

April 15, 2002

MEMORANDUM TO: Chairman Meserve
Commissioner Dicus
Commissioner Diaz
Commissioner McGaffigan
Commissioner Merrifield

FROM: William D. Travers */RA/*
Executive Director for Operations

SUBJECT: QUARTERLY REPORT ON PROGRESS MADE ON PERTINENT
ISSUES RELATED TO CONTROL OF SOLID MATERIALS
(JANUARY - MARCH 2002)

In an SRM, dated August 18, 2000, the Commission directed the staff to provide it with quarterly reports on progress made on pertinent issues regarding decision-making on control of solid materials. The attached quarterly report provides a summary of progress made for the period January through March 2002. Ten days after submittal of this quarterly report to the Commission, it will be placed on the NRC's website on control of solid materials (<http://www.nrc.gov/materials/medical.html> and click on Control of Solid Material).

With receipt of the NAS report in March 2002, the staff anticipates providing a paper to the Commission in June 2002 containing its recommendations on how to best proceed, as well as the status of the technical bases.

Attachment:
Quarterly Report on Control of Solid Materials
January - March 2002

cc: SECY
OGC
OCA
OPA
CFO

CONTACT: Frank Cardile, NMSS/IMNS
(301) 415-6185

Rosemary Hogan, RES/DSARE/RPERWM
(301) 415-7484

MEMORANDUM TO: Chairman Meserve
Commissioner Dicus
Commissioner Diaz
Commissioner McGaffigan
Commissioner Merrifield

FROM: William D. Travers */RA/*
Executive Director for Operations

SUBJECT: QUARTERLY REPORT ON PROGRESS MADE ON PERTINENT
ISSUES RELATED TO CONTROL OF SOLID MATERIALS
(JANUARY - MARCH 2002)

April 15, 2002

In an SRM, dated August 18, 2000, the Commission directed the staff to provide it with quarterly reports on progress made on pertinent issues regarding decision-making on control of solid

materials. The attached quarterly report provides a summary of progress made for the period January through March 2002. Ten days after submittal of this quarterly report to the Commission, it will be placed on the NRC's website on control of solid materials (<http://www.nrc.gov/materials/medical.html> and click on Control of Solid Material).

With receipt of the NAS report in March 2002, the staff anticipates providing a paper to the Commission in June 2002 containing its recommendations on how to best proceed, as well as the status of the technical bases.

Attachment:
 Quarterly Report on Control of Solid Materials
 January - March 2002

cc: SECY OGC OCA OPA CFO

Distribution: EDO WITS No. 200000039/NMSS 200100009

R. Gordon R/F P. Hilliard, EDO S. Moore, DWM W. Kane K. Karcagi
 I. Shoenfeld, OEDO C. Poland, NMSS S. Treby, OGC EJacobs-Baynard
 T. Essig, DWM P. Lohaus, OSTP G. Tracy, NRR NMSS Dir. Off. r/f

G:\Karcagi\solid materials quarterly r~.wpd ML

*See previous concurrence

OFFICE:	RGB	NMSS	RPERWMB	RGB	DWM
NAME:	KKarcagi*	EKraus*	RHogan*	FCardile*	AHuffert*
DATE:	4/3/02	6/15/01	4/9 /02	3/29/02	3/29/02
OFFICE:	RGB	RPERWMB	DSARE	IMNS	
NAME:	PHolahan*	Ctrottier*	FEltawila*	DCool*	
DATE:	4/3/02	4/9/02	4/9/02	4/5/02	
OFFICE:	RES	NMSS	DEDMRS	EDO	
NAME:	AThadani*	MVirgilio*	CPaperiello	WTravers	
DATE:	4/9/02	4/8/02	04/12/02	04/15/02	

OFFICIAL RECORD COPY

Quarterly Report on Progress Made on Pertinent Issues
Related to Control of Solid Materials
January - March 2002

Background

On March 23, 2000, the staff provided the Commission with a paper (SECY-00-0070) which provided information on public comments on the June 1999 Issues Paper, the status of technical analyses, and recommendations for proceeding on issues concerning the control of solid materials.

