aspects to the violation.

- (1) In violation of 10 CFR 21.21(a)(1) and (2), Westinghouse's WEC 21.0 procedure failed to maintain an appropriate procedure that ensures deviations potentially associated with substantial safety hazards, i) are fully evaluated and closed within 60 days of discovery or ii) that ensures an interim report is issued to the NRC, and
- (2) In violation of 10 CFR 21.21(a)(2), Westinghouse failed to provide the NRC with an interim report on the status of the evaluation of a discovered deviation (four lots of Global Nuclear Fuel Zr2 bars that failed grain size and metallography tests by showing atypical grains) ordered by the Westinghouse Issue Review Committee on August 20, 2008. The evaluation to determine whether the discovered deviation constituted a reportable defect that could create a substantial safety hazard was to be completed within 60 days of discovery or an interim report was to be issued to the NRC.

Westinghouse did not provide a timely interim report (within 60 days), or an estimate of when the evaluation would be completed and when a final report would be submitted to the NRC, and

- (3) Westinghouse failed to have a director, responsible officer or designated person submit an interim report to the Commission as required by 10 CFR § 21.21(d)(5).

The staff evaluated Westinghouse's responses and found them unpersuasive for reasons discussed below.

In its responses to the Notice of Violation, Westinghouse disputes the violations stating, in part, that:

- (1) Westinghouse contends that 10 CFR § 21.21 does not specify what constitutes a "discovery" of a defect, deviation, or noncompliance.
- (2) Westinghouse's WEC 21.0 procedure, Revision 4.1, makes *clear* what Westinghouse believes constitutes "discovery" of a defect, deviation, or noncompliance, pursuant to 10 CFR § 21.21, thus triggering the requirement to report to the NRC.
- (3) Westinghouse's WEC 21.0 procedure is compliant with 10 CFR § 21.21.

Regulatory Background and Interpretation of NRC Regulations at Part 21

10 CFR Part 21 concerns the requirements for reporting of defects and noncompliance in components regulated by the Atomic Energy Act of 1954, pursuant to Section 206 of the Energy Reorganization Act of 1974. 10 CFR § 21.1(b) requires “any individual director or responsible officer of a firm constructing, owning, operating, or supplying the components” in the event:

That the facility, activity, or basic component supplied to such facility or activity contains defects, which could create a substantial safety hazard, to immediately notify the Commission of such failure to comply or such defect, unless he [a company official] has actual knowledge that the Commission has been adequately informed of such defect or failure to comply.

Therefore, suppliers of basic components to the nuclear industry must notify the Commission immediately after the supplier obtains information indicating a component contains defects or deviations that *could* create a substantial safety hazard. The requirement to notify the Commission applies to the officers of the supplier, *unless* the supplier has *actual knowledge that the Commission has been adequately informed of such defect or failure to comply*.

10 CFR § 21.3, “Definitions,” defines the terms *defect* as “an error, omission or other circumstance in a design certification, or standard design approval that, on the basis of an evaluation could create a substantial safety hazard” and *deviation* as a “departure from the technical requirements” of a component required by contract or regulation.

10 CFR § 21.3, “Definitions,” defines the term *discovery* and provides context for what to do about potential defects once identified and for what triggers reporting to the Commission:

Discovery means the completion of the documentation first identifying the existence of a deviation or failure to comply potentially associated with a substantial safety hazard within the evaluation procedures discussed in § 21.21(a). (Emphasis added.)

The NRC’s *Draft Regulatory Basis to Clarify 10 CFR Part 21* defines *discovery* as the initiation of the problem identification and resolution of a deviation or noncompliance after it is found or documented (ADAMS Accession No. ML12248A200) (December 2012). For additional NRC staff views on this issue, see the corrective action and nonconformance programs required by Appendix B to 10 CFR Part 50, which are applicable to Part 50 or 52 applicants or licensees. These requirements are passed down through contractual obligations to the suppliers.

10 CFR § 21.3, “Definitions,” defines the term *evaluation* and provides context for evaluating potential defects and for making the ultimate safety hazard finding:

Evaluation means the *process of determining* whether a particular deviation could create a substantial hazard or determining whether a failure to comply is associated with a substantial safety hazard. (Emphasis added.)

10 CFR § 21.21(a) requires suppliers of basic components to adopt appropriate procedures to evaluate deviations and failures for the purpose of identifying defects and failures associated with substantial safety hazards as soon as practicable.

