

July 5, 2013

EA-13-138  
NMED 130262 (Closed)

Mr. Walter Lampi, Radiation Safety Officer  
Tilden Mining Company, L.C.  
P.O. Box 2000  
Ishpeming, MI 49849

SUBJECT: NRC ROUTINE INSPECTION REPORT NO. 03034221/2013001(DNMS) AND  
NOTICE OF VIOLATION – TILDEN MINING COMPANY, L.C.

Dear Mr. Lampi:

On May 29, 2013, with continued in-office review through June 5, 2013, the U.S. Nuclear Regulatory Commission (NRC) conducted a routine inspection of your facility located in Ishpeming, Michigan. The purpose of the inspection was to determine whether activities authorized under your license were conducted safely and in accordance with NRC requirements. The purpose of the in-office review was to further evaluate the adequacy of your security measures. A final exit meeting was held between Mr. Craffey of my staff and yourself by telephone on June 5, 2013.

During this inspection, the NRC staff examined activities conducted under your license related to public health and safety. Additionally, the staff examined your compliance with the Commission's rules and regulations as well as the conditions of your license. Within these areas, the inspection consisted of selected examination of procedures and representative records, observations of activities, and interviews with personnel.

Based on the results of this inspection, two apparent violations were identified and are being considered for escalated enforcement action in accordance with the NRC Enforcement Policy. The current Enforcement Policy is included on the NRC's website at <http://www.nrc.gov/about-nrc/regulatory/enforcement/enforce-pol.html>. The apparent violations are of a security-related nature. Details about the apparent violations are available in the Inspection Report, enclosed with this letter. Immediate corrective actions for the apparent violations have since been taken to restore compliance with NRC requirements.

**Enclosure 3 contains Sensitive Unclassified Non-Safeguards Information. When separated from Enclosure 3, this transmittal letter and Enclosures 1 and 2 are decontrolled.**

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Because the NRC has not made a final determination on this matter, the NRC is not issuing a Notice of Violation for these particular inspection findings at this time. The circumstances surrounding these apparent violations, the significance of the issues, and the need for lasting and effective corrective actions were discussed with you at the exit meeting on June 5, 2013.

Before the NRC makes its enforcement decision, we are providing you an opportunity to: (1) respond to the apparent violation's addressed in this inspection report within 30 days of the date of this letter, (2) request a Pre-decisional Enforcement Conference (PEC), or (3) request Alternative Dispute Resolution (ADR). If a PEC is held, the NRC will issue a press release to announce the time and date of the conference; however the PEC will be closed to public observation since security-related information will be discussed and the report has not been made publicly available. If you decide to participate in a PEC or pursue ADR, please contact Aaron McCraw at 630-829-9650 within 10 days of the date of this letter.

If you choose to provide a written response, it should be clearly marked as "Response to the Apparent Violations in Inspection Report No. 03034221/2013001(DNMS); EA-13-138," and should include, for the apparent violations: (1) the reasons for the apparent violations, or, if contested, the basis for disputing the apparent violations; (2) the corrective steps that have been taken and the results achieved; (3) the corrective steps that will be taken to avoid further violations; and (4) the date when full compliance was or will be achieved. In presenting your corrective actions, you should be aware that the promptness and comprehensiveness of your 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 useful in preparing your response. You can find the information notice on the NRC's website at: <http://www.nrc.gov/reading-rm/doc-collections/gen-comm/info-notices/1996/in96028.html>. Your response may reference or include previously docketed correspondence, if the correspondence adequately addresses the required response. 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 or schedule a PEC.

If you choose to request a PEC, the conference will afford you the opportunity to provide your perspective on the apparent violation and any other information that you believe the NRC should take into consideration before making an enforcement decision. The topics discussed during the conference may include the following: information to determine whether a violation occurred, information to determine the significance of a violation, information related to the identification of a violation, and information related to any corrective actions taken or planned to be taken.

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 third party neutral. The technique that the NRC has decided to employ is mediation. Mediation is a voluntary, informal process in which a trained neutral (the "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's program can be obtained at <http://www.nrc.gov/about-nrc/regulatory/enforcement/adr.html>. The Institute on Conflict Resolution (ICR) at Cornell

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University has agreed to facilitate the NRC's 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.

In addition, please be advised that the number and characterization of the apparent violation described in the enclosed inspection report 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.

