

# RI - DNMS Licensee Event Report Disposition

Licensee:	Newell's		
Event Description:	Shutter Failure		
License No:	47-13348-02	Docket No:	0308804
Event Date:	09/12-13/14	Report Date:	09/23/14
		MLER-RI:	2014-011
		HQ Ops Event #:	EN 50453

1. REPORTING REQUIREMENT

<input type="checkbox"/> 10 CFR 20.1906 Package Contamination <input type="checkbox"/> 10 CFR 20.2201 Theft or Loss <input type="checkbox"/> 10 CFR 20.2203 30 Day Report <input type="checkbox"/> Other	<p style="text-align: right;"><b>ITEM # 14059</b></p> <input checked="" type="checkbox"/> 10 CFR 30.50 Report <input type="checkbox"/> 10 CFR 35.3045 Medical Event <input type="checkbox"/> License Condition
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2. REGION I RESPONSE

<input type="checkbox"/> Immediate Site Inspection <input type="checkbox"/> Special Inspection <input checked="" type="checkbox"/> Telephone Inquiry <input type="checkbox"/> Preliminary Notification/Report <input checked="" type="checkbox"/> Information Entered in RI Log <input checked="" type="checkbox"/> Report Referred To:	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Inspector/Date</td> <td style="width: 50%;"></td> </tr> <tr> <td>Inspector/Date</td> <td></td> </tr> <tr> <td>Inspector/Date</td> <td>SATTAR LOCHI / JAMES CASSATA</td> </tr> <tr> <td>Daily Report</td> <td>09/15/2014</td> </tr> <tr> <td>Review at Next Inspection</td> <td>XXX</td> </tr> </table> <p><u>T. Jackson to inspect week of 10/13/14</u> <u>J. CASSATA</u></p>	Inspector/Date		Inspector/Date		Inspector/Date	SATTAR LOCHI / JAMES CASSATA	Daily Report	09/15/2014	Review at Next Inspection	XXX
Inspector/Date											
Inspector/Date											
Inspector/Date	SATTAR LOCHI / JAMES CASSATA										
Daily Report	09/15/2014										
Review at Next Inspection	XXX										

3. REPORT EVALUATION

<input checked="" type="checkbox"/> Description of Event <input checked="" type="checkbox"/> Levels of RAM Involved <input checked="" type="checkbox"/> Cause of Event	<input checked="" type="checkbox"/> Corrective Actions <input checked="" type="checkbox"/> Calculations Adequate <input type="checkbox"/> Additional Information Requested from Licensee
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4. MANAGEMENT DIRECTIVE 8.3 EVALUATION ~~INCIDENT INVESTIGATION PROGRAM~~

<input type="checkbox"/> Release w/Exposure > Limits <input type="checkbox"/> Repeated Inadequate Control <input type="checkbox"/> Exposure 5x Limits <input type="checkbox"/> Potential Fatality	<input type="checkbox"/> Deliberate Misuse w/Exposure > Limits <input type="checkbox"/> Pkgng Failure > 10 rads/hr or Contamination > 1000x Limits <input type="checkbox"/> Large# Indivs w/Exp > Limits or Medical Deterministic Effects <input type="checkbox"/> Unique Circumstances or Safeguards Concerns
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If any of the above are involved:

<input type="checkbox"/> Considered Need for IIT	<input type="checkbox"/> Considered Need for AIT
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Decision/Made By/Date: \_\_\_\_\_

5. MANAGEMENT DIRECTIVE 8.10 EVALUATION (additional evaluation for medical events only)

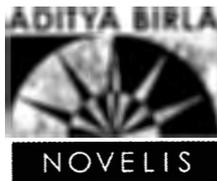
<input type="checkbox"/> Timeliness - Inspection Meets Requirements (5 days for overdose / 10 days for underdose)
Medical Consultant Used-Name of Consultant/Date of Report: _____
<input type="checkbox"/> Medical Consultant Determined Event Directly Contributed to Fatality
<input type="checkbox"/> Device Failure with Possible Adverse Generic Implications
<input type="checkbox"/> HQ or Contractor Support Required to Evaluate Consequences

6. SPECIAL INSTRUCTIONS OR COMMENTS

EN 50453

<input type="checkbox"/> Non-Public <input checked="" type="checkbox"/> Public-SUNSI REVIEW COMPLETE	Inspector Signature: <u>James R. Cassata</u> Branch Chief Initials: <u>Kathy Modes</u>	Date: <u>10/3/2014</u> Date: <u>10/3/2014</u>
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Location of File: G:\REFERENCE\BLANK FORMS\LER FORM.DOC Rev. 09/12/13



