

May 24, 2002

EA-02-098

Mr. Bruce Corning
Vice President of Management Systems
803 S. Black River Street
Sparta, Wisconsin 54656

SUBJECT: NRC SPECIAL INSPECTION REPORT 99990003/2002-001(DNMS) -
NORTHERN ENGRAVING

Dear Mr. Corning:

This refers to the special safety inspection conducted on April 19, 2002 at your Sparta and Galesville, Wisconsin facilities. In addition, this refers to inspection activities at a location in Melrose, Wisconsin used by a scrap metal transporter under contract to your company, and at the Alter Scrap Processing facility in LaCrosse, Wisconsin. The special inspection was an examination of activities conducted under your general license as they related to safety and compliance with the Commission's rules and regulations. Within these areas, the inspection consisted of examination of selected records, radiological surveys, and interviews with personnel. The purpose of the inspection was to follow up on the reported loss of control of two static eliminator devices containing Americium-241. One device was damaged, but all parts were recovered from Alter Scrap Processing and the transporter; the second device (and several others) remained unaccounted for at the conclusion of the inspection. The enclosed report presents the results of this inspection.

Based on the results of this inspection, the NRC identified two apparent violations which are being considered for escalated enforcement action in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions" (Enforcement Policy), NUREG-1600. NRC's website includes the current Enforcement Policy at www.nrc.gov/OE. The apparent violations involved: (1) failure to properly transfer two generally-licensed static eliminators, each containing a nominal 11.25 millicuries of Americium-241; and (2) failure to provide complete and accurate information in three separate documents submitted to the NRC dated March 13, 2002. Since the NRC has not made a final determination in this matter, no Notice of Violation is 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.

The apparent violations are of concern because the failure to properly transfer one static eliminator resulted in the device being found in the public domain. The NRC initially became aware of the issue when a State of Wisconsin representative contacted the NRC on April 12, 2002, to report that a static eliminator was found at Alter Scrap Processing in LaCrosse, Wisconsin. Further, the device was damaged, which resulted in a potential for radiological contamination. The NRC is aware that Northern Engraving is continuing to identify the location of other generally licensed devices within the confines of its facilities. Apparently, six other similar devices remain unaccounted for.

As discussed with you, the revised NRC Enforcement Policy, (Section VII.A.1.g.) states that cases involving the loss, abandonment, or improper transfer or disposal of a sealed source or device should normally result in a civil penalty of at least the base amount. In your case, it appears that Item f.2 of Table 1A, "Base Civil Penalties," would apply. Since the apparent violations have been categorized at Severity Level III, the base civil penalty would be reduced by 50 percent (see Table 1B). This would result in a \$7500 civil penalty. The base civil penalty amounts included in the Enforcement Policy are based on approximately three times the average cost of disposal, and the NRC may increase or decrease the civil penalty amount based on the actual cost of disposal.

An open predecisional enforcement conference to discuss these apparent violations has been scheduled for June 6, 2002 at 1:00 p.m. (CDT). 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, information related to any corrective actions taken or planned, and information related to the cost of disposal. 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 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 the enclosed excerpt from NRC Information Notice 96-28, "SUGGESTED GUIDANCE RELATING TO DEVELOPMENT AND IMPLEMENTATION OF CORRECTIVE ACTION," may be helpful.

Northern Engraving will be advised by separate correspondence of the results of our deliberations on this matter. We require no response regarding these apparent violations at this time.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosures will be available electronically for public inspection in the NRC Public Document Room or from the *Publicly Available Records (PARS) component of NRC's document system (ADAMS)*. ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA by M. Dapas acting for/

Cynthia D. Pederson, Director
Division of Nuclear Materials Safety

Docket No. 99990003
License No. General Licensee

- Enclosures:
1. Inspection Report 99990003/2002-001(DNMS)
 2. Excerpt from NRC Information Notice 96-28

cc w/encl: Cheryl Rogers, State of Wisconsin

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No. 999-90003
License No. General Licensee

