



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

REGION I  
2100 RENAISSANCE BLVD., SUITE 100  
KING OF PRUSSIA, PA 19406-2713

January 27, 2016

Docket No. 03008804  
EA-15-213

License No. 47-13348-02

Mr. Anthony Ellis  
Plant Manager  
Novelis Corporation  
P.O. Box 912  
1800 Speedway Ave.  
Fairmont, WV 26555-0912

SUBJECT: NOVELIS CORPORATION - NRC INSPECTION REPORT NO.  
03008804/2014001 AND INVESTIGATION REPORT NO. 1-2015-004

Dear Mr. Ellis,

This letter refers to a safety inspection initiated on October 15, 2014, at your facilities located in Fairmont, WV, with continued internal NRC review through January 21, 2016. The inspection was a review of the circumstances related to two reported nuclear gauge shutter failures and repairs performed by Novelis Corporation (Novelis) staff that were not authorized by your NRC License No. 47-13348-02. Enclosure 1 provides the results of this inspection.

In addition to the inspection, an investigation was conducted by the NRC Office of Investigations (OI) to determine whether the repairs were deliberately performed by Novelis personnel and deliberately directed and/or allowed to be completed by Novelis management, despite knowing the repairs were in violation of their NRC license conditions. Based on the evidence gathered during the investigation, the NRC determined that Novelis personnel deliberately directed and conducted unauthorized repair on a nuclear gauge contrary to conditions in the NRC license 47-13348-02. Enclosure 2 provides a summary of the results of this OI investigation.

Based on the results of this inspection and OI investigation, one apparent violation was identified and is being considered for escalated enforcement action, including a civil penalty, in accordance with the NRC 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, as described in Enclosure 1, involves unauthorized repairs on the shutter mechanism of a nuclear gauge by Novelis personnel. License conditions require that services on nuclear gauges shall be performed only by persons specifically licensed by the NRC or an Agreement State to perform such services.

Since the NRC has not made a final determination in this matter, a Notice of Violation is not being issued at this time. Please be advised that the number and characterization of the apparent violation described herein may change as a result of further NRC review.

We believe we have sufficient information to make an enforcement decision regarding the apparent violation. Therefore, you may (1) accept the violation as characterized in this letter

and notify us of that decision within 10 days. Alternatively, before the NRC makes its final enforcement decision, you may choose to provide your perspective on this matter, including the significance, cause, and corrective actions, as well as any other information that you believe the NRC should take into consideration by: (2) requesting a pre-decisional enforcement conference (PEC) to meet with the NRC and provide your views in person; (3) requesting Alternative Dispute Resolution (ADR); or (4) responding to the apparent violation in writing.

If you choose to request a PEC, the meeting should be held in our office in King of Prussia, PA, within 30 days of the date of this letter. The conference will include an opportunity for you to provide your perspective on these matters and any other information that you believe will assist the NRC in making an enforcement decision.

In lieu of a PEC, you may also request ADR with the NRC in an attempt to resolve this issue. ADR is a general term encompassing various techniques for resolving conflicts using a neutral third party. The technique that the NRC has decided to employ is mediation; a voluntary, informal process in which a trained neutral mediator works with parties to help them reach resolution. If the parties agree to use ADR, they select a mutually agreeable neutral mediator who has no stake in the outcome and no power to make decisions. Mediation gives parties an opportunity to discuss issues, clear up misunderstandings, be creative, find areas of agreement, and reach a final resolution of the issues. Additional information concerning the NRC ADR program can be obtained at <http://www.nrc.gov/about-nrc/regulatory/enforcement/adr.html>. The Institute on Conflict Resolution (ICR) at Cornell University has agreed to facilitate the NRC program as a neutral third party. Please contact ICR at 877-733-9415 within 10 days of the date of this letter if you are interested in pursuing resolution of this issue through ADR. The ADR mediation session should be held in our office in King of Prussia within 45 days of the date of this letter.

