



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PENNSYLVANIA 19406-1415

July 18, 2006

General Licensee

EA No. 06-165

Terry M. Laydon
Manager
National Aeronautical Charting Group
US Department of Transportation
Federal Aviation Administration
800 Independence Avenue, SW
Washington, DC 20591

SUBJECT: EXERCISE OF ENFORCEMENT DISCRETION
INSPECTION 99990001/2006028, NATIONAL AERONAUTICAL CHARTING
GROUP, FEDERAL AVIATION ADMINISTRATION, WASHINGTON, D.C.

Dear Mr. Laydon:

On February 16 and March 30, 2006, Ronald Rolph and Craig Gordon of this office conducted a reactive safety inspection to review an event reported to the NRC regarding the recovery of two generally licensed devices containing americium-241 at a landfill in Pennsylvania in February 2006. These two devices were among nine received when Department of Commerce (DOC) transferred a printing operation to the Federal Aviation Administration (FAA) in Washington, DC in 2000. The inspection was an examination of your licensed activities as they relate to radiation safety and to compliance with the Commission's regulations and the license conditions. Additional information provided in your correspondence dated May 12, 2006 (ML061700049) was also examined as part of the inspection. The findings of the inspection were discussed with you and FAA staff at the conclusion of the inspection by telephone on June 12, 2006. The enclosed report presents the results of this inspection.

Based on the results of this inspection, three violations were identified and were considered for enforcement action in accordance with the NRC Enforcement Policy. 1) Contrary to 10 CFR 31.5(13)(I), FAA failed to register with the NRC nine static elimination devices containing at least one millicurie of americium-241; 2) Contrary to 10 CFR 31.5 (c)(15), the FAA held two static elimination devices containing americium-241 which were not being used in storage for longer than two years; and, 3) Contrary to 10 CFR 31.5(8)(I), FAA failed to properly transfer or dispose of static elimination devices containing americium-241 by export, by transfer to another authorized general licensee, or to a person authorized to receive the devices by a specific license, or that authorizes waste collection; they were, instead, disposed in the normal trash.

After the two devices were recovered at the landfill in Pennsylvania, FAA actively engaged their staff and contractors and DOC staff to determine what devices they had possessed and to attempt to locate each of those devices. On February 22, 2006, the FAA notified NRC that six static elimination devices which had been stored in the basement of the Herbert C. Hoover Building were missing. Subsequently, one of those devices was located. Four devices,

including the two recovered in Pennsylvania, were returned to the manufacturer. The remaining five devices were likely removed from the site with regular waste at a previous time.

These violations are of concern to the NRC because the failure to control devices containing radioactive material could cause unintended radiation doses to members of the public. After consultation with the Director, Office of Enforcement, I have been authorized to exercise enforcement discretion and not issue a violation in this case in accordance with the exercise of enforcement discretion process in Section VII.B.6 of the Enforcement Policy. In making this decision, the NRC took into consideration that as a general licensee: (1) your actions were not willful; (2) you identified the violation and reported the violation to the NRC as required; and (3) you took appropriate corrective action to address the specific violations and prevent recurrence of similar problems and you disposed of the remaining unused devices in accordance with the requirements of the general license.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure 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 Web site at <http://www.nrc.gov/reading-rm/adams.html>.

Current NRC regulations are included on the NRC's website at www.nrc.gov; select **Nuclear Materials; Medical, industrial, and academic uses of nuclear material**; then **toolkit index page**. The NRC Enforcement Policy is included on the NRC's website at www.nrc.gov; select **What We Do, Enforcement**, then Enforcement Policy, or you may obtain these documents by contacting the Government Printing Office (GPO) toll-free at 1-888-293-6498. The GPO is open from 7:00 a.m. to 9:00 p.m. EST, Monday through Friday (except Federal holidays).

Your cooperation with us is appreciated.