Report No. 99990003/2002-001(DNMS)

General Licensee: Northern Engraving
803 S. Black River Street
Sparta, Wisconsin 54656

Location: 803 S. Black River Street
Sparta, Wisconsin 54656

Inspection Date: April 19, 2002

Exit Meeting: May 10, 2002

Inspector: Michael M. LaFranzo, Health Physicist

Approved by: Christopher G. Miller, Chief
Decommissioning Branch
Division of Nuclear Materials Safety

EXECUTIVE SUMMARY

Northern Engraving NRC Inspection Report 99990003/2002-001(DNMS)

On March 13, 2002, the licensee submitted three documents to the NRC regarding generally licensed devices at licensee facilities. In each document, the licensee stated that no devices were in its possession.

On April 12, 2002, the State of Wisconsin contacted the NRC to report that a static eliminator containing a nominal 11.25 millicuries of americium-241 was found at Alter Scrap Processing in LaCrosse, Wisconsin. The static eliminator was the property of the licensee. On April 12, 2002, the licensee transported the static eliminator to its facility in Sparta, Wisconsin. On April 17, the NRC determined that the static eliminator found on April 12 was damaged and that a second static eliminator also containing a nominal 11.25 millicuries of americium-241 was missing.

On April 19, 2002, the NRC conducted site inspections at two licensee facilities in Sparta and Galesville, Wisconsin, at Alter Scrap Processing and at a transportation contractor facility in Melrose, Wisconsin. The purpose of the inspection was to determine the extent of radiological contamination from the damaged americium-241 static eliminator and the whereabouts of the missing americium-241 static eliminator.

Subsequent to the site inspections, the licensee informed the NRC that eight static eliminators had been found but ten other static eliminators were not accounted for.

Two apparent violations of NRC regulatory requirements were identified. One apparent violation concerns the licensee's failure to transfer a generally licensed device to an authorized entity. The root cause was the licensee's failure to track appropriately and dispose of generally licensed devices purchased by the licensee. The second apparent violation concerns the licensee's incomplete and inaccurate response to the NRC's request to identify generally licensed devices in its possession. The root cause was that the licensee did not perform an adequate review of documents, interviews with personnel or physical searches of licensee facilities to ensure the licensee did not possess generally licensed devices.

The licensee's corrective actions are to identify the location of and then dispose of any generally licensed devices in its possession and to resubmit information to the NRC regarding the locations of generally licensed devices.

Report Details

1.0 Program Scope and Inspection History

Northern Engraving (the general licensee) purchased licensed material under a general license pursuant to 10 CFR, Part 31.5. The licensee has eight facilities of which six are within NRC jurisdiction. Generally licensed material was registered with the NRC at one facility in Galesville, Wisconsin, one facility in Sparta, Wisconsin and one facility in St. Paul, Minnesota. Two facilities that had generally licensed devices were in Iowa (an Agreement State).

The licensee used static eliminators in a painting process. Licensed material contained in the static eliminators was either polonium-210, with a typical nominal activity of 10 millicuries, or americium-241, with a typical nominal activity of 11.25 millicuries.

The NRC has not issued any escalated enforcement actions against the licensee in the last two years. No site inspections were previously conducted at any of the facilities referenced above.

2.0 Chronology of Events

a. Inspection Scope

The inspector developed a chronology of events relevant to the americium-241 static eliminator that was damaged and found at Alter Scrap Processing by means of interviews and a review of records.

b. Observations and Findings

On or about November 15, 1983, the licensee purchased an americium-241 static eliminator, serial number 2374, from a vendor. The vendor installed the static eliminator at the Galesville, Wisconsin facility shortly after the licensee purchased the device.

On March 13, 2002, the licensee responded to three documents from the NRC requesting information from the licensee regarding the location of 28 generally licensed devices (including the device with serial number 2374). In its response to each of the three documents, the licensee indicated that it did not possess any static eliminators.