10 CFR § 21.21(a)(1) requires suppliers of basic components to provide *notification* of defects, deviations, and noncompliance to the NRC *in all cases within 60 days of discovery*—to avoid components entering into the stream of commerce where it could create a substantial safety hazard, if it remains uncorrected.

10 CFR § 21.21 (a)(2) recognizes that at times a supplier of components may not be able to complete its evaluation of a defect or deviation and prepare a report within 60 days of discovery. The regulations state that if an evaluation cannot be completed within 60 days from discovery, “an interim report is prepared and submitted to the Commission through the director or responsible officer or designated person as discussed in § 21.21(d)(5).” The regulations stipulate that the interim report must describe the deviation or defect and estimate when the [final] evaluation will be completed. “This interim report must be submitted in writing *within 60 days of discovery of the deviation or failure to comply*.” (Emphasis added.)

10 CFR § 21.21(d) describes the specific duties and responsibilities of a director or responsible officer, the facilities and components covered under Part 21, the forms of notification acceptable to the NRC, and the information that must be included in the notification to the NRC.

Westinghouse Violated Part 21 Requirements for Reporting of Defects and Noncompliance

On August 18, 2008, four lots of Global Nuclear Fuel Zr₂ bars manufactured at the Westinghouse Western Zirconium facility in Ogden, Utah failed grain size and metallography tests by showing atypical grains. Westinghouse initiated Corrective Action Plan (CAP) #08-231-M033, which involved an initial review by the Westinghouse Issue Review Committee. On August 20, 2008, two days after the Zr₂ bar test failures, the Westinghouse Issue Review Committee concluded that the issue *potentially* represented a significant defect or noncompliance adverse to safety and called for a full evaluation of the atypical grain test results on the Zr₂ bars.

This action by the Westinghouse Issue Review Committee constitutes the *discovery* of a potential safety defect or deviation under 10 CFR § 21.21(a)(1). 10 CFR § 21.3, defines discovery as the completion of the documentation first identifying the existence of a deviation. Westinghouse discovered the potential defect or deviation on August 20, 2008.

Further evaluation of a discovered defect or deviation potentially associated with a substantial safety hazard is anticipated in the regulations. First, 10 CFR § 21.3 defines *evaluation* as the process of determining whether a particular deviation could create a substantial hazard or determining whether a failure to comply is associated with a substantial safety hazard. 10 CFR § 21.21(a)(1) requires suppliers of basic components to provide *notification* of defects, deviations, and noncompliance to the NRC *in all cases within 60 days of discovery*—to avoid the component entering into the stream of commerce where it could create a substantial safety hazard, if it remains uncorrected.

When the Committee referred the issue for additional evaluation—it triggered the 60-day evaluation period contemplated by 10 CFR § 21.21(a)(1) and (2). Westinghouse had two options:

1. Pursuant to 10 CFR § 21.21(a)(1), Westinghouse was required to complete its evaluation of a deviation within 60 days of discovery *or*
2. Pursuant to 10 CFR § 21.21(a)(2), if Westinghouse were unable to complete its evaluation within 60 days from discovery, an interim report shall be submitted to the NRC. The interim report must describe the deviation and estimate when the evaluation would be completed. An interim report must be submitted to the NRC in writing within 60 days of discovery of the deviation.

Westinghouse completed its evaluation of the deviation, the Zr2 bar test failures, on December 10, 2008, 112 days following the actual date of discovery. Westinghouse documented its evaluation in an internal report to its files (LTR-RCPL-08-220). Westinghouse failed to notify the NRC with an interim report of its evaluation of the discovered deviation potentially adverse to safety within 60 days of discovery, in violation of 10 CFR § 21.21(a)(1) and (2).

In addition, Westinghouse violated 21.21(a)(2), which requires that an individual director or responsible officer provide the interim report to the Commission. See 10 CFR § 21.1(b) for definition of director and responsible officer.

The NRC rejects Westinghouse's position that 52 additional days to issue a report to the NRC was permissible because Westinghouse needed additional time to complete its evaluation. The Issue Review Committee's knowledge on August 20, 2008, of the *deviation potentially adverse to safety*—triggered the reporting requirement in 10 CFR § 21.21(a)(1) and (2). That Westinghouse needed additional time to reach its technical conclusions on the discovered deviation that was documented in CAP #08-231-M033, does not excuse Westinghouse from complying with the reporting requirements.