Sincerely,

Original signed by George Pangburn

George Pangburn, Director
Division of Nuclear Materials Safety

Enclosure: Inspection Report No. 99990001/2006028

cc:
District of Columbia
State of Maryland
Commonwealth of Pennsylvania

T. Laydon

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OFFICE	DNMS/RI	N	DNMS/RI		ORA		DNMS/RI	
NAME	CGordon jdk for		JDKinneman jdk		JWray djh		GPangburn gcp	
DATE	6/12/06		070/6/06		07/7/06		07/13/06	

NOTE: J Kinneman discussed with S Merchant, OE who concurred (DJH 7/7/06)
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U.S. NUCLEAR REGULATORY COMMISSION
REGION I

INSPECTION REPORT

Inspection No. 99990001/2006028

License No. General Licensee

Licensees: US Department of Transportation
Federal Aviation Administration
Office of Air Traffic Organization
800 Independence Avenue, SW
Washington, DC 20591

US Department of Commerce
National Oceanic and Atmospheric Administration
1401 Constitution Avenue, NW
Washington, DC 20230

Locations Inspected: Mosteller Landfill, Somerset, Pennsylvania
Herbert C. Hoover Building, Washington, DC

Inspection Dates: February 16, 2006 and March 30, 2006

Date Followup
Information Received: May 15, 2006

/RA/

7/6/06

Inspectors:

Craig Z. Gordon
Senior Health Physicist

date

/RA by J. Kinneman Acting For/

7/6/06

Ronald Rolph
Health Physicist

date

/RA/

7/6/06

Approved By:

John D. Kinneman, Chief
Materials Security and Industrial Branch
Division of Nuclear Materials Safety

date

EXECUTIVE SUMMARY

US Department of Transportation
Federal Aviation Administration
NRC Inspection Report No. 99990001/2006028

On February 23, 2006, the Federal Aviation Administration (FAA), Washington, D.C., notified the NRC (NRC Event No. 42369) that six static elimination devices containing americium-241 which had been used in the print shop of the Herbert C. Hoover building basement could not be located. Each device contained up to 25.875 millicuries of Am-241. The FAA is authorized to possess and use the devices under the general license in 10 CFR 31.5. FAA's National Aeronautical Charting Group assumed responsibility for the devices after they were transferred from the Department of Commerce (DOC), National Oceanic and Atmospheric Administration in 2000. The devices were reported missing after two static elimination devices containing Am-241 were discovered in regular trash shipped from FAA to the Mosteller Landfill in Pennsylvania. Those devices triggered radiation detection alarms at the landfill entrance.

An internal investigation by DOC and FAA found that a total of nine static elimination bars had once been used in the print shop. FAA search activities located two devices containing americium-241 in storage. Surveys performed by FAA's contractor found no contamination in areas where the devices had been used or stored. When the FAA completed their search of the building and archived records, they could not account for five static elimination devices. FAA submitted an updated report to the NRC on May 12, 2006 (ML061700049), which identifies the serial numbers and type of static eliminators lost along with a summary of followup and corrective actions taken.

Four apparent violations of NRC requirements were identified:

Failure of the Department of Commerce in 2000 to provide the Federal Aviation Administration with the appropriate documentation for safe use of the static eliminators and to report to the NRC the transfer of nine generally licensed static elimination devices containing Am-241 is an apparent violation of 10 CFR 31.5 (c)(9)(i).

Failure of the Federal Aviation Administration to register nine static elimination devices containing at least one millicurie of Am-241 is an apparent violation of 10 CFR 31.5(13)(i).

The Federal Aviation Administration held at least four static elimination devices that were not in use for longer than two years, is an apparent violation of 10 CFR 31.5 (c)(15).

Failure of the Federal Aviation Administration to properly transfer or dispose of the seven (five which cannot be located and two which were shipped to the landfill) static elimination devices each containing up to 20.25 millicuries of americium-241 by export, by transfer to another authorized general licensee, or to a person authorized to receive the devices by a specific license, or that authorizes waste collection, is an apparent violation of 10 CFR 31.5 (8)(i).