The licensee hires an individual to remove unused and scrap metals from the Sparta facility and to transfer the metals to a scrap metal dealer. On April 11, 2002, the individual, hired by the licensee to remove metal, arrived on-site with a pick-up truck to remove a box containing approximately 300 pounds of aluminum. While on site, this individual was searching through a scrap aluminum container and found a three foot long piece of aluminum with stainless steel grids on one side. This piece of aluminum contained an americium-241 source.

On the same day, the individual took a piece of the aluminum to his residence/business in Melrose, Wisconsin. Title 10 of the Code of Federal Regulations (10 CFR), Part 31.5(c)(8) requires any person who possesses or uses byproduct material in a device pursuant to a general license, shall only transfer or dispose of the device by giving possession to persons holding a specific license. Transfer of the static eliminator, serial

number 2374, to an unlicensed scrap transporter as described above, is considered an apparent violation of 10 CFR, Part 31.5. The individual removed the stainless steel grids to separate the aluminum from the stainless steel components for recycling purposes. While removing the stainless steel grids, the individual scratched the surface of the americium-241 source in two locations with the stainless steel grids. The stainless steel grids were placed in a plastic container. The aluminum bar containing the americium-241 was placed with other aluminum as scrap.

On April 12, 2002, the individual drove his pick-up truck from Melrose, Wisconsin to Alter Scrap Processing, a scrap metal dealer, in LaCrosse, Wisconsin. While entering the unloading area, facility radiation detectors alarmed indicating the presence of radiation. An Alter Scrap Processing representative contacted State of Wisconsin staff to alert them that radiation had been detected in a shipment of aluminum. The State of Wisconsin representatives responded the same day and determined that the radiation originated from an americium-241 source contained in the static eliminator. The State representatives contacted the NRC to inform the NRC staff of the static eliminator found in the scrap metal. A field leak test performed by the State of Wisconsin representatives at Alter Scrap Processing confirmed the presence of loose americium-241 contamination; however, this information was not provided to the NRC that day. The State also notified the licensee that a static eliminator had been found in aluminum scrap transported from its Sparta, Wisconsin facility. After confirming the static eliminator was the property of the licensee, a licensee representative arrived at the Alter Scrap Processing facility and took possession of the damaged static eliminator and transported the device back to the Sparta, Wisconsin facility. Before transportation, the State of Wisconsin representatives sealed the damaged source in plastic and placed appropriately labels on the exterior of the plastic.

On April 17, 2002, the NRC learned that the americium-241 static eliminator was damaged and that a field leak test performed by the State of Wisconsin representatives on April 12, 2002 indicated that loose americium-241 contamination was present. In addition, the NRC identified from documentation provided by the vendor, that the licensee possessed four americium-241 static eliminators and could account for only three. The inspector confirmed during a follow-up call with the licensee that a static eliminator containing a nominal 11.25 millicuries of americium-241 could not be found at any of the licensee's facilities.

On April 19, an NRC inspector went to the licensee's facility in Sparta, Wisconsin to determine the extent of radiological contamination, and to attempt to locate the unaccounted for americium-241 static eliminator and determine whether any other devices had been or were possessed by the general licensee.

During the on-site inspection, the inspector determined that the damaged americium-241 source originated at the Galesville, Wisconsin facility. The licensee transferred the static eliminator to the Sparta, Wisconsin facility prior to April 10, 2002. The licensee is continuing to review the circumstances surrounding the transfer of the static eliminator.

On May 7, 2002, the NRC contacted the licensee and learned that six americium-241 and four polonium-201 static eliminators could not be located. An e-mail from the licensee listing the types and status of each device is attached to this report.

c. Conclusions

On April 11, 2002, an apparent violation of NRC requirements occurred when the licensee transferred a generally licensed static eliminator containing approximately 11.25 millicuries of americium-241 to an individual not authorized by the NRC or an Agreement State to receive such material. Following the unauthorized transfer, the static eliminator was damaged, which resulted in the potential for release of radioactive material to the environment.

