

May 18, 2001

MEMORANDUM TO: Those on the Attached List

FROM: Martin J. Virgilio, Director ***IRA***
Office of Nuclear Material Safety
and Safeguards

SUBJECT: COORDINATION ISSUES RELATED TO UNAUTHORIZED
IMPORT OF MATERIAL WITH RADIOACTIVE
CONTAMINATION

The purposes of this memorandum are: (1) to provide current information on the U.S. Environmental Protection Agency (EPA) pilot initiative to monitor scrap metal imported into Louisiana, and (2) to emphasize the need for continued close coordination between Headquarters and the Regions on matters involving unauthorized import of material with radioactive contamination.

Over the past several years, there have been a variety of incidents involving the unauthorized import of contaminated material. Many domestic waste processors have voluntarily installed radiation detectors and alarms, and both State authorities and NRC staff must frequently respond to reports of radioactive material identified by these detectors.

Recently, EPA informed us that they plan to sponsor a pilot scrap metal monitoring program at a major port in Louisiana. We were previously notified of a similar, processor-funded, monitoring program in North Carolina. Preliminary information on these programs is attached. We plan to meet with EPA in May 2001 to discuss the Louisiana monitoring program.

The monitoring, identification, and disposition of unauthorized imported radioactive material can involve several regulatory agencies, including the EPA, States, U.S. Customs Service, U.S. Coast Guard, and NRC. Issues to be addressed include determining appropriate alarm levels, assessing the radiation hazard, coordinating any emergency response, determining regulatory jurisdiction, identifying options for disposition, and clearance and exemption determinations. In addition, during the meeting with EPA, NRC Headquarters staff will determine if there are any national and international policy implications. Through this and subsequent meetings, we will determine a common understanding of the thresholds for response action and expectations for NRC response during the pilot program.

Attachment: Programs to Monitor Imported Scrap Metal
(Preliminary Information)

CONTACT: Joe DeCicco, NMSS/IMNS
(301) 415-7833

To ensure a coordinated agency response regarding import issues, it is requested that Regional Offices continue to coordinate closely with Headquarters on any questions or requests for assistance regarding unauthorized import of material containing radioactive materials. Headquarters will arrange for any necessary interagency coordination, and keep the Regions and other cognizant agencies informed of developments related to these matters.

cc: J. Dunn-Lee, OIP
J. Holonich, IRO

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cc: J. Dunn-Lee, OIP
 J. Holonich, IRO

Distribution:

RGordon/RF EDO r/f
 Mike Weber, FCSS
 Joseph Gray, OGC
 Ashok Thadani, RES
 PHolahan

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OFFICE:	MSIB/IMNS	RGB;IMNS;DCB;DWM	MSIB/IMNS	OIP	D/DWM/NMSS
NAME:	FBrown*	FCardile/AHuffert*	JHickey*	JDunn Lee*	JHolonich*
DATE:	3/7/2001	2/7/2001	3/ 15 /2001	3/ 20/2001	3/15 /2001

OFFICE:	D/IMNS/NMSS	OGC	D/OSTP	DEDMRS	D/NMSS
NAME:	DCool*	STreby*	P Lohaus*	C Paperiello*	MVirgilio*
DATE:	3/16 /2001	4/ 5/2001	5/9/01	5/16/01	5/ 10/2001

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Addressees - Memorandum Dated May 18, 2001

SUBJECT: COORDINATION ISSUES RELATED TO UNAUTHORIZED
IMPORT OF MATERIAL WITH RADIOACTIVE
CONTAMINATION

Hubert J. Miller, Administrator
Region I

Luis A. Reyes, Administrator
Region II

James E. Dyer, Administrator
Region III

Ellis W. Merschoff, Administrator
Region IV

Programs to Monitor Imported Scrap Metal (Preliminary Information)

1. EPA Pilot Program in Louisiana

With funds provided by the U.S. Customs Service, the U.S. Environmental Protection Agency (EPA) is leading a three-month Pilot Project to monitor imported scrap metal at the Cooper/T.Smith Stevedoring Company site in Darrow, Louisiana, near New Orleans/Baton Rouge. Participants in the study include EPA headquarters, EPA Region 6, U.S. Customs Service, U.S. Coast Guard, State of Louisiana Department of Environmental Quality (LDEQ) , and two volunteer scrap metal companies. EPA informed NRC of this program in January 2001.

Currently, EPA is in the planning stage of this project. On March 20 and 21, 2001, a "start-up" meeting was held in New Orleans with the study participants; NRC was not invited to the meeting. On April 27, 2001, EPA posted a solicitation in the Commerce Business Daily for the procurement of four grapple mounted radiation detectors that are to be mounted on four cranes at the Cooper/T.Smith site. EPA plans to have Standard Operating Procedures for the project developed by mid-May for review, which may rely on an existing procedure for LDEQ to respond to surveys of metal that indicate the presence of radioactive material. The radiation detection equipment is scheduled to be delivered to the site by mid-June, and the monitoring of imported scrap metal is expected to begin in July 2001, and last for 3 months.

The results of this study are scheduled to be published by EPA in December 2001. The U.S. Customs Service will review the report to determine whether this type of monitoring system should be installed at additional sites. In discussions with NRC, EPA indicated that the focus of the program is to identify unauthorized imports of scrap metal containing radioactive contamination or lost radiation sources; EPA did not intend to establish new policies in connection with this program.