REPORT DETAILS

I. Organization and Scope of the Program

a. Inspection Scope

The inspector reviewed the organization and scope of the radiation safety program.

b. Observations and Findings

From 1981 to 2000, under 10 CFR 31.5, the US Department of Commerce's (DOC) National Oceanic and Atmospheric Administration (NOAA), National Aeronautical Charting Group (NACG) was generally licensed to possess and use byproduct material in static elimination devices at their printing facility, located in the basement of the Herbert C. Hoover Building, Washington, DC. The devices, each containing between 6.75 and 25.875 mCi of Am-241, were used as part of the production process for printing aeronautical charts. Nine static eliminators manufactured by NRD, LLC, Grand Island, NY, were distributed as generally licensed devices to NOAA in June 1981 (ML061590252).

NACG and the printing facility were transferred from the DOC to the Federal Aviation Administration (FAA), part of the Department of Transportation in 2000. From discussions with DOC and FAA staff, at the time of transfer DOC did not provide the FAA with the appropriate documentation for safe use of the static eliminators, nor was the transfer reported to the NRC.

c. Conclusions

At the time of transfer of nine generally licensed static elimination devices, the Department of Commerce did not provide the Federal Aviation Administration with the appropriate documentation for safe use of the devices, nor was the transfer reported to the NRC, an apparent violation of 10 CFR 31.5 (c)(9)(i).

II. Material Receipt, Use, Transfer, and Control

a. Inspection Scope

The inspector reviewed the material receipt, use, transfer, and control of the radiation safety program.

b. Observations and Findings

In the 1990s, during NOAA's control and operation of the facility, upgrades in production capabilities occurred and the static eliminators were replaced with equipment which did not contain radioactive material. The devices were removed from the production area and considered surplus equipment by NOAA. At least four of the devices were placed in storage at the facility; the remaining five were either placed in storage or removed by NOAA property management staff.

After printing operations were relocated to a new facility, NACG developed plans to vacate the Hoover building basement. During February 2006 cleanup activities by NACG staff, two static elimination devices were removed from storage and placed with regular trash in the building's trash compactor. The contents from the compactor including both devices were transferred by a private waste disposal contractor to the Mosteller Landfill near Somerset, Pennsylvania, arriving on February 10, 2006.

When the truckload of trash entered the facility a portal monitor alarmed. Landfill personnel isolated the truck and its contents, then notified the Commonwealth of Pennsylvania. On February 14, 2006, NRC Region I was notified by the Commonwealth of Pennsylvania that Applied Health Physics (AHP), a NRC licensee who is authorized to possess radioactive material, responded to the landfill and found two damaged static eliminators containing americium-241.

The Commonwealth of Pennsylvania informed the NRC that AHP had retrieved the static eliminators from the landfill and secured them at its facility near Pittsburgh, PA. AHP informed the NRC that they performed surveys at the landfill and found no loose contamination in the trash where the static eliminators were found. AHP performed a leak test of the static eliminators and found 0.0037 microcuries of removable contamination located on the damaged ends of each device (within the acceptable NRC limit of 0.005 microcuries). Radiation surveys performed by AHP found up to 10 mRem/hr on the bars.

NRC discussions with AHP personnel indicated that each static eliminator was found inside its own box and was severely damaged at one end. Labels on the boxes indicated that the devices had been shipped by NRD to the Department of Commerce, NOAA, Washington, D.C. (Attachment 1). NRD confirmed that the devices found at the landfill, (Model A2003, serial numbers SA2200 and SA2202) contained approximately 20.25 millicuries of americium-241 each. It appeared that the damage occurred during processing of the trash and transport to the landfill.

On February 16, 2006, NRC conducted a reactive inspection at AHP's office and the landfill. The damaged devices, smear results, area around the entrance to the landfill, contents of the truckload, and radiation detection equipment were examined.

NRC contacted NOAA environmental safety staff to determine which organization within the Department of Commerce was responsible for followup actions, and found that DOC and FAA management were coordinating their followup activities. The Manager, NACG was designated as the point of contact for notifications and to report any corrective actions taken by the FAA.

NRD indicated their records showed the nine devices were shipped to a location in the State of Maryland (an Agreement State) in 1981. As a result, the NRD distribution report for the devices was sent to Maryland and not included in the NRC General License Tracking System. Therefore, NRC had not contacted NOAA to assure that the devices were registered.