Either the PEC or the ADR would be closed to public observation because the NRC's preliminary findings are based on an NRC OI report that has not been publicly disclosed. However, the time and date of the PEC or ADR will be publicly announced.

If you choose to provide a written response, it should be sent to the NRC within 30 days of the date of this letter. Your response may reference or include previously docketed correspondence, if the correspondence adequately addresses the required response. You should clearly mark the response as a "Response to Apparent Violations in NRC Investigation No. 1-2015-004; EA-15-213," and send it to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001 with a copy to the Regional Administrator, Region I, 2100 Renaissance Boulevard, King of Prussia, PA 19406.

Please contact Mr. Blake Welling, Chief, Commercial, Industrial, R&D, and Academic Branch, at 610-337-5205 **within 10 days** of the date of this letter to notify the NRC which of the four above options you choose.

Current NRC regulations and guidance are included on the NRC's web site at [www.nrc.gov](http://www.nrc.gov); select **Nuclear Materials; Med, Ind, & Academic Uses**; then **Regulations, Guidance and Communications**. The current Enforcement Policy is included on the NRC's web site at [www.nrc.gov](http://www.nrc.gov); select **About NRC, Organizations & Functions; Office of Enforcement; Enforcement** documents; then **Enforcement Policy** (Under 'Related Information'). You may also obtain these documents by contacting the Government Printing Office (GPO) toll-free at

1-866-512-1800. The GPO is open from 8:00 a.m. to 5:30 p.m. EST, Monday through Friday (except Federal holidays). To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR without redaction.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosures will be made available electronically for public inspection in the NRC Public Document Room and from the NRC Agency-wide Documents Access and Management System (ADAMS), accessible from the NRC web site at <http://www.nrc.gov/reading-material-rm/adams.html>.

If you have any questions related to this matter, please contact Mr. Welling of my staff at 610-337-5205.

Sincerely,

***/RA J. L. Nick for/***

James M. Trapp, Director  
Division of Nuclear Materials Safety

Enclosures:

1. Inspection Report No. 03008804/2014001
2. Factual Summary of NRC Office of Investigations  
Case No. 1-2015-004

cc w/Enclosures: Mark A. Carvillano, Environmental  
Health and Safety Leader  
Michael (Doug) Rossana, Radiation  
Safety Officer  
State of West Virginia

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If you have any questions related to this matter, please contact Mr. Welling of my staff at 610-337-5205.

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Health and Safety Leader  
Michael (Doug) Rossana, Radiation  
Safety Officer  
State of West Virginia

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## EXECUTIVE SUMMARY

Novelis Corporation  
NRC Inspection Report No. 03008804/2014001

On September 12, 2014, the Novelis Corporation radiation safety officer (RSO) made an event notification (EN 50453; NMED 140519) indicating that a shutter failed in the closed position on a fixed nuclear gauge. He made a subsequent event report on September 13, 2014, to report a second shutter failure on the same gauge. The second time the shutter was stuck in the open position.

On October 15, 2014, the NRC commenced a safety inspection of activities related to the two reported gauge failures and repairs at the Novelis Corporation's production facility in Fairmont, WV. The inspection continued until January 21, 2016.

Based on the results of the inspection, an apparent violation of NRC requirements was identified for unauthorized repair work performed on the shutter mechanism by the licensee. Condition 19.B. of NRC License No. 47-13348-02 states that, "the licensee may not maintain, repair, or replace any of the following device components: the sealed sources, the source holder, source drive mechanism, on-off mechanism (shutter), shutter control, or shielding, or any other component related to the radiological safety of the device, except as provided otherwise by specific conditions of this license." NRC License 47-13348-02 does not contain any specific condition authorizing the licensee to perform repairs to the listed components.

Contrary to the above, the licensee performed unauthorized repair work on device components including the on-off mechanism (shutter) and the shutter control on two separate occasions. Specifically, on September 12, 2014, the licensee replaced a pneumatic cylinder that controls the position of the shutter, and on September 13, 2014, the licensee performed additional unauthorized repairs to adjust the shutter control mechanism of the same gauge.

