UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
2443 WARRENVILLE ROAD, SUITE 210
LISLE, ILLINOIS 60532-4352

March 22, 2024

EA 23-119
EN 56157
NMED No. 220442 (closed)

Brent VanDyke
Radiation Safety Officer
Prein & Newhof
3355 Evergreen Drive NE
Grand Rapids, MI 49525

SUBJECT: NRC ROUTINE INSPECTION REPORT NO. 03028571/2023001(DRSS) – PREIN & NEWHOF

Dear Brent VanDyke:

On April 13, 2023, and September 18 through 21, 2023, inspectors from the U.S. Nuclear Regulatory Commission (NRC) conducted a routine inspection at your facilities in Kalamazoo, Cadillac, Muskegon and Grand Rapids, Michigan, as well as temporary job sites in Kalamazoo and Muskegon with continued in-office review through February 21, 2024. The purpose of the inspection was to review activities performed under your NRC license to ensure that they were being performed in accordance with NRC requirements, and to review an incident involving damage to a device containing licensed material that you reported on October 11, 2022. The in-office review included an evaluation of the inspection findings and their significance. The enclosed inspection report presents the results of the inspection.

This inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions in your license. Within these areas, the inspection consisted of an examination of selected procedures and representative records, observations of activities, and interviews with personnel.

Based on the results of this inspection, two apparent violations of NRC requirements were identified and are being considered for escalated enforcement action in accordance with the NRC Enforcement Policy, available on the NRC's website at http://www.nrc.gov/about-nrc/regulatory/enforcement/enforce-pol.html. The apparent violations concerned (1) four examples of failing 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, as required by Title 10 of the *Code of Federal Regulations* (10 CFR) Part 30.34(i); and (2) failing to report a safety equipment failure within 24 hours of its discovery, as required by 10 CFR 30.50(b)(2). The circumstances surrounding the apparent violations, the significance of the issues, and the need for lasting and effective corrective action – in particular, regarding the repetitive nature of the first apparent violation – were discussed with you at the inspection exit meeting conducted by Ryan Craffey of my staff on February 21, 2024.

Before the NRC makes its enforcement decision, we are providing you an opportunity to (1) respond to the apparent violations 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. If a PEC is held, it will be open for public observation and the NRC will issue a press release to announce the time and date of the conference. **Please contact Rhex Edwards at (630) 829-9722 or Rhex.Edwards@nrc.gov within 10 days of the date of this letter to notify the NRC of your intended response or request.** A PEC should be held within 30 days and an ADR session within 45 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. 03028571/2023001(DRSS); EA-23-119,” and should include, for the apparent violations: (1) the reason 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. Your response may reference or include previously docketed correspondence, if the correspondence adequately addresses the required response. Your response should be sent to the NRC’s Document Control Desk, Washington, DC 20555-0001, with a copy mailed to the NRC Region III Office, 2443 Warrenville Road, Suite 210, Lisle, Illinois 60532, within 30 days of the date of this letter. 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 these matters and any other information that you believe the NRC should take into consideration before making an enforcement decision. The decision to hold a pre-decisional enforcement conference does not mean that the NRC has determined that a violation has occurred or that enforcement action will be taken. This conference would be conducted to obtain information to assist the NRC in making an enforcement decision. The topics discussed during the conference 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. In presenting your corrective action, 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 NRC Information Notice 96-28, "Suggested Guidance Relating to Development and Implementation of Corrective Action," may be helpful in preparing your response. You can find the information notice on the NRC website at: http://www.nrc.gov/reading-rm/doc-collections/gen-comm/info-notices/1996/in96028.html.

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. Mediation is a voluntary, informal process in which a trained neutral party (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 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**

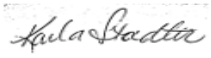
pursuing resolution of this issue through ADR. In addition, if you choose ADR, please also contact Rhex Edwards at the telephone number or email address listed above.

In addition, please be advised that the number and characterization of the apparent violations 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.