4.0 On-Site Inspection

a. Inspection Scope

The inspector performed an on-site inspection at four facilities on April 19, 2002. These included the Northern Engraving facilities in Galesville and Sparta, Wisconsin; a facility at J & K Excavating in Melrose, Wisconsin and the scrap processing facility in LaCrosse, Wisconsin.

The inspector made radiological assessments, conducted interviews with personnel on-site and reviewed selected records to identify any radiological safety issues resulting from a damaged static eliminator containing a nominal 11.25 millicuries of americium-241. In addition, the inspector evaluated whether the licensee possessed other static eliminators.

b. Observations and Findings

The licensee informed the inspector that records showed that the vendor installed the americium-241 static eliminator, serial number 2374, at the Galesville, Wisconsin facility in the November 1983 timeframe. The licensee's facility in Galesville, Wisconsin, had previously contained a number of polonium-210 static eliminators on printing machines. However, an unknown person or persons removed the static eliminators from the printing machines before 1994. The inspector performed a selected physical search and radiological survey of the Galesville, Wisconsin facility and did not identify any unaccounted for static eliminators nor radiological contamination. By some means not determined, static eliminator serial number 2374 was moved from the Galesville facility to the Sparta facility, where it ended up on a scrap aluminum bin. An individual removed the americium-241 static eliminator from the aluminum scrap metal bin on April 11, 2002. The licensee contracted this person to remove scrap metal from the Sparta facility.

The inspector performed radiological surveys of the scrap aluminum bin and did not identify any radiological contamination. Based on interviews with the staff on site, the inspector did not identify where the static eliminator originally came from nor the person who placed it in the scrap metal bin. As of the exit meeting on May 10, the licensee had not identified the sequence of events regarding how the static eliminator ended up in a scrap aluminum bin in Sparta, Wisconsin.

The inspector visited the scrap transporter's residence/business complex in Melrose, Wisconsin, and discussed with the individual who handled the damaged static eliminator the activities that occurred on April 11 and 12. The inspector learned that the individual separates metals at the Melrose complex into separate bins. In the static eliminator,

most of the device is aluminum with two stainless steel grids covering an open side. The individual told the inspector that before removing the grids, the aluminum and the stainless steel grids appeared undamaged. While handling the device, the individual did not notice the label containing identifying information on the back side of the static eliminator. To remove the stainless steel grids, the individual unscrewed the end piece and pulled off the grids. While removing the grids, the individual apparently damaged the source in two locations. The stainless steel grids were placed in a separate bin from the aluminum that contained 4-5 other pieces of stainless steel. The individual transferred the aluminum via pickup truck to Alter Scrap Processing on April 12 where the radiation detectors alerted Alter Scrap Processing staff to the presence of radiation.

The inspector performed radiological surveys of the stainless steel grids and identified contamination on each grid that did not exceed 2000 disintegrations per minute. The inspector was authorized by an NRC supervisor to place the stainless steel grids and any associated contamination in a plastic bag. No residual contamination was left at the scrap transporter's facility. The licensee took possession of the material and transported the material back to the Sparta facility. The inspector also surveyed gloves, buckets and anything else the individual recalled handling on April 11 and 12 to determine if any further contamination was present at the facility. The inspector did not find any additional contamination.

The inspector interviewed staff at Alter Scrap Processing and learned that the detector had never alarmed before April 12. This suggested that no similar static eliminators had been processed at the facility. The staff at Alter Scrap stated that aluminum is sorted by hand, large pieces (estimated at five feet in any dimension) are folded or crushed, and the materials are loaded into bins for export. Folding or crushing a static eliminator could cause damage to the source, leading to a spread of contamination. The inspector performed a limited physical search and radiological survey and did not identify any radioactive material at the site.

c. Conclusions

Minor radiological contamination was present at the scrap transporter's complex; the inspector removed the contamination before leaving the site. The inspector did not determine the location of the unaccounted for americium-241 static eliminator during the onsite inspection. The experience of no previous radiation alarms, and the absence of any detectable contamination indicated that the licensee probably did not transfer the static eliminator to the scrap dealer in LaCrosse, Wisconsin.