10 CFR 21.21(a) requires that a vendor complete an evaluation of a deviation within 60 days of discovery. Westinghouse failed to complete its evaluation.

If additional time is needed beyond the 60 days necessary for the completion of an evaluation, 10 CFR 21.21(a)(2) allows an interim report describing the deviation under evaluation to be prepared. The interim report must provide an estimate for completion of the evaluation and must be submitted in writing within 60 days of discovery of the deviation.

Westinghouse, however, failed to submit an interim report to the Commission, contrary to 10 CFR 21.21(a)(1) and (2).

Based on the results of this inspection, the NRC has determined that a Severity Level IV violation of NRC requirements occurred. The NRC evaluated the violation in accordance with the agency's Enforcement Policy, which is available on the NRC's Web site at: <http://www.nrc.gov/about-nrc/regulatory/enforcement/enforce-pol.html>.

The enclosed revised notice of violation describes the violations and the inspection report provides details of the violation. The NOV cites the violation because Western Zirconium / Westinghouse failed to submit an interim report of a deviation with a potential for substantial safety hazard as required by 10 CFR Part 21.

You are required to respond to this letter and to follow the instructions specified in the enclosed NOV 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 NOV. The NRC's review of your response to the NOV also will determine if further enforcement action is necessary to ensure compliance with regulatory requirements.

In accordance with 10 CFR 2.390, "Public Inspections, Exemptions, Requests for Withholding," of the NRC's "Rules of Practice," the NRC will make available electronically for public inspection a copy of this letter, its enclosure, and your response through the NRC Public Document Room, or from the NRC's Agencywide Documents Access and Management System, which is accessible at <http://www.nrc.gov/reading-rm/adams.html>. To the extent possible (and if applicable), your response should not include any personal privacy, proprietary, or Safeguards 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, 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 be 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 would 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, "Protection of Safeguards Information: Performance Requirements."

Sincerely,

/RA/ (PPrescott for)

Kerri Kavanagh, Chief
Quality Assurance Vendor Inspection Branch
Division of Construction Inspection
and Operational Programs
Office of New Reactors

Docket No.: 99901426

Enclosure:
Revised Notice

The enclosed revised notice of violation describes the violations and the inspection report provides details of the violation. The NOV cites the violation because Western Zirconium / Westinghouse failed to submit an interim report of a deviation with a potential for substantial safety hazard as required by 10 CFR Part 21.

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Enclosure:
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ADAMS Accession No.: ML13361A245 *Concurred via e-mail NRO-002

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NAME	AArmstrong	KKavanagh	PJehle	ERoach
DATE	1/21/2015	1/23/2015	2/4/2015	1/22/2015
OFC	NRO/DCIP*	OE/EB*	NRO/DCIP	
NAME	TFrye	RFretz	MCheok	
DATE	1/26/2015	1/29/2015	1/29/2015	

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Letter to Kim White from Kerri Kavanagh dated February 4, 2015.

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AP1000 CONTACTS

whitekr@westinghouse.com

NOTICE OF VIOLATION

Westinghouse Western Zirconium, Inc.
Ogden, UT 84404

Docket No. 99901426
Report No. 2013-201

During a U.S. Nuclear Regulatory Commission (NRC) inspection conducted at the Westinghouse Western Zirconium facility in Ogden, Utah (Westinghouse) from May 7, 2013, through May 8, 2013, a violation of NRC requirements was identified. In accordance with the NRC Enforcement Policy, the violation is listed below:

- A. Title 10 of the *Code of Federal Regulations* (10 CFR) 21.21(a)(1), "Notification of failure to comply or existence of a defect and its evaluation," requires suppliers of basic components to adopt appropriate procedures to evaluate deviations and failures to comply potentially associated with substantial safety hazards as soon as practicable, and, except as provided in Section 21.21(a)(2), in all cases within 60 days of discovery, in order to identify a reportable defect or failure to comply that could create a substantial safety hazard, were it to remain uncorrected.

Section 21.21(a)(2) of 10 CFR requires suppliers of basic components to submit an interim report to the Commission if the evaluation required by 10 CFR 21.21(a)(1) cannot be completed within 60 days from discovery of the deviation or failure to comply.