In accordance with the NRC's "Agency Rules of Practice and Procedure" in 10 CFR 2.390, a copy of this letter, its enclosure, and your response, if you choose to provide one, 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. To the extent possible, any response should not include any personal privacy, proprietary, or safeguards information so that it can be made publicly available without redaction.

Please feel free to contact Ryan Craffey of my staff if you have any questions regarding this inspection. Ryan can be reached at 630-829-9655 or ryan.craffey@nrc.gov.

Sincerely,



Stoedter, Karla signing on behalf
of Curtis, David
on 03/22/24

David Curtis, Director
Division of Radiological Safety and Security

Docket No. 030-28571
License No. 21-18663-02

Enclosure:
Inspection Report No. 03028571/2023001(DRSS)

cc w/encl: State of Michigan

Letter to B. VanDyke from D. Curtis, dated March 22, 2024.

SUBJECT: NRC ROUTINE INSPECTION REPORT NO. 03028571/2023001(DRSS) – PREIN & NEWHOF

DISTRIBUTION w/encl:
Jack Giessner
Mohammed Shuaibi
David Curtis
Diana Betancourt-Roldan
Kenneth Lambert
Geoffrey Edwards
MIB Inspectors

ADAMS Accession Number: ML24068A087

OFFICE	RIII-DRSS	RIII-DRSS	OE	OGC
NAME	RCraffey:brt	REdwards	JPeralta (PSnyder alt.)	AValentine
DATE	3/8/24	3/14/24	3/21/24	3/21/24

OFFICE	RIII-EICS	RIII		
NAME	DBetancourt:GEdwards concurred behalf of	DCurtis:KStoedter signed behalf of		
DATE	3/22/24	3/22/24		

OFFICIAL RECORD COPY

U.S. Nuclear Regulatory Commission
Region III

Docket No.	030-28571
License No.	21-18663-02
Report No.	03028571/2023001(DRSS)
EN No./NMED No.	56157 / 220442
EA No.	EA-23-119
Licensee:	Prein & Newhof
Facilities:	3355 Evergreen Drive NE, Grand Rapids, MI 1707 South Part Street, Kalamazoo, MI 100 East Chapin Street, Cadillac, MI 4910 Stariha Drive, Muskegon, MI Job Site on Lake Street in Kalamazoo, MI Job Site on Glenside Boulevard in Muskegon, MI
Inspection Dates:	April 13, 2023, and September 18-21, 2023
Exit Meeting Date:	February 21, 2024
Inspectors:	Ryan Craffey, Senior Health Physicist Elizabeth Tindle-Englemann, Health Physicist
Approved By:	Rhex Edwards, Chief Materials Inspection Branch Division of Radiological Safety and Security

Enclosure

EXECUTIVE SUMMARY

Prein & Newhof
NRC Inspection Report 03028571/2023001(DRSS)

This was an unannounced routine inspection of licensed activities involving the use of byproduct material to measure the physical properties of materials. Prein & Newhof, an engineering consulting firm, was authorized by U.S. Nuclear Regulatory Commission (NRC) License No. 21-18663-02 to store portable moisture density gauges containing byproduct material at its offices in Grand Rapids, Cadillac, Kalamazoo, and Muskegon, Michigan, and to use them at temporary job sites in NRC jurisdiction.

As a result of this inspection, the NRC identified four examples of an apparent violation of regulatory requirements for failing 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, as required by Title 10 of the *Code of Federal Regulations* (10 CFR) Part 30.34(i).

The inspection also included a follow-up review of an incident involving damage to a device containing licensed material that Prein & Newhof reported on October 11, 2022. As a result of this review, the NRC identified one additional apparent violation of regulatory requirements for failing to report a safety equipment failure within 24 hours of its discovery, as required by 10 CFR 30.50(b)(2).

REPORT DETAILS

1 Program Overview and Inspection History

Prein & Newhof (the licensee), an engineering consulting firm, was authorized by U.S. Nuclear Regulatory Commission (NRC) License No. 21-18663-02 to store portable moisture density gauges containing byproduct material at its offices in Grand Rapids, Cadillac, Kalamazoo, and Muskegon, Michigan, and to use them at temporary job sites in NRC jurisdiction. At the time of the inspection, the licensee had 25 gauges and around 30 individuals authorized to use them.