Michael D. Rossana  
1800 Speedway Avenue  
Fairmont, WV 26554  
September 22, 2014

James R. Cassata, Ph.D., CHP  
Health Physicist  
Nuclear Regulatory Commission, Region I  
Division of Nuclear Materials Safety Management and Support  
Commercial Industrial, R&D, & Academic Branch  
2100 Renaissance Boulevard, Suite 100  
King of Prussia, PA 19406-2713

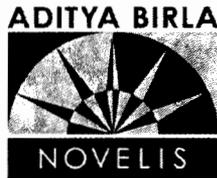
RECEIVED  
SEP 26 10 36 AM '14

Subject: 10 CFR 30.50(2) Report for Event #: NRC 50453 (EN50453)

Dear Mr. Cassata:

This is the report to satisfy 10 CFR 30.50(2). The facility where I work experienced two shutter failures on September 12, 2014. I made two telephone notifications to the Headquarters Operations Center by calling 301-816-5100 to notify of a malfunctioning shutter on a fixed measurement gauge located at Novelis Corporation, 1800 Speedway Avenue, Fairmont, WV 26554, at the #1 Mill exit thickness gauge. These notifications were made to satisfy the NRC Regulation 10 CFR 30.50(b) twenty-four hour report.

On Friday, September 12, 2014, at approximately 1:00 pm, the shutter on the #1 Mill thickness gauge failed in the closed position. An employee, who has received non routine maintenance training per NUREG-1556, Volume 4, Appendix G & N, took it upon himself to remove the side of the gauge and perform an investigation and repair the stuck shutter. It was determined that the pneumatic cylinder for the shutter was not functioning properly and replaced. The individual performed this inspection and repair without my knowledge of the shutter failure. At approximately 3:30 pm, I happened to be in the area where I could see people around the gauge in question. I had asked the foreman on shift if there was a problem with the gauge and he had informed me that the gauge shutter had stuck. I had asked if a radiation survey had been completed and I was informed that a radiation survey had not been completed. At that time I had the shift electrician perform a radiation survey and tape off the surrounding area with caution tape. The shift electrician has received non routine maintenance training per NUREG-1556, Volume 4, Appendix G & N. The worker estimated that he was working on the gauge for approximately 40 minutes. There was no overexposure to radiation.



The gauge was put back into service at approximately 4:00 pm that same afternoon. The first telephone call that I made to the USNRC was at approximately 4:30 pm that same afternoon to notify of the shutter failure. I spoke with Mr. John Shoemaker and described this situation to him. I provided Mr. Shoemaker with the necessary data for the radiation source. This notification was filed under NRC Regulation 10 CFR 30.50(b)(2)(i). Mr. Shoemaker asked if I would follow up with an email, Monday, September 15, 2014. I sent an email to [hoo.hoc@nrc.gov](mailto:hoo.hoc@nrc.gov), September 15, 2014 at 12:24 pm describing this situation.

On the same night, Friday, September 12, 2014, at approximately 11:30 pm, the shutter on the same thickness gauge failed again. This time the shutter failed in the open position. Once the shutter was determined to be in the open position, the foreman on shift notified me at my home. I spoke with the shift electrician and asked how he knew that the shutter was open. He informed me that the mill had just finished running a coil and he was going to perform his routine gauge check. He had noticed the lights indicating the shutter position, the green light indicating the shutter is closed was not illuminated and the red light indicating the shutter is open was illuminated. He verified this by using a survey meter and determined that the shutter was in the open position. I had him perform a radiation survey and tape off the area with caution tape. The shift electrician has received non routine maintenance training per NUREG-1556, Volume 4, Appendix G & N. I was on site at approximately 12:30 am Saturday morning, September 13, 2014. I verified that the shutter was in the open position by performing a radiation survey. I verified that the shutter indicator lights also indicated the shutter was open. The same individual that replaced the pneumatic cylinder was on site and he investigated the failure. It was determined that the shutter appeared to be on a bind and the screws that hold the pneumatic cylinder in place were adjusted and the shutter was free to move as intended.

With the side off of the gauge, next to the shutter assembly, at 6 inches, the measured mR/H was approximately 1 mR/h. Directly beside the shutter mechanism approximately 2 mR/h was measured. The employee worked for about 30 minutes to adjust the shutter mechanism. During this repair, there was no over exposure to radiation.