Licensee corrective actions included the following:

- On December 9, 2014, the licensee brought in a qualified, licensed contractor to inspect and service the gauge to ensure its proper operation.
- On January 6, 2015, the licensee properly transferred the licensed radioactive material in the repaired gauge to a licensed contractor for the purpose of permanent disposal.
- On May 7, 2015, the licensee properly transferred their last remaining licensed material to a licensed contractor for the purpose of permanent disposal.
- On October 14, 2015, the licensee applied for termination of their NRC License and on January 12, 2016, the license was terminated.

## REPORT DETAILS

### I. Organization and Scope of the Program

#### a. Inspection Scope

The inspector reviewed the organization and scope of the licensee's fixed gauge program using inspection procedures 87124 and 88075. Information was gathered through direct inspection, review of records, and interviews with cognizant individuals.

#### b. Observations and Findings

Novelis held NRC License, No. 47-13348-02, which authorized 1500 millicuries total of strontium 90 and no single source to exceed the maximum activity specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission or an Agreement State. At the time of the first reported shutter failure on September 12, 2014, the licensee was in possession of two fixed gauges, each containing 300 millicuries of strontium 90.

On May 7, 2015, the licensee properly transferred the last of their licensed material to an authorized recipient and applied for termination of their license on October 14, 2015. The license was terminated on January 12, 2016.

#### c. Conclusions

No violations were identified in this area.

### II. Management Oversight of the Program

#### a. Inspection Scope

NRC performed a safety inspection on October 15, 2014, of activities related to two reported failures and repairs on a fixed gauge (Source Serial No. S-644-A) at the Novelis plant in Fairmont, WV. The inspection included: management oversight of licensed activities; the implementation of the radiation safety program; observation of the operation of the gauge involved in the failures on September 12 and 13, 2014; interviews with the Radiation Safety Officer (RSO) and the electrical technician who performed both repairs; and a review of records.

#### b. Observations and Findings

On September 12, 2014, the Novelis Corporation RSO made an event notification (EN 50453; NMED 140519), to the NRC, in accordance with 10 CFR 30.50(b)(2), which is applicable for an event in which equipment is disabled or fails to function as designed. The licensee reported the device failure occurred because a shutter was stuck in the closed position on an ABB/IRMS Model S18 fixed gauge. The RSO made a second event notification about eight hours later, on September 13, 2014, because the same shutter was stuck in the open position.

On September 12, 2014, an electrical technician investigated the first failure of the gauge shutter and initiated repair on the gauge. The RSO became aware of the repair work after it began. At the time he discovered the repair work in progress, the RSO immediately stopped the gauge repair work because it was unauthorized by Novelis Corporation's NRC license. The RSO immediately convened a meeting with all pertinent plant staff and management to alert them that the repair in progress violated Novelis Corporation's NRC license. The RSO alerted Novelis personnel who attended this meeting that Condition 19.B. of Novelis Corporation's NRC license (NRC License No. 47-13348-02) prohibits the licensee from maintaining, repairing, or replacing any of the components related to the on-off mechanism (shutter), shutter control or source drive mechanism of the licensed gauges; and therefore the work in progress violated this license condition. Despite the RSO's warning, the Engineering Reliability and Automation Manager (ERAM) directed the electrical technician to continue work and to complete the repairs of the gauge.

On September 13, 2014, the same gauge shutter failed in the open position. The ERAM directed the shift foreman to call the electrical technician who performed the earlier repair and request that he come back to work to complete the second repair. The RSO was also notified of the second failure. He, too, returned to work and arrived around the same time as the technician tasked with repairing the gauge. The RSO did not inform licensee management that performing the second repair was prohibited, nor did he stop the technician from performing the second repair. Instead, the RSO performed a radiation survey of the open shutter and provided radiation safety oversight during the repair. Repair of the gauge shutter was completed and production operations were resumed. The RSO concluded that the second failure of the gauge shutter, in the open position, was the result of improper repairs performed the previous day.

c. Conclusions

The inspectors identified an apparent violation of NRC requirements for the repair work performed on the shutter mechanism by the licensee on September 12, 2014, and September 13, 2014.