The NRC last performed a routine inspection of the licensee on November 16 and 17, 2017, at its facilities in Grand Rapids, Cadillac, and Kalamazoo. One Severity Level III violation of Title 10 of the Code of Federal Regulations (10 CFR) 30.34(i) was identified for two examples of failing to secure a portable gauge in transport with two barriers (only one was used). A follow-up inspection was performed on August 20, 2018, to evaluate the completion and effectiveness of the licensee's corrective actions. Although the 2017 violation was closed, a Severity Level IV (SLIV) violation of 10 CFR 30.34(c) and License Condition 10 was subsequently identified for failing to limit the possession of licensed material to the locations listed on the license.

The NRC previously performed a routine inspection of the licensee on January 17, 2013, at its facilities in Grand Rapids and Kalamazoo. One SLIV violation of 10 CFR 30.34(i) was identified for failing to secure potable gauges in storage with two barriers (only one was used). This violation was reviewed and closed during the 2017 inspection.

2 Security of Portable Gauges

2.1 Inspection Scope

On April 13, 2023, and September 18-21, 2023, the inspectors toured the licensee's facilities in Grand Rapids, Kalamazoo, Cadillac, and Muskegon, and interviewed involved staff to evaluate the licensee's measures for securing portable gauges in use, transit, and storage.

2.2 Observations and Findings

On April 13, 2023, an inspector visited the Kalamazoo office, where one gauge was in storage and another in the field. The inspector found that the exterior door to the storage room was locked. However, the case containing the gauge was not secured to anything inside the room. There was an anchored chain that was normally used to secure both gauge cases by feeding it through the handle of the cases and locking it. However, the lock was not closed.

On September 18, 2023, another inspector returned to the Kalamazoo office, where two gauges were in storage. The inspector found that the exterior door to the storage room was locked. The inspector observed that the two cases containing the gauges were secured to an anchor using a single chain that had been fed through the handle of the cases. The chain was in a closed loop using a padlock. During the inspection, the inspector observed that a ceiling tile was missing from the storage room. The licensee stated that the building landlord was tracing plumbing in the building and the ceiling tile had been removed to aid that process. The inspector was made aware that the landlord

maintained a key and access to the storage closet, and on at least one occasion, accessed the storage closet independently. Thus, the lock on the storage room door was not considered a tangible barrier.

On September 20, 2023, the same inspector visited the Cadillac office, where multiple gauges were in storage, multiple others in the field at the time, and one gauge onboard a truck in the parking lot. Upon arriving at the facility, the inspector performed surveys of the licensee's vehicles that were in the parking lot. The inspector identified that one truck contained a portable gauge. The inspector observed that the gauge was in the truck bed and the truck bed had a cover. The inspector challenged the lock of the cover and found that it was unlocked. Within the truck bed, the gauge was secured to one anchor using only one chain and one lock.

On September 21, 2023, the same inspector visited the main office in Grand Rapids, where multiple gauges were in storage and multiple others in the field at the time. The storage location was a storage closet within the biology laboratory. No gauge users or individuals involved with licensed activities worked at this location full time, though the company did maintain full time staff at the facility. At the time of the inspection, two gauges were in a storage closet behind a door with a locking handle. The key to the closet was kept in a drawer exterior to the closet, and the gauges were placed on the floor within the closet. There were no chains, anchors, or locks used to secure the gauges within the closet. The licensee stated that front desk staff were responsible for maintaining gauge security and controlling access during business hours. However, based on discussions with the front desk staff, they were unaware that gauges were onsite or that they were responsible for providing for their security. Additionally, the facility had multiple entry points that were unlocked during business hours and not all entry points were continuously monitored.

Title 10 CFR 30.34(i) requires that each portable gauge licensee shall 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.

Contrary to the above:

- On April 13, 2023, the licensee used only one independent physical control – an exterior door – that formed a tangible barrier to secure one portable gauge in storage at its facility in Kalamazoo.

