



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION IV  
612 EAST LAMAR BLVD, SUITE 400  
ARLINGTON, TEXAS 76011-4125

February 24, 2011

EA-10-244

Mr. Clayton Houle, CEO  
Rocky Boy Health Board  
RR1 Box 664  
Box Elder, Montana 59521

SUBJECT: NRC INSPECTION REPORT NO. 030-36841/2010-001

Dear Mr. Houle:

This refers to the routine, unannounced inspection conducted on June 17, 2010, at the Rocky Boy Health Board facility located in Box Elder, Montana, with continued in-office review through December 16, 2010. The purpose of this inspection was to assess the licensee's use of radioactive material and to evaluate the effectiveness of the licensee's radiation protection program. The inspector discussed the preliminary inspection findings with your Radiation Safety Officer, Mr. Alfred Parker, and LCDR Benjamin Marnell, P.E., of your staff at the conclusion of the on-site portion of the inspection. A final exit briefing was conducted telephonically with you and other members of your staff on December 16, 2010. The enclosed report presents the results of this inspection.

During this inspection, the NRC staff examined activities conducted under your license as they relate to safety and security, and to confirm compliance with the Commission's rules and regulations, and with the conditions of your license. Within these areas, the inspection consisted of a selected examination of procedures and representative records, observations of activities, and interviews with personnel.

Based on the results of this inspection, seven apparent violations were identified and are being considered for escalated enforcement in accordance with the NRC Enforcement Policy. The current Enforcement Policy is included on the NRC's Web site at [www.nrc.gov/about-nrc/regulatory/enforcement/enforce-pol.html](http://www.nrc.gov/about-nrc/regulatory/enforcement/enforce-pol.html). The apparent violations involved failures: (1) to secure the portable gauge using two independent physical controls to prevent unauthorized removal, while in storage; (2) to perform (at least annually) a review of the radiation safety program; (3) to test sealed sources for leakage annually; (4) to conduct physical inventories of sealed sources every 6 months; (5) to post copies of required documents pursuant to 10 CFR 19.11; (6) to periodically calibrate survey instruments used for quantitative radiation measurements; and (7) to demonstrate compliance with the annual dose limit for members of the public. Since the NRC has not made a final determination in this matter, a Notice of Violation is not being issued for these inspection findings at this time. In addition, please be advised that the number and characterization of apparent violations described in the enclosed inspection report may change as a result of further NRC review.

Based on the number and severity of the apparent violations identified during the inspection, NRC is concerned that your radiation safety program has not received adequate management attention. It was noted during the inspection that Rocky Boy's Radiation Safety Officer appeared to be overextended with collateral duties and did not have sufficient time to dedicate to the implementation of the radiation safety program. NRC expects licensees to conduct their programs with meticulous attention to detail and a high standard of compliance. Therefore, we would like to remind you that it is management's responsibility to ensure that your Radiation Safety Officer has adequate time and resources to perform the duties and functions as specified in your license.

During our telephonic exit briefing on December 16, 2010, we informed you that NRC planned to conduct a predecisional enforcement conference (PEC) to discuss these apparent violations. Please contact Vivian Campbell at 817-860-8287 within 7 days of the date of this letter to schedule the PEC. This conference will be conducted telephonically and will be open to public observation in accordance with Section V of the NRC Enforcement Policy.

The decision to hold a predecisional enforcement conference does not mean that the NRC has determined that a violation has occurred or that enforcement action will be taken. This conference is being held to obtain information to assist the NRC in making an enforcement decision. This may include 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. The conference will provide an opportunity for you to provide your perspective on these matters and any other information that you believe the NRC should take into consideration in making an enforcement decision. 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 violations. The guidance in the enclosed excerpt from NRC Information Notice 96-28, "Suggested Guidance Relating to Development and Implementation of Corrective Action," may be helpful.

You will be advised by separate correspondence of the results of our deliberations on this matter. No response regarding these apparent violations is required at this time.