From NRC communication with DOC and FAA staff, it appeared that neither organization was aware that the devices were being stored in the Hoover building, nor

that NRC registration of the devices was required. FAA performed a search throughout the Hoover Building basement area and found seven static eliminators on February 17, 2006. Examination of the devices showed only one of them to be part of the 1981 NRD shipment, while six additional devices were identified as Po-210 static eliminators manufactured by 3M. The 3M devices obtained by the DOC in 1978 and 1979 had decayed to background levels. Followup searches of the facility did not locate the missing NRD devices. On February 23, 2006, the Manager, NACG contacted the NRC Headquarters Operations Center to report six missing NRD static eliminators containing Am-241 (Event No. 42369).

FAA contracted with the US Public Health Service (PHS) to perform a radiological survey of the storage areas and continued to search for the missing devices. Survey results indicated that no contamination was identified and the area met NRC unrestricted release guidelines. During the additional FAA searches, one NRD static eliminator was found in storage. FAA cannot account for five devices.

FAA indicated the devices were not used since the 1990s yet maintained them in storage through 2006, a violation of the requirement that a general licensee may not hold devices that are not in use for longer than two years.

On March 30, 2006, the NRC met with representatives of FAA, DOC, and NOAA, to discuss the results of the radiological survey and observed followup activities (packaging and shipment of devices) performed by contractor staff from the PHS. The basement area where radioactive materials were used or stored was inspected. Radiation readings measured in the print and maintenance shops, adjacent areas, and trash compactor were at background levels.

FAA coordinated the return of the two static eliminators found at the landfill and the two static eliminators found in the Hoover building to the manufacturer, NRD. After consultation with 3M staff, the decayed 3M devices were disposed by the FAA's contractor as conventional waste. FAA and NOAA historical records and other information related to transfer and disposal of each NRD device were either incomplete or not available. Searches of the building premises and property records continued for several weeks.

By letter dated May 12, 2006, to the NRC (ML061510318), the FAA provided final notification that followup actions were completed. Four devices were returned to NRD, and five static eliminators of the original shipment of nine devices could not be located. A description of the missing bars was provided, which included serial numbers, size, and activity for each bar.

c. Conclusions

The building searches performed by the FAA and document searches of NOAA and FAA records to locate the missing static elimination devices were thorough. No safety concerns were identified with the PHS survey. However, based on observations made during the inspection and interviews of the individuals involved in the building renovation

and removal of the static eliminators, it appears that the devices were not properly transferred or disposed. Although FAA staff took appropriate followup action to locate all the static eliminators shipped to their facility, three apparent violations related to FAA's failure to ensure proper transfer or disposal of the static eliminators was identified as follows:

1. Failure by the FAA to register devices containing at least 1 millicurie of americium-241 with the NRC is an apparent violation of 10 CFR 31.5(13)(i).
2. Holding devices that are not in use for longer than two years is a violation of 10 CFR 31.5 (c)(15).
3. Failure to properly transfer or dispose of seven static eliminator bars containing up to 20.25 millicuries each by export, by transfer to another authorized general licensee, or to a person authorized to receive the devices by a specific license, or that authorizes waste collection is a violation of 10 CFR 31.5 (8)(i).

III. Exit Meeting

The findings of the inspection and potential violations were preliminarily discussed with FAA and DOC management, contractors, and staff at the conclusion of the onsite inspection on March 30, 2006. FAA representatives stated that search efforts would continue; however, in their May 12, 2006 letter, FAA indicated that it was unlikely that the missing static eliminators would be recovered. A final exit discussion was held with the both organizations by telephone on June 12, 2006.

PARTIAL LIST OF PERSONS CONTACTED

K. Fisher, Inspector, PHS
M. Ford, Contractor, FAA
B. Hall, Printing Operator, FAA
T. Laydon, Manager, National Aeronautical Charting Group, FAA
B. Rams, Environmental Specialist, FAA
M. Terpilak, Contractor, PHS
D. Thomas, Printing Manager, FAA
P. Wixted, Environmental Manager, DOC

Attachment 1



Shipping Label found on box of damaged static elimination devices