- On September 18, 2023, the licensee used only one independent physical control – a locked chain – that formed a tangible barrier to secure two portable gauges in storage at its facility in Kalamazoo.

- On September 20, 2023, the licensee used only one independent physical control – a locked chain – that formed a tangible barrier to secure one portable gauge being prepared for transport at its facility in Cadillac.

- On September 21, 2023, the licensee used only one independent physical control – a locked closet – that formed a tangible barrier to secure two portable gauges in storage at its facility in Grand Rapids.

These examples represent an apparent violation of 10 CFR 30.34(i) and are being considered for escalated enforcement action in accordance with section 2.3.4 and 6.3.c.3 of the NRC's Enforcement Policy.

As immediate corrective action to restore compliance, the licensee (1) installed an additional locking anchored chain to secure gauge cases in Kalamazoo; (2) regained control of the gauge being prepared for transit in Cadillac; (3) installed a key code lock box for the key to the storage room door in Grand Rapids; and (4) installed additional locking anchored chains to secure gauge cases in Grand Rapids.

The licensee also committed to develop and implement lasting and effective corrective actions to address the potential for recurrence of a similar violation.

2.3 Conclusions

The inspectors identified four examples of an apparent violation of 10 CFR 30.34(i).

3 Review of Event Number 56157

3.1 Inspection Scope

On September 20, 2023, the inspector interviewed involved staff and reviewed procedures, records and equipment related to an incident involving damage to a device containing licensed material which the licensee reported on October 11, 2022.

3.2 Observations and Findings

A. Sequence of Events and Licensee Response

On October 5, 2022, one of the licensee's technicians, an authorized gauge user, took a Troxler 3430 gauge (serial no. 32676 containing 40 millicuries of americium-241 and 8 millicuries of cesium-137 at time of manufacture in 1999 and 2001, respectively) from storage in the Grand Rapids office and transported it to a construction site on Buth Drive NE, west of West River Drive in Comstock Park, Michigan. At approximately 3:30 pm ET, the technician was actively performing a density test (i.e., the source rod was extended into the compacted soil) when a skid-steer operated by a contractor backed towards him. The technician attempted to alert the equipment's operator but was unsuccessful. The technician moved out of the way to avoid being hit by the skid-steer but did not have time to secure the source rod or remove the gauge from the measurement location. The skid-steer struck the gauge, cracking its plastic top cover and bending the source rod such that it could not be retracted into a shielded position.

Upon examining the damage to the gauge, the technician placed the gauge back into the ground and cordoned off the area. The technician immediately notified the RSO, who notified personnel at a gauge manufacturer service center in Grand Rapids, who provided the licensee with a lead-lined barrel to safely transport the damaged gauge to the service center. A leak test was then performed on the gauge, the results of which confirmed visual indications that neither source sustained any damage nor was leaking. The licensee formally transferred the damaged gauge to the manufacturer for disposal on October 10, 2022.

B. Notifications and Reporting

The gauge was damaged on October 5, 2022, at approximately 3:30 pm ET. The licensee's RSO was immediately informed of the incident but did not notify the NRC's Headquarters Operations Center by telephone until October 11, 2022, at 9:50 am ET

to report the damage to the device as a safety equipment failure per 10 CFR 30.50(b)(2). This notification resulted in Event Number 56157 and was recorded in the Nuclear Materials Events Database under item number 220442.

Title 10 CFR 30.50(b)(2) requires that each licensee notify the NRC within 24 hours after the discovery of an event in which equipment is disabled or fails to function as designed when: (i) 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; (ii) the equipment is required to be available and operable when it is disabled or fails to function; and (iii) no redundant equipment is available and operable to perform the required safety function.

Contrary to the above, on October 6, 2022, the licensee failed to notify the NRC within 24 hours after the discovery of an event in which equipment was disabled or failed to function as designed. Specifically, the source rod on one of the licensee's portable gauges was damaged at a temporary job site on October 5, 2022, and failed to function as designed to retract the Cs-137 source into a shielded position and the criteria in 10 CFR 30.50(b)(2)(i) through (iii) were met[1]. However, the licensee did not notify the NRC until October 11, 2022, six days after the discovery of this failure.