During the inspection, the inspector also determined that one Severity Level IV violation of NRC requirement occurred. This violation was also evaluated in accordance with the NRC Enforcement Policy. The violation involved the licensee's failure to notify the NRC within 24 hours after the discovery of a reportable event as required by 10 CFR 30.50(b), when on August 9, 2011, a fixed gauge shutter failed to function as designed and would not close during a routine operability check. The violation, which was identified by the inspector, is cited in the enclosed Notice of Violation (Notice), and the circumstances surrounding it are described in detail in the subject inspection report.

The inspector determined that the root cause of this violation was a lack of understanding of NRC requirements, in that you were not aware that a fixed gauge shutter failure met the criteria of a reportable event under Title 10 of the Code of Federal Regulations (CFR) 30.50(b). As corrective actions, Mr. Jeremy Laakso, the incoming Tilden Mining Company Radiation Safety Officer, reported the shutter failure to the NRC Operations Center on May 30, 2013. Additionally, you and Mr. Laakso reviewed the NRC's reporting requirements with the inspector on May 29, 2013.

The NRC has concluded that information regarding the reason for the Severity Level IV violation, the corrective actions taken and planned to be taken to correct the violation and prevent recurrence, and the date when full compliance was or will be achieved, is already adequately addressed on the docket in NRC Inspection Report No. 03034221/2013001(DNMS). Therefore, you are not required to respond to this letter unless the description herein does not accurately reflect your corrective actions or your position. In that case, or if you choose to provide additional information, you should follow the instructions specified in the enclosed Notice.

This letter also acknowledges receipt of your correspondence dated June 10, 2013, submitted in accordance with 10 CFR 30.50(c) by Mr. Laakso, reporting the August 9, 2011 fixed gauge shutter failure. We have reviewed your letter and have no further questions at this time. The circumstances surrounding this incident were reviewed during a routine NRC inspection on May 29, 2013. Our review of this event is closed.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and Enclosures 1 and 2 will be made available electronically for public inspection in the NRC's Public Document Room or from the NRC's Agencywide Documents Access and Management System (ADAMS), accessible from the NRC's website at <http://www.nrc.gov/reading-rm/adams.html>. Enclosure 3 contains security-related information and its disclosure to unauthorized individuals could present a security vulnerability; therefore, Enclosure 3 will not be made available electronically for public inspection.

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Because this issue involves security-related information, your response, if you choose to provide one, may not be made available electronically for public inspection in the NRC Public Document Room or from ADAMS. Please mark the top of each page of your response, "Security-Related Information – Withhold Under 10 CFR 2.390."

Please feel free to contact Mr. Craffey of my staff if you have any questions regarding this inspection. You can reach Mr. Craffey at 630-829-9655.

Sincerely,

***/RA/ AnnMarie Stone for***

Anne T. Boland, Director  
Division of Nuclear Materials Safety

Docket No. 030-34221  
License No. 21-26748-01

Enclosures:

1. Notice of Violation (Publicly Available)
2. Inspection Report No. 03034221/2013001(DNMS) (Publicly Available)
3. Security Addendum to Inspection Report (Non-Public)

cc w/encl 1 and 2:     Jeremy Laakso, Plant Electrical Supervisor  
                              Steve Brewer, Area Manager  
                              State of Michigan

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Because this issue involves security-related information, your response, if you choose to provide one, may not be made available electronically for public inspection in the NRC Public Document Room or from ADAMS. Please mark the top of each page of your response, "Security-Related Information – Withhold Under 10 CFR 2.390."

Please feel free to contact Mr. Craffey of my staff if you have any questions regarding this inspection. You can reach Mr. Craffey at 630-829-9655.

Sincerely,

**/RA/ AnnMarie Stone for**

Anne T. Boland, Director  
Division of Nuclear Materials Safety

Docket No. 030-34221  
License No. 21-26748-01

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1. Notice of Violation (Publicly Available)
2. Inspection Report No. 03034221/2013001(DNMS) (Publicly Available)
3. Security Addendum to Inspection Report (Non-Public)

cc w/encl 1 and 2:     Jeremy Laakso, Plant Electrical Supervisor  
                              Steve Brewer, Area Manager  
                              State of Michigan

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NOTICE OF VIOLATION

Tilden Mining Company, L.C.  
Ishpeming, MI

Docket No. 030-34221  
License No. 21-26748-01  
EA-13-138

During a U.S. Nuclear Regulatory Commission (NRC) inspection conducted on May 29, 2013, with continued in-office review through June 5, 2013, one violation of NRC requirements was identified. In accordance with the NRC Enforcement Policy, the violation is listed below:

Title 10 of the Code of Federal Regulations (CFR) Part 30.50(b)(2) states that the licensee shall notify the NRC within 24 hours after the discovery of an event in which equipment is disabled or fails to function as designed when: (1) the equipment is required by regulation or license condition to prevent releases exceeding regulatory limits, to prevent exposures to radiation and radioactive materials exceeding regulatory limits, or to mitigate the consequences of an accident; (2) the equipment is required to be available and operable when it is disabled or fails to function; and (3) no redundant equipment is available and operable to perform the required safety function.