In accordance with 10 CFR 2.390 of the NRC's Rules of Practice, a copy of this letter, its enclosures, and your response, if you decide to provide one, will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC's 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. 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 withholding of such information, 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 will 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).

Should you have any questions regarding this letter or the enclosed report, please contact Ms. Vivian Campbell, Chief, Nuclear Materials Safety Branch A, at 817-860-8287.

Sincerely,

*/RA/*

Roy J. Caniano, Director  
Division of Nuclear Materials Safety

Docket: 030-36841  
License: 25-27800-01

Enclosures:

1. NRC Inspection Report 030-36841/2010-001
2. NRC Information Notice 96-28

cc w/Enclosure 1:  
Roy Kemp, Deputy Administrator  
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<input checked="" type="checkbox"/> Publicly Available	<input type="checkbox"/> Nonpublicly Available	<input type="checkbox"/> Sensitive	<input checked="" type="checkbox"/> Nonsensitive	
<b>EA-10-244 PEC Letter</b>				
RIV:DNMS/NMSB-A	C:NMSB-A	ACES	D:DNMS	
LDonovan;dlf	VHCampbell	MCMaier	RJCaniano	
<b>JLThompson for</b>	<b>/RA/</b>	<b>RLKellar for</b>	<b>/RA/</b>	
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U.S. NUCLEAR REGULATORY COMMISSION  
REGION IV

Docket: 030-36841  
License: 25-27800-01  
Report: 030-36841/2010-001  
EA: EA-10-244  
Licensee: Rocky Boy Health Board  
Location: Box Elder, Montana  
Dates: June 17 through December 16, 2010  
Inspector: Lawrence Donovan, Health Physicist  
Nuclear Materials Safety Branch A  
Approved By: Vivian Campbell, Chief  
Nuclear Materials Safety Branch A  
Attachment: Supplemental Inspection Information

ENCLOSURE 1

## **EXECUTIVE SUMMARY**

### Rocky Boy Health Board NRC Inspection Report 030-36841/10-001

This was a routine, unannounced inspection of licensed activities involving the use and storage of byproduct material in portable nuclear gauges at the licensee's facility located in Box Elder, Montana. The inspection was an examination of activities conducted under NRC Materials License 25-27800-01, as they relate to radiation safety and security and to compliance with the Commission's rules and regulations, as well as the conditions of the license. Within these areas, the inspection consisted of selected examination of procedures and representative records, observations of activities, and interviews with personnel. This report describes the findings of the inspection.

#### **Program Overview**

The Rocky Boy Health Board is authorized to possess and use byproduct material (cesium-137 and americium-241) in the operation of one portable moisture density gauge within areas of NRC jurisdiction, including temporary jobsites. Use of the portable moisture density gauge is seasonal due to weather conditions. The licensee uses the gauge for soil testing on the Rocky Boy Indian Reservation in northern Montana. (Section 1)

#### **Inspection Findings**

The licensee failed to secure the portable gauge using two independent physical controls to prevent unauthorized removal, while in storage at the licensee's permanent storage facility in Box Elder, Montana. This was identified as an apparent violation of 10 CFR 30.34(i). (Section 2)

The licensee failed to periodically (at least annually) review the radiation protection program content and implementation. This was identified as an apparent violation of 10 CFR 20.1101(c). (Section 2)

The licensee failed to test the sealed sources contained in the portable gauge for leakage or contamination on an annual basis. This was identified as an apparent violation of License Condition 13.A of NRC License 25-27800-01. (Section 2)

The licensee failed to conduct a physical inventory every 6 months to account for all sealed sources and/or devices received and possessed under the license. This was identified as an apparent violation of License Condition 15 of NRC License 25-27800-01. (Section 2)

The licensee failed to post copies of the NRC license, the regulations, the operating and emergency procedures, and any notices of violation, or to post a notice of where these documents could be examined. This was identified as an apparent violation of 10 CFR 19.11. (Section 2)

The licensee failed to ensure that a survey instrument used for quantitative radiation measurements was periodically calibrated for the radiation measured. This was identified as an apparent violation of 10 CFR 20.1501(b). (Section 2)

The licensee failed to demonstrate compliance with the annual dose limit (100 millirem in a year) for members of the public. This was identified as an apparent violation of 10 CFR 20.1301. (Section 2)

#### Licensee Corrective Actions

The following are all of the corrective actions that the NRC is aware of at this time:

The licensee took immediate corrective action by placing a second padlock lock on the metal fence cage, which would meet the requirements of 10 CFR 30.34(i).