4.0 Additional Inspection

a. Inspection Scope

After the on-site inspection, NRC staff further communicated with the licensee to obtain information concerning the licensee's progress in locating the missing generally licensed devices. In addition, the NRC headquarters staff performed a record review of devices that the licensee may have possessed.

b. Observations and Findings

On May 7, 2002, the NRC requested, and the licensee provided, updated information on the status of the licensee's search (Attachment) for any and all generally licensed devices that it either currently or had possessed pursuant to 10 CFR Part 31.5. Using documentation provided by the NRC in January 2002 and records found at the various licensee's facilities, the licensee provided the following summary information:

Americium-241 Static Eliminators

<u>Status</u>	<u>Quantity</u>
On Hand	2
Disposal Information	
Available - No Vendor Receipt	3
Disposal Information	
Available - Vendor Receipt	6
Unaccounted for Devices	6

Polonium-210 Static Eliminators

<u>Status</u>	<u>Quantity</u>
On Hand	6
Disposal Information	
Available - No Vendor Receipt	15
No Receipt or Disposal	
Information Available	3
Unaccounted for Devices	4

Of the two americium-241 static eliminators on hand, one is the damaged device that was transported back to the Sparta, Wisconsin facility on April 12. The other device was found at a facility in Lansing, Iowa, and was transported to the Sparta facility on or about May 1.

Of the six polonium-210 static eliminators on hand, one was found at the Galesville, Wisconsin facility and transported to the Sparta facility on April 18. A second device was found at the Sparta facility on or about May 2. The other four devices were found and remain at the Waukon, Iowa facility.

According to the licensee representative, the licensee has securely stored all devices and it is making preparations to return each device to the manufacturer.

On May 7, NRC headquarters personnel informed Region III staff that the licensee had submitted three documents to the NRC dated March 13, 2002 that related to the possession of generally licensed devices. Documents had been mailed to the licensee in January 2002 requesting the licensee to determine the whereabouts of 28 generally licensed devices. A licensee representative signed and stated in each of the response documents that the licensee did not possess any generally licensed devices. Contrary to those statements, the licensee did possess at least eight static eliminators, two of which contain americium-241. Title 10 of the Code of Federal Regulations (10 CFR), Part 31.2, by reference to Part 30.9(a), requires that information provided to the NRC must be complete and accurate in all material respects. The provision of inaccurate

inaccurate information concerning possession of generally licensed material, as described above, is considered an apparent violation of 10 CFR, Part 31.

c. Conclusions

As of May 10, 2002, the licensee possessed eight generally licensed static eliminators at two locations, possessed documentation accounting for proper transfer of 27 devices, and continued to look for ten other devices. Of the static eliminators possessed, the licensee plans to return all to the vendor. However, an apparent violation of NRC requirements occurred when the licensee submitted documentation to the NRC dated March 13, 2002, that stated that no generally license devices were possessed at any of the licensee's facilities.

5.0 Exit Meeting Summary

The inspector held an on-site exit meeting with a licensee representative on April 19, 2002. On May 10, an NRC manager contacted the licensee senior management and informed the licensee of the identification of two apparent violations of NRC requirements, and the continuing need for the licensee to take actions to identify the locations of the missing static eliminators. The licensee agreed to continue to review documents, perform physical searches and interview individuals to determine the whereabouts of the missing static eliminators.

PARTIAL LIST OF PERSONS CONTACTED

Bruce Corning, VP of Management Systems, Northern Engraving
Randy Nedrelo, Solid and Hazardous Waste Manager, Northern Engraving
Andy Polhamus, Operations Manager, Alter Scrap Processing
Kevin Kamrowski, Owner, J & K Excavating
Michael Welling, State of Wisconsin Representative
John Lorenz, State of Wisconsin Representative

Attachment: As stated