Contrary to the above, on August 10, 2011, the licensee failed to notify the NRC within 24 hours after the discovery of the failure of a fixed gauge shutter to function as designed. Specifically, on August 9, 2011, the licensee discovered during a semiannual shutter check that the shutter of a Kay Ray model 7050 fixed gauge, containing approximately 200 mCi of cesium-137, would not close when tested, and did not notify the NRC of this failure until May 30, 2013, when prompted by an NRC inspector. The shutter is required by Condition 21 of NRC License 21-26748-01 to prevent exposures to radiation exceeding regulatory limits, is required by Condition 22 to be operable during routine shutter checks, and is not otherwise accompanied by any redundant equipment.

This is a Severity Level IV violation (Section 6.9.D.1).

The NRC has concluded that information regarding the reason for the violation, the corrective actions taken and planned to be taken to correct the violation and prevent recurrence, and the date when full compliance was or will be achieved, is already adequately addressed in NRC Inspection Report No. 03034221/2013001(DNMS). However, you are required to submit a written statement or explanation pursuant to 10 CFR 2.201 if the description therein does not accurately reflect your corrective actions or your position. In that case, or if you choose to respond, clearly mark your response as a "Reply to a Notice of Violation," 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 III, within 30 days of the date of the letter transmitting this Notice.

If you contest this enforcement action, you should also provide a copy of your response, with the basis for your denial, to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001.

In accordance with 10 CFR 19.11, you may be required to post this Notice within two working days of receipt.

Dated this 5th day of July 2013.

Enclosure 1

**U.S. Nuclear Regulatory Commission  
Region III**

Docket No.	030-34221
License No.	21-26748-01
Report No.	03034221/2013001(DNMS)
EA No.	EA-13-138
Licensee:	Tilden Mining Company, L.C.
Facility:	P.O. Box 2000 Ishpeming, MI 49849
Dates of Inspection:	May 29, 2013, with continued NRC in-office review through June 5, 2013
Exit Meeting:	June 5, 2013
Inspector:	Ryan Craffey, Health Physicist
Approved By:	Aaron T. McCraw, Chief Materials Inspection Branch Division of Nuclear Materials Safety

Enclosure 2

**EXECUTIVE SUMMARY**

**Tilden Mining Company, L.C.  
NRC Inspection Report 03034221/2013001(DNMS)**

This was a routine inspection of licensed activities involving the use of byproduct material for level and density indication and for sample analysis. Tilden Mining Company, L.C. is an iron mine operator located in Ishpeming, Michigan, authorized by U.S. Nuclear Regulatory Commission (NRC) License No. 21-26748-01 to licensed material in a variety of sealed sources as part of its ore concentrator process control system.

The inspector identified two apparent security-related violations. The facts and circumstances surrounding the apparent violations, as well as licensee's corrective actions to prevent similar violations, are documented in the Security Addendum to this inspection report.

The inspector also identified one Severity Level IV violation for failure to notify the NRC within 24 hours after the discovery of a reportable event involving licensed material. Specifically, the licensee discovered on August 9, 2011, that the shutter of a Kay Ray fixed process gauge, could not be closed during a semiannual operability check, and did not notify the NRC within 24 hours of that discovery. As corrective action for this violation, the incoming Radiation Safety Officer (RSO) reported the event to the NRC the day after the inspection. The licensee also reviewed the NRC's reporting requirements with the inspector.



## **Report Details**

### **1 Program Overview**

Tilden Mining Company, L.C. is authorized by NRC Materials License No. 21-26748-01 to use licensed material in a variety of sealed sources as part of its ore concentrator process control system. The licensee conducts 24-hour operations at the Tilden Mine, located outside Ishpeming, Michigan.

The radiation safety program at the Tilden Mine maintains two tiers of authorized users: Level I personnel are provided the necessary training to perform and/or supervise licensed activities. Level II personnel are provided the necessary training to conduct licensed activities, but only under the supervision of Level I personnel.

The last NRC inspection of the radiation safety program was on January 24, 2008. No violations of NRC requirements were identified during that inspection.