The licensee posted a notice to identify where required documents under 10 CFR 19.11 would be located.

The licensee's survey meter was calibrated on July 6, 2010, and the licensee is planning to calibrate their instrument on an annual basis.

A portable gauge safety inspection was performed on the portable gauge by the gauge manufacturer on July 7, 2010, and the gauge was calibrated on July 8. It should be noted, however, that this calibration did not include a leak test of the sealed sources in the gauge.

In addition, the licensee is planning to conduct safety meetings at 6-month intervals to review NRC requirements and policies.

## Report Details

### **1 Program Overview (87124)**

#### 1.1 Inspection Scope

The inspector reviewed the license and supporting documentation, interviewed licensee personnel, and examined the storage location at the licensed facility. Collectively, these documents described the licensee's implementation of its radiation safety program. The license was issued on February 28, 2005. An initial inspection was conducted in June 2005, and no violations were identified during that inspection.

#### 1.2 Observations and Findings

The Rocky Boy Health Board is authorized under NRC License 25-27800-01 to use and possess byproduct material in portable moisture density gauges. Licensed activities are conducted in the Box Elder, Montana area. At the time of the inspection, the licensee had one portable moisture density gauge, and employed three authorized users. The gauge is dispatched from the Box Elder, Montana, office for work conducted throughout the Rocky Boy Indian Reservation.

### **2 Inspection Findings (87124)**

#### 2.1 Inspection Scope

The inspector conducted interviews with licensee staff and observed licensed activities at the corporate office in Box Elder, Montana. Licensed activities were examined as they relate to the safety and security of the portable gauges and the licensee's efforts to protect members of the public.

#### 2.2 Observations and Findings

- 10 CFR 30.34(i) requires portable gauge licensees to use a minimum of two independent physical controls that form tangible barriers to secure portable gauges from unauthorized removal, whenever portable gauges are not under the control and constant surveillance of the licensee.

On June 17, 2010, upon entering the licensee's facility, NRC inspectors observed a "Caution Radioactive Materials" sign posted on a door within a staff break room. The closet door was not locked. Inside the closet, the inspectors observed a locked Troxler portable gauge transportation case being stored inside the locked, metal cage. Neither the building, nor the break room, was locked at the time of the inspection. The licensee's radiation safety officer (RSO) or other authorized personnel were not present to provide constant surveillance of the material. The inspectors were informed that the RSO was out of the office, but was expected to return shortly.

When the RSO returned, he was surprised to find that the closet door was unlocked. The RSO stated that he had unlocked the closet door earlier that morning to check on the gauge and indicated that he must have forgotten to lock the door when

leaving. The RSO unlocked the metal cage and the transportation case to show the inspectors the locked Troxler gauge stored inside the transportation case. The inspectors determined that the locked metal cage was the only independent physical control to form a tangible barrier in place at the time of the inspection. This was identified as an apparent violation of 10 CFR 30.34(i). (030-36841/10001-01)

- 10 CFR 20.1101(c) requires that the licensee shall periodically (at least annually) review the radiation protection program content and implementation.