On Saturday, September 13, 2014, at approximately 12:50 pm, I contacted the USNRC to notify of this second occurrence. I spoke with Mr. John Shoemaker, notifying of a second failure. He remembered me from the day prior and said that a call had already been made. I informed Mr. Shoemaker that this was a second failure on the same gauge. I described the above situation to Mr. Shoemaker and he noted the additions. This notification was also filed under NRC Regulation 10 CFR 30.50(b)(2)(i). I relayed to Mr. Shoemaker that this gauge was deemed fixed and this gauge is going to be replaced over our Christmas 2014 Shutdown with an X-Ray gauge.



**10 CFR 30.50(2)(i)**

The description of the events is above.

The probable cause of failure #1: Normal wear and tear of the pneumatic cylinder.

The cause of failure #2: During the first repair of the pneumatic cylinder, the assembly screws for the shutter mechanism were not adjusted properly.

Manufacturer: ABB/IRMS

Model No.: S-18.

**10 CFR 30.50(2)(ii)**

The exact location where the event occurred is at the Novelis Corporation, located at 1800 Speedway Avenue, Fairmont West Virginia, 26554, at the #1 Mill exit thickness gauge.

**10 CFR 30.50(2)(iii)**

The isotope is Strontium 90.

The quantity is 300 mCi.

The chemical and physical form: Solid ceramic matrix, encapsulated into a stainless steel holder. The device is registered in the sealed source device registry under OH-0109-S-0127-S.

License No.: 47-13348-02

**10 CFR 30.50(2)(iv)**

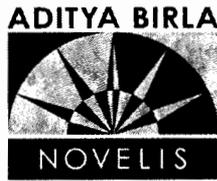
The date of failure #1: September 12, 2014 at approximately 1:00 pm.

The date of failure #2: September 12, 2014 at approximately 11:30 pm.

**10 CFR 30.50(2)(v)**

I have made a recommendation, to the engineering manager and the plant manager, to have a firm that is licensed, to perform shutter repair/replacement, come in at the earliest possible time to repair or replace the shutter mechanism.

I have notified the engineering manager, the safety manager, and the plant manager of the situation. I have documented that if this situation occurs again, the importance of notifying the RSO and that proper safety procedures must be followed.



The gauge is slated to be removed from service during the 2014 Christmas shutdown and properly disposed.

**10 CFR 30.50(2)(vi)**

A radiation measurement was taken at the side (in contact with the shutter) of the shutter mechanism was recorded to be 2 mR/hr.  
A radiation measurement was taken at six inches from the shutter mechanism was Recorded to be 1 mR/hr.  
A radiation measurement was taken at 2 feet from the shutter mechanism was recorded to be 0.5 mR/hr.

Survey Meter Manufacturer: Ludlum Measurements Inc.  
Survey Meter Model: Model 3  
Survey Meter Serial #: 298659  
Detector Serial #: PR324394  
Calibrated: 3/18/14  
Calibration Due Date: 3/18/15

During the repair of the first failure, the individual worked for approximately 40 minutes.

The exposure the individual had to his hands is calculated by:

$$(2 \text{ mR/hr}) / (60 \text{ min/hr}) * (40 \text{ min}) = 1.34 \text{ mR}$$

The exposure the individual had to his whole body is calculated by:

$$(0.5 \text{ mR/hr}) / (60 \text{ min/hr}) * (40 \text{ min}) = 0.34 \text{ mR}$$

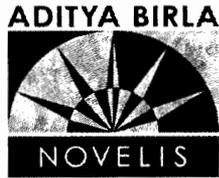
During the repair of the second failure, the same individual worked for approximately 30 minutes.

The exposure the individual had to his hands is calculated by:

$$(2 \text{ mR/hr}) / (60 \text{ min/hr}) * (30 \text{ min}) = 1 \text{ mR}$$

The exposure the individual had to his whole body is calculated by:

$$(0.5 \text{ mR/hr}) / (60 \text{ min/hr}) * (30 \text{ min}) = 0.25 \text{ mR}$$



The total exposure the individual had to his hands while performing both repairs is:

$$1.34 \text{ mR} + 1 \text{ mR} = 2.34 \text{ mR}$$

The total exposure the individual had to his whole body while performing both repairs is:

$$0.34 \text{ mR} + 0.25 \text{ mR} = 0.59 \text{ mR}$$

There is a motor shaft present that acts as a physical barrier approximately 2 feet from the gauge that will not let an individual get their body closer than 2 feet to the gauge. This is why the 0.5 mR/hr was used in the calculations for whole body.

If you have any questions or if there is additional information that you require, please do not hesitate to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael D. Rossana". The signature is stylized with large loops and a long horizontal stroke at the end.

Michael D. Rossana, A.K.A. Doug Rossana  
RSO