### **2 Radiation Safety Program**

#### **2.1 Inspection Scope**

##### *IP 87124 – Fixed and Portable Gauge Programs*

The inspector toured the concentrator facility and reviewed the programmatic elements of the licensee's radiation safety program with the current RSO and the plant's electrical supervisor, who is planning to assume the full duties of RSO when the current RSO retires in approximately September 2013.

#### **2.2 Observations and Findings**

The inspector observed the condition, labeling, and posting of a sample of fixed gauges. Independent and confirmatory surveys of radiation levels around these gauges were consistent with safety evaluations in the Sealed Source and Device Registry. The inspector also observed demonstrations of shutter checks and leak testing.

The inspector reviewed licensee procedures for leak testing, receipt of licensed material and emergency response, as well as a selection of records for gauge installation, leak testing, shutter checks, inventory and authorized user training.

During the review of shutter check records, the inspector found that on August 9, 2011, an authorized user performing a shutter check on a Kay Ray model 7050 gauge (serial number 1417) noted in the record that the shutter was stuck in the open position. The gauge nominally contained 200 millicuries (mCi) of Cs-137. The RSO reviewed this and other shutter check records, and a work order was also generated to address the shutter failure, but because the gauge normally operated with the shutter open, and because it did not present an exposure risk to personnel, no repair was attempted and no further action was taken.

Title 10 of the Code of Federal Regulations (CFR) 30.50(b)(2) states that each licensee shall notify the NRC within 24 hours after the discovery of an event involving licensed material in which equipment is disabled or fails to function as designed when:

- (1) The equipment is required by regulation or license condition to prevent releases exceeding regulatory limits, to prevent exposures to radiation and radioactive materials exceeding regulatory limits, or to mitigate the consequences of an accident;
- (2) The equipment is required to be available and operable when it is disabled or fails to function; and
- (3) No redundant equipment is available and operable when it is disabled or fails to function.

The shutter of the Kay Ray model 7050 gauge is required by Condition 21 of Tilden Mining Company's NRC license to prevent exposures to radiation exceeding regulatory limits, during periods when a portion of an individual's body may be subject to the direct radiation beam. Furthermore, the shutter is required by Condition 22 of the same license to be operable during the conduct of shutter checks, and since this gauge has only the one shutter, no redundant equipment was available when the shutter was found inoperable. The licensee's failure to notify the NRC within 24 hours of the discovery of the stuck shutter is a violation of 10 CFR 30.50(b)(2).

The inspector determined the root cause of this violation to be a lack of understanding of NRC requirements. Specifically, the RSO was not aware that the failure of a fixed gauge shutter constituted a reportable event under 10 CFR 30.50(b)(2).

To restore compliance with this NRC requirement, the licensee reported the stuck shutter to the NRC Operations Center on May 30, 2013. To prevent recurrence of a similar violation, the current and incoming RSOs reviewed the applicable reporting requirements with the NRC inspector to ensure a consistent understanding of the NRC's expectations regarding reportable events.

While on site, the inspector reviewed the circumstances of the event, observed the condition and location of Kay Ray 7050 serial number 1417, and confirmed via surveys that the open shutter did not pose an exposure risk to personnel. The inspector discussed the NRC's requirements for a 30-day written report, as well as the licensee's plan for the gauge. At the time of the inspection, the licensee intended to leave the gauge in its current condition and procedurally restrict personnel access until the gauge or the pipe to which it is attached requires service, at which time they will bring in a vendor who is authorized to perform repairs on the gauge.

### 2.3 Conclusions

The inspector identified one Severity Level IV violation of 10 CFR 30.50(b)(2) for failure to notify the NRC within 24 hours after the discovery of a reportable event involving licensed material. The inspector reviewed the circumstances of the reportable event, and based on that review the NRC now considers this event to be closed.

### **3 Exit Meeting Summary**

The NRC inspector presented preliminary inspection findings following the onsite inspection on May 29, 2013. The licensee did not identify any documents or processes reviewed by the inspectors as proprietary. The inspector conducted a final telephonic exit meeting on June 5, 2013, at which time the additional security-related findings were presented. The licensee acknowledged the findings.

#### **PARTIAL LIST OF PERSONNEL CONTACTED**

- <sup>^</sup>+ Walter Lampi – Senior Mechanical Engineer, RSO
- <sup>^</sup> Jeremy Laakso – Plant Electrical Supervisor, incoming RSO
- <sup>^</sup> Attended the preliminary exit meeting on May 29, 2013
- <sup>+</sup> Attended final telephonic exit meeting on June 5, 2013