Section 21.21(d)(5) of 10 CFR states that the director or responsible officer may authorize an individual to provide the notification required by 10 CFR 21.21; however, the director or responsible officer is not relieved of his or her responsibilities to report defects or provide interim reports required by 10 CFR 21.21.

Contrary to the above, as of May 8, 2013, Western Zirconium failed to adopt appropriate procedures to evaluate deviations and failures to comply associated with substantial safety hazards as soon as practicable and, except as provided in paragraph (a)(2) of this section, in all cases within 60 days of discovery. Specifically:

1. Western Zirconium's Procedure WZ-LINE STOP, *Western Zirconium LINE STOP PROCEDURE, Revision 4*, dated July 20, 2012, lacked adequate guidance to determine when and how to enter a Line Stop into the Corrective Action Program System (CAPS) to ensure deviations and failures to comply associated with potential substantial safety hazards were evaluated within 60 days of discovery. As a result, on or about April 24, 2013, Western Zirconium failed to generate a CAP for Line Stop 8100 ("Procedure does not exist and/or does not reflect best practice for the use of the Chevalier grinder, Bryant grinder and machining of dies via the Bridgeport mill") and evaluate an identified deviation to determine whether it constituted a reportable defect under Part 21 as required by NRC regulations.

Enclosure

Western Zirconium addressed these inadequacies and has since developed Line Stop procedures to ensure deviations are evaluated in accordance with 10 CFR 21.21(a). The NRC considers this violation corrected and requires no further action by Westinghouse or Western Zirconium.

2. On October 19, 2008, Westinghouse failed to prepare and submit an interim report, within 60 days from discovery of a deviation or failure to comply potentially associated with a substantial safety hazard. Specifically, on August 18, 2008, Westinghouse initiated Corrective Action Plan (CAP) #08-231-M033 after four lots of Global Nuclear Fuel Zr2 bar failed a grain size test and a metallography test for atypical grains. The Westinghouse Issue Review Committee evaluated the Zr2 bar deviation described in CAP #08-231-M033. On August 20, 2008, the Review Committee concluded that the deviation *potentially* represented a significant defect or noncompliance adverse to safety and ordered Western Zirconium to undertake an evaluation of the deviation to determine whether it constituted a defect reportable to the NRC pursuant to Part 21. The Westinghouse Issue Review Committee's action on August 20, 2008, constituted the identification of the existence of a potential deviation. Westinghouse completed its evaluation of this deviation in a letter to file (LTR-RCPL-08-220) on December 10, 2008, 112 days later.

The Westinghouse evaluation to determine whether the discovered deviation constituted a reportable defect that could create a substantial safety hazard was required by regulation to be completed within 60 days of discovery or an interim report was to be issued to the NRC.

Westinghouse did not provide a timely interim report within 60 days, an estimate of when the evaluation would be completed and when a final report would be submitted to the NRC, in violation of 10 CFR) 21.21(a)(1) and (2).

Westinghouse also failed to submit an interim report to the Commission through a director or responsible officer or designated person as required by 10 CFR § 21.21(d)(5).

Westinghouse also failed to adopt appropriate procedures to evaluate deviations and determine whether it constituted a reportable defect within 60 days of the discovery of the deviation. The NRC staff has determined that Westinghouse must revise its procedures to comply the NRC staff's interpretation of 10 CFR § 21.21.

These violation examples have been identified as Violation 99901426-2013-201-01.

This is a Severity Level IV violation (Section 6.9.d of the NRC Enforcement Policy).

Under the provisions of 10 CFR 2.201(a), "Notice of Violation," Westinghouse Western Zirconium 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 within 30 days of the date of the letter transmitting this notice of violation. This reply should be clearly marked as a "Reply to a Notice of Violation; EA-13-176" and should include (1) the corrective steps that have been taken and the results achieved, (2) additional corrective steps that will be

taken, and (3) 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. Where good cause is shown, the NRC will consider extending the response time. A copy of the statement is to be submitted to the Chief, Construction Mechanical Vendor Branch, Division of Construction Inspection and Operational Programs, Office of New Reactors within the same period.

Because your response 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, which is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>, to the extent possible it should not include any personal privacy, proprietary, or Safeguards Information (SGI) so that the agency can make it 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 that such material be withheld, 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 would 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 SGI is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21, "Protection of Safeguards Information: Performance Requirements."

Dated this 4th day of February 2015.