Condition 19.B. of NRC License No. 47-13348-02 states that the licensee may not maintain, repair, or replace any of the following device components: the sealed sources, the source holder, source drive mechanism, on-off mechanism (shutter), shutter control, or shielding, or any other component related to the radiological safety of the device, except as provided otherwise by specific conditions of this license. NRC License 47-13348-02 does not contain any specific condition authorizing the licensee to perform repairs to the listed components.

Contrary to the above, on two occasions the licensee performed unauthorized repairs of device components including the on-off mechanism (shutter) and the shutter control. Specifically, on September 12, 2014, the licensee replaced a pneumatic cylinder that controls the position of the shutter, and on September 13, 2014, the licensee performed additional unauthorized repairs to adjust the shutter control mechanism of the same gauge.



Licensee corrective actions included the following:

- On December 9, 2014, the licensee brought in a qualified, licensed contractor to inspect and service the gauge to ensure its proper operation.
- On January 6, 2015, the licensee properly transferred the licensed radioactive material in the repaired gauge to a licensed contractor for the purpose of permanent disposal.
- On May 7, 2015, the licensee properly transferred their last remaining licensed material to a licensed contractor for the purpose of permanent disposal.
- On October 14, 2015, the licensee applied for termination of their NRC license and on January 12, 2016, the license was terminated.

### **III. Exit Meeting**

On December 22, 2015, inspectors presented the results of the inspection to Mr. Anthony Ellis and other Novelis Corporation representatives. Subsequently, on January 12, 2016, the NRC terminated the Novelis license. The inspectors conducted a final exit meeting via telephone on January 21, 2016.



## **Factual Summary of NRC Office of Investigations Case No. 1-2015-004**

On November 13, 2014, the U. S. Nuclear Regulatory Commission's (NRC) Office of Investigations (OI), Region I Field Office initiated an investigation to determine whether Novelis Corporation (Novelis) personnel deliberately performed unauthorized repairs on a nuclear gauge.

The OI investigation determined that on September 12, 2014, a gauge shutter failed in the closed position at Novelis. An electrical technician took it upon himself to investigate the failure and initiate repair. The radiation safety officer (RSO) became aware of the repair work after it had begun and immediately stopped all work to convene a meeting with management to alert them that the repair performed was in violation of their NRC license. At the conclusion of the meeting, the electrical technician was directed to complete the repairs of the gauge by the Engineering Reliability and Automation Manager (ERAM). Repairs were completed and the gauge was put into production on the same day. The RSO made the required event notification (EN) 50453 to the NRC indicating that a shutter was stuck in the closed position during a shutter check on a fixed gauge. On September 13, 2014, the same gauge had a shutter failure in the open position as a result of improper repairs performed 8 hours earlier. The ERAM directed the shift foreman to call the same electrical technician to fix the gauge shutter a second time. The electrical technician performed the second unauthorized repair activity, which was also in violation of the NRC license. Repairs were completed and the gauge was put into production again on the same day. The RSO made the required event notification update to EN 50453.

The OI investigation determined that repairs performed on a nuclear gauge were deliberately performed contrary to a condition in the Novelis license. Based on testimony, the electrical technician confirmed that he performed repairs on two separate occasions. He testified that he was directed by the ERAM to continue the first repair and to start and complete the second repair.

OI noted that the ERAM was made aware that the company had an NRC license and that the repairs were not allowed by the license during the meeting convened by the RSO. The ERAM testified that he directed the completion of the first repair activity.

Therefore, based on the evidence gathered during the OI investigation, it appears that the electrical technician engaged in deliberate misconduct when he performed unauthorized repairs on a fixed nuclear gauge on two separate occasions. It also appears from OI investigation that the ERAM engaged in deliberate misconduct on two occasions when he directed the electrical technician to perform the gauge repairs.