2. Monitoring Program in North Carolina

Independent of the EPA pilot project in Louisiana, North Carolina is coordinating with a private firm who has arranged for scrap metal monitoring activities at Moorehead City. The Port of Moorehead City has installed radiation detection equipment on unloading cranes, and has developed a protocol with the scrap metal broker, steel mill, and State agency for managing scrap metal with radioactivity.

The Moorehead City monitoring system is currently operating. An EPA representative recently visited the Moorehead City site to gather information on the operation of the grapple detection process, for possible application to the Louisiana program.

Below is a draft description of the monitoring procedures for the North Carolina program.

DRAFT PROTOCOL FOR RADIATION DETECTION AND MANAGEMENT AT MOOREHEAD CITY, NORTH CAROLINA

Scope:

Proper and efficient handling of radioactivity-related problems in scrap shipments are key to radiation safety. This protocol is intended to outline procedures necessary to establish safe handling at all levels.

Responsibility:

Corrective action responses to identify and secure radioactivity are under the responsibility of the Moorehead City Port Director or other designated area personnel. The David J. Joseph Company, Corporate Office (DJJ), provides assistance to port personnel and has the ultimate responsibility for the removal and disposal of all radioactivity secured.

General Requirements:

All scrap metals are purchased by DJJ as being “free of radioactive materials”. The term “free of radioactive materials” shall be construed as material that has no radioactivity greater than normal background levels.

It is also understood that radioactive materials are occasionally found in scrap shipments above these background levels. The presence of found radioactive materials in scrap metals does not imply acceptability, and each issue must be individually dealt with by competent, well trained personnel, in accordance with all federal, state, and local laws, rules, and regulations.

The Port Authority management will locate a “skip pan” adjacent to the unloading crane for the purpose of temporarily containing any radioactive material that is detected. A more secure location will be established inside one of the Port Authority buildings close to the unloading area.

System:

The Port of Moorehead City (“Port”) has purchased a radiation detection system (system) called the Crickett, manufactured by RadComm Systems. The system will be installed in both the grapple and the clamshell device used in unloading scrap metals per agreement between the Port, Nucor Steel Corporation, and The David J. Joseph Company (DJJ). The system is a plastic scintillator type detector. It is capable of detecting even trace amounts of Naturally Occurring Radioactive Material (NORM) inside a grab of dense scrap metal. The system is wireless in that all data is transmitted from the grab to the operators cab. Electronics inside the grab are powered via battery pack. The controller is powered by hard-wired circuitry inside the operator’s cab. The system will be maintained and operated by Port Authority personnel in accordance with manufacturers recommended procedures. These procedures are illustrated in the operators’ manual supplied by the detector manufacturer. The manufacturer will also provide operator training for port personnel at the time of installation.

Procedure:

The system will be controlled automatically from inside the operator's cab. When radioactive materials are detected in scrap material being unloaded from "vessels", an audible as well as visual alarm will occur in the cab. What follows are the steps to be taken in response to an alarm:

The suspect grab-load of scrap will be placed into the designated skip pan located on the dock.

The equipment (crane) operator will immediately notify the Port Director or his delegate that an alarm has occurred and the grab-load potentially containing radioactive material has been placed into the skip.

A trained person who has successfully completed the radiological training program (radioactive materials technician) will respond as quickly as possible to the skip location with necessary instrumentation for an assessment. Instrumentation will include a Ludlum model 1900 (micro-rem meter) calibrated within the past 6 months and a calibrated Exploranium GR-130 portable gamma spectrometer (multi-channel analyzer), tongs, 55-gallon drum, and plastic sheet with duct tape.

Following established radiation safety procedures in the Port's standard operating procedure manual, the technician will identify and secure the radioactive component and remove it from the dock area to a designated, secure, and properly labeled storage area for further disposition.

A survey will be done on the skip to assure no residual contamination exists. This survey will be carried out using the micro-rem meter set on the most sensitive setting above background. The storage area will also be surveyed using the same method to assure that proper radiation safety is maintained at all times. All pertinent information will be documented.

Upon securing the radioactive component, the Port Director or his delegate will contact The David J. Joseph Company to report the finding. The David J. Joseph Company will make the necessary arrangements for packaging and disposal.

The David J. Joseph Company representative will make all necessary Local, State, Federal, and International contacts and complete the necessary arrangements with a DJJ contractor for removal of the source from the Port area.

Training:

All personnel involved in the survey, handling, securing, transfer and storage of the radioactive material will receive State-approved training prior to any involvement with the detection and monitoring equipment and any contact with any source of radioactivity. The training will include radiation safety, along with any other necessary safety training. All training will be carried out under the direction of a State-approved instructor. Upon completion of the training, and demonstration of knowledge gained, each individual will be issued a Certificate of Successful Completion for the training sessions. Only certified personnel will be allowed to participate in

operating detection and monitoring equipment and the handling of any procedure involving radioactive materials.

Documentation form:

It is the responsibility of the Port Director to assure that all incidents are well documented as soon as possible after they occur, but no later than twelve (12) hours later. Information needed for the record will be:

Date and time of incident _____
Vessel name _____
Location (north dock, south dock, etc) _____
Crane operator name _____
Radiation technician name _____
Equipment used for survey _____
Date of last calibration of survey equipment _____
Description of item found _____

Background radiation level (at the Port) (uR or mR/Hr) _____
Maximum radiation level found (uR or mR/Hr) _____

Disposition (where is it now) _____

Digital pictures if available Yes _____ No _____

Reported to (DJJ) _____ Date _____
Reported to whom (State DENR) _____ Date _____

Contacts:

North Carolina Division of Radiation Protection
phone 919-571-4141 (fax 919-571-4148)
(24 hour number 800-858-0368)