In an SRM, dated August 18, 2000, the Commission directed the staff to: (1) defer a final decision on whether to proceed with rulemaking; (2) proceed with a National Academies study on possible alternatives for release of slightly contaminated solid materials; (3) continue the development of technical information base necessary to support a Commission policy decision in this area; and (4) stay informed of international initiatives in this area, related U.S. Environmental Protection Agency (EPA) and Department of State (DOS) activities, and potential for import and trade issues. The SRM also indicated that, while the National Academies study was underway, the staff should provide quarterly reports to the Commission on progress made on all pertinent issues and, approximately three months after completion of the National Academies study, provide its recommendations on how best to proceed, as well as the status of the technical bases.

This quarterly report provides a summary of progress made on pertinent issues for the period January through March 2002. Five previous quarterly reports have been provided to the Commission in December 2000, in March, July, and September 2001, and January 2002, which describe activities prior to January 2002. This report is organized numerically by the directions provided in the August 18, 2000, SRM. An integrated schedule of major milestones for the items listed below is provided as Table 1.

1. Actions related to rulemaking/regulatory activities

In accordance with the direction in the August 18, 2000, SRM, rulemaking efforts have been deferred; the staff will provide a paper to the Commission with recommendations on how best to proceed approximately three months after completion of the National Academies study (see Item #2). Activities during this past quarter include:

- The NRC website for this activity, <http://www.nrc.gov/materials/medical.html> (under Control of Solid Material), is currently available on the public website.

2. Actions related to proceeding with National Academies study of alternatives

In accordance with the August 18, 2000, SRM, the National Academies conducted a study on possible alternatives for release of slightly contaminated solid materials. A report containing the results of their study was submitted to NRC in March 2002. The NRC staff is reviewing the Academies' report and plans to provide a paper to the Commission in June 2002 containing results of the staff's review as well as recommendations for proceeding.

3. Continuing development of a technical information base

Consistent with the August 18, 2000, SRM, the staff is developing a technical information base to support a Commission policy decision in this area (see Table 1). Developing this information represents a cooperative effort among NMSS and RES staffs.

3a. Radiological Assessments for Clearance of Equipment and Materials from Nuclear Facilities (NUREG-1640)

In March 1999, NUREG-1640 was published for public comment. NUREG-1640 provides a methodology for estimating potential individual doses for steel, aluminum, copper and concrete based on the concentration of radionuclides on, or in, the solid material. SC&A is the contractor for this effort. Activities during this past quarter include:

- Resolution of comments received from the public was completed. Currently, the staff is recalculating dose factors consistent with the resolution of comments.

3b. Technical basis contract for inventory and doses

The scope of this contract is to develop information on inventory of solid material potentially available for release, associated collective doses, and potential for exposure to multiple sources. SC&A is the contractor for this effort. Activities during this past quarter include:

- The contractor continued to work on the inventory report and initiated work on analyses of collective dose.

3c. Development of dose models for soil reuse

The NRC staff is developing technical bases for estimating exposures from soil reuse as a result of potential licensee requests for release of soil. This effort includes an identification, under a contract with the National Agricultural Library, of information sources for developing the technical basis. Under this contract, draft NUREG-1725, "Human Interaction with Reused Soil: A Literature Search," was issued for public comment in June 2000. This effort also includes analyses, by the CNWRA, of potential exposures from possible reuse scenarios for soils released from NRC-licensed facilities.

Activities during this past quarter include:

- The final NUREG-1725, which incorporates additional information on potential pathways for human interaction with reused soil as well as public comment received on the draft NUREG was published in January 2002.
- A meeting was held with the CNWRA in January 2002 and a follow-up meeting is scheduled for April 2002 to review the results of the CNWRA's analyses of potential soil reuse scenarios. The April 2002 meeting will also discuss the relationship of the CNWRA analyses with the ISCORS sewage sludge dose modeling and license termination scenarios.

3d. Measurability/detectability

The NRC staff is developing technical bases concerning the ability to conduct radiation surveys of solid materials at levels near background. Coordinated contract support efforts, at Environmental Measurements Laboratory (EML) and Oak Ridge Institute for Science and Engineering (ORISE), are ongoing to provide a framework for the design and implementation of surveys for solid materials. The University of Tennessee, under contract to NRC, prepared a proof-of-concept report to test the subsurface measurement modeling developed by EML. Activities during this past quarter include:

- The draft NUREG on protocols for surveys of solid materials was revised by ORISE and is under final review by the project manager prior to publication.
- ORISE is developing information on costs of surveys of solid materials based on the protocols developed in its draft letter report on survey protocols.