During the inspection, the inspectors requested to review the licensee's annual audits of the radiation protection program. The RSO indicated that he had not conducted any audits of the program. He indicated that being the RSO was only one of his job responsibilities on the reservation and that he was not able to devote much time to the program. The RSO said that he had spoken to NRC staff in headquarters, and requested that his program be audited by NRC. The RSO indicated that he made this request so that he could ensure that he was implementing the radiation protection program correctly. The NRC inspectors explained that NRC does not perform these audits for licensees. The inspectors determined that the licensee had not performed any periodic reviews since 2005. This was identified as an apparent violation of 10 CFR 20.1101(c). (030-36841/10001-02)

- License Condition 13.A of NRC License 25-27800-01 requires that sealed sources shall be tested for leakage and/or contamination at intervals not to exceed the intervals specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or by an Agreement State. The Registry of Radioactive Sealed Sources and Devices safety evaluation sheet specifies an annual leak test frequency for the Troxler Model 3400 series portable gauge possessed by the licensee.

The RSO provided leak test records for 2005 and 2007. A review of the licensee's utilization logs indicated that the portable gauge had been used at temporary job sites during periods in 2006, 2007, and 2009, but not in 2008. The RSO affirmed that the device had been leak tested only two times. The inspectors determined that the licensee had used the gauges in 2006 and 2009, but had not conducted leak tests on the sources as required during these periods. This was identified as an apparent violation of License Condition 13A of NRC License 25-27800-01, issued February 28, 2005. (030-36841/10001-03)

- License Condition 15 of NRC License 25-27800-01 requires that the licensee shall conduct a physical inventory every 6 months, or at intervals approved by the U.S. Nuclear Regulatory Commission, to account for all sealed sources and/or devices received and possessed under the license.

At the time of the inspection on June 17, 2010, the licensee provided documentation indicating that physical inventories were conducted in November 2006, November 2007, May 2009, November 2009, and May 2010. Inventories for May 2006, May 2007, and May and November 2008 were not conducted. Consequently, the licensee failed to conduct a physical inventory of the portable gauge at the required frequency of 6 months. This was identified as an apparent

violation of License Condition 15 of the NRC License 25-27800-01, issued February 28, 2005. (030-36841/10001-04)

- 10 CFR 19.11(a) requires that each licensee shall post current copies of Parts 19 and 20; the license, license conditions, or documents incorporated into the license; license amendments; operating procedures applicable to license activities; any notice of violation involving radiological working conditions, proposed imposition of civil penalty or order issued pursuant to subpart B of Part 2; and any response from the licensee.

10 CFR 19.11(d) allows the licensee to post a notice, which describes the documents identified in 19.11(a), indicating where such documents may be examined, if posting of these documents is not practical.

On the date of the inspection, the NRC inspectors observed that the licensee had not posted the documents specified in 10 CFR 19.11(a), or had not posted a notice as allowed by 19.11(d). The RSO acknowledged that he had not posted these documents. This was identified as an apparent violation of 10 CFR 19.11(a) and (d). (030-36841/10001-05)

- 10 CFR 20.1501(b) states that the licensee shall ensure that instruments and equipment used for quantitative radiation measurements (e.g., dose rate and effluent monitoring) are calibrated periodically for the radiation measured.

On June 17, 2010, the inspectors checked the calibration of the licensee's TroxAlert survey meter and noted that it had last been calibrated in March 2005. The operations manual for the TroxAlert survey meter used by the licensee recommends that the survey instrument be calibrated annually. Based on interviews with the RSO, the TroxAlert used for quantitative radiation measurements (e.g. dose rate) was not calibrated periodically for the radiation measured as described in the licensee's operations manual. The RSO acknowledged that the instrument had not been calibrated or checked for functionality in five years. This was identified as an apparent violation 10 CFR 20.1501(b). (030-36841/10001-06)

- 10 CFR 20.1301(a)(1) requires, in part, that licensees shall conduct operations so that the total effective dose equivalent to individual members of the public from licensed operations does not exceed 0.1 rem (1 mSv) in a year.

10 CFR 20.1302(b)(1) requires that the licensee shall show compliance with the annual dose limit in 10 CFR 20.1301 by demonstrating by measurement or calculation that the total effective dose equivalent to the individual likely to receive the highest dose from the licensed operation does not exceed the annual dose limit.