This is an apparent violation of 10 CFR 30.50(b)(2) (NRC Enforcement Policy Section 6.9).

The licensee submitted its 30-day written report to the NRC in a letter dated October 27, 2022, which was received on November 1, 2022. The report included all information required by 10 CFR 30.50(c)(2).

C. NRC Assessment

The inspectors agreed with the licensee's determination that the damaged gauge met the criteria in 10 CFR 30.50(b)(2) to be considered a reportable safety equipment failure. The inspectors found that the licensee promptly and effectively implemented their emergency procedures and adequately resolved the situation with no additional measurable radiation exposure to staff involved in the recovery.

The inspectors further determined that no violations of security and control requirements occurred because the gauge user maintained adequate control and surveillance of the gauge while using it, made a reasonable effort to maintain control in the face of oncoming construction equipment, and was only forced to move away from the gauge to protect their personal safety.

3.3 Conclusions

The inspectors identified an apparent violation of 10 CFR 30.50(b)(2).

[1] The source rod's functionality was required for compliance with public dose limits in 10 CFR 20.1301 and with Conditions 17 and 19.A (the latter as it related to the licensee's commitment to implement gauge operating procedures); the equipment was required to be operable when it was damaged (i.e., when it was in use), and no redundant equipment was available to retract the source into its shielded position.

4 Other Areas Inspected

4.1 Inspection Scope

On April 13, 2023, and September 18-21, 2023, the inspectors toured the licensee's facilities in Grand Rapids, Kalamazoo, Cadillac, and Muskegon, visited temporary job sites in Kalamazoo and Muskegon, interviewed staff and reviewed records to evaluate the licensee's implementation of its radiation protection program, and to review the effectiveness of corrective actions taken in response to a previous violation.

4.2 Observations and Findings

The Kalamazoo field office was properly posted, and independent radiation surveys in unrestricted areas were indistinguishable from background. Utilization logs for the gauges stationed there were completed as required. Both gauges were operable and in good condition, and their transport cases in good condition and adequately labeled.

The authorized user at the job site in Kalamazoo maintained adequate control of and security for their gauge while in the field, and was knowledgeable of gauge operation, radiation protection principles, and the licensee's gauge operating and emergency procedures.

The inspectors reviewed the effectiveness licensee's corrective actions for the SLIV violation of 10 CFR 30.34(c) cited in 2018. The inspectors confirmed that the possession of licensed material remained confined to the locations currently listed on the license. The inspectors also found that the licensee remained knowledgeable of the requirement to seek NRC approval for new locations of use before storing licensed material there. The inspectors noted that the licensee requested approval in April 2021 for a new location of use in Kalamazoo; that request was approved in June 2021.

The inspectors determined that the licensee's corrective actions had been effective, and that the violation had not occurred again since. The violation is therefore closed.

No other findings were identified during visits to the field offices in Grand Rapids, Cadillac, and Muskegon, nor during the visit to the job site in Muskegon.

4.3 Conclusions

The inspectors had no other findings and closed the previous violation from 2018.

5 Exit Meeting Summary

On February 21, 2024, an inspector held an inspection exit meeting with the licensee's RSO by telephone to discuss the inspection findings. The RSO acknowledged the findings presented and committed to develop and implement lasting and effective corrective actions to address the potential for recurrence of both apparent violations.

LIST OF PERSONNEL CONTACTED

Michael Anderson – Authorized Gauge User
Ethan Bancroft – Construction Service Manager, Cadillac
Chris Cruickshank, PE – Corporate Secretary
Dennis Todd – Authorized Gauge User

Brent Van Dyke – Construction Service Manager, Grand Rapids (RSO)

Attended exit meeting on February 21, 2024

INSPECTION PROCEDURES USED

87103: Inspection of Nuclear Material Licensees Involved in an Incident or Bankruptcy Filing
87139: Portable Nuclear Gauge Programs