The licensee's permanent gauge storage facility was a closet located in the break room. The room was furnished with chairs positioned against the wall adjacent to the storage closet. Through discussions with the RSO, the inspectors established that the break room was often used to conduct staff meetings and that staff frequently sat in the chairs along the wall adjacent to the storage closet. The RSO indicated that most of the staff attending these meetings were not radiation workers. Even though the licensee employed these individuals, they did not work with the portable gauge. Consequently, these individuals were members of the public.

The RSO stated that he had not made any dose determinations for staff attending meetings in the break room, and therefore, had not shown compliance with the annual public dose limit. This was identified as an apparent violation of 10 CFR 20.1302(b)(1). (030-36841/10001-07)

### 2.3 Conclusions

Seven apparent violations were identified, which are being considered for escalated enforcement. These apparent violations include failures: (1) to secure a portable gauge while in storage at the main office in Box Elder, Montana, with a minimum of two independent physical controls to form tangible barriers; (2) to conduct annual audits of the radiation protection program; (3) to perform leak tests of the sealed sources at an annual frequency; (4) to perform physical inventories of the sealed sources every 6 months; (5) to post required documentation; (6) to ensure that the survey meter was calibrated periodically; and (7) to demonstrate compliance with the annual dose limits to individual members of the public.

### 3 **Licensee Corrective Actions**

During the inspection, the licensee took immediate corrective action by placing a second padlock on the metal cage, which provided the second independent control to form a tangible barrier. The licensee posted a notice to identify where the documents required by 10 CFR 19.11(a) could be examined. The licensee provided information on the status of their corrective actions in a facsimile dated August 31, 2010 (ML110470385). The licensee's survey meter was calibrated on July 6, 2010, and the licensee is planning to calibrate their instrument on an annual basis in accordance with the manufacturer's recommendation. A gauge safety inspection was performed on the portable gauge by the gauge manufacturer on July 7, 2010, and the gauge was calibrated on July 8, 2010; it should be noted, however, that this calibration did not include a leak test of the sealed sources in the gauge. In addition, the licensee is planning to conduct safety meetings at 6-month intervals to review NRC requirements and policies.

### 4 **Exit Meeting Summary**

A final telephonic exit briefing was conducted with Mr. Tim Rosette, Sr., Deputy Chief Executive Officer (CEO), Lieutenant Commander (LCDR) Ben Marnell, Professional Engineer (PE) of the U.S. Public Health Service, Mr. Alfred Parker, RSO, and Mr. Tim Rosette, Jr. on December 16, 2010, to review the inspection findings as presented in this report. The licensee acknowledged the inspection findings. No proprietary information was identified.

## PARTIAL LIST OF PERSONS CONTACTED

### Licensee

#\*LCDR Ben Marnell, PE  
#\*Alfred Parker, RSO and gauge user  
\*Tim Rosette, Sr., Deputy CEO  
\*Tim Rosette, Jr.

#present at entrance meeting  
\*present at exit meeting

## INSPECTION PROCEDURES USED

87124            Portable and Fixed Gauges

## ITEMS OPENED, CLOSED, AND DISCUSSED

### Opened

030-36841/10001-01	APV	Failure to use two independent physical controls to secure a portable gauge from unauthorized removal while not under the control and constant surveillance of the licensee
030-36841/10001-02	APV	Failure to periodically, at least annually, review the radiation protection program content and implementation
030-36841/10001-03	APV	Failure to conduct leak tests for a sealed source
030-36841/10001-04	APV	Failure to conduct physical inventories of the sealed source
030-36841/10001-05	APV	Failure to post the documents in 10 CFR 19.11(a) or to post a notice where the documents could be examined
030-36841/10001-06	APV	Failure to maintain a survey meter calibrated or checked for functionality
030-36841/10001-07	APV	Failure to demonstrate compliance with the annual dose limits for individual members of the public

## LIST OF ACRONYMS USED

APV    apparent violation  
CFR    *Code of Federal Regulations*  
NRC    Nuclear Regulatory Commission  
RSO    Radiation Safety Officer