4. Other actions

4a. International initiatives

The staff has stayed informed of international initiatives in this area and potential for import and trade issues. Activities during this past quarter include:

- On February 18-21, 2002, an IAEA Technical Committee met to discuss a draft Safety Guide on radiological criteria for long-lived radionuclides in commodities for trade, particularly foodstuffs and wood. Drs. Patricia Holahan (NMSS) and Robert Meck (RES) participated as US representatives in the meeting. A trip report was submitted on March 21, 2002.
- The draft Safety Guide was provided to IAEA's Radiation Safety Standards Committee (RASSC) and Waste Safety Standards Committee (WASSC) for review at a joint meeting held March 25-29, 2002. John Greeves (NMSS) and Carl Paperiello (EDO) participated as US representatives in the meeting. A trip report will be prepared.

4b. EPA/DOS activities

EPA has noted that it is focusing its efforts on orphan source issues and on the interception of imports with sufficient radioactive content to warrant regulatory control and that it does not have an active program to set clearance standards in the U.S.

4c. Department of Energy (DOE) activities

PEIS Activities

On July 12, 2001, DOE published, for public comment, a notice of intent to prepare a programmatic environmental impact statement (PEIS) on alternatives for disposition of DOE scrap metals. DOE held public scoping meetings on the PEIS in July, August, and October 2001, and announced in September 2001 that the public comment period was being extended until November 2001. The public comment period for the DOE notice of intent ended on November 9, 2001. Activities during this past quarter include:

- DOE continued development of the PEIS; DOE plans to publish a draft PEIS in July 2002 for public comment.

Activities Relating to Radiation Detection Equipment

Recently, DOE has been involved in developing sophisticated sensors for radiation detection. Relatively simple radiation detection equipment has been used by the U.S. Customs Service for some time and there are newer devices that have been emplaced at fixed locations and temporarily at national security special events. Currently, there is a concerted effort at three national laboratories to build more advanced radiation detectors.

DOE and U.S. Customs Service staff have participated in studies organized by the IAEA to determine the effectiveness of radiological monitoring equipment in detecting illicit trafficking of radioactive materials. This work has included field testing of large portal monitors at national borders and evaluation of hand-held radiation survey meters. NRC met with U.S. Customs staff on February 27, and March 28, 2002 to discuss issues of the U.S. Customs Service's Automated Export System and NRC licensing regulations for import and export.

DOE, the U.S. Department of Justice Office of Domestic Preparedness Office, and the Health Physics Society recently began the Homeland Defense Equipment Reuse Program in response to radiological terrorist threats. The nation's emergency response organizations will reuse excess DOE radiological detection instruments, which may be supplemented with additional equipment from new Homeland Defense funds in 2003. Emergency response police and fire departments in ten metropolitan areas will be receiving refurbished equipment for the pilot program, including hand-held dose rate meters, electronic pulsers, microrem meters, and other radiation detection equipment. Additional equipment may be added to the program, such as weapons detection systems, glove boxes, and air samplers.

NRC and DOE staff are scheduled to meet the week of April 8, 2002 to discuss these activities.

4d. National Council on Radiation Protection and Measurements

In January 2002, the NRC received a copy of the National Council on Radiation Protection and Measurements (NCRP) draft report 87-4 entitled "Managing Potentially Radioactive Scrap Metal." Staff comments on the report were provided to the Commission for review in March 2002.

Integrated Schedule Overview of Items in Quarterly Report on
Pertinent Issues Related to Control of Solid Materials

	1 st qtr 2001 January -March 2001	2 nd qtr 2001 April - June 2001	3 rd qtr 2001 July -September2001	4 th qtr 2001 October - December 2001	1 st qtr 2002 January - March 2002	2 nd qtr 2002 April -June 2002	Post 2 nd qtr 2002 past July 2002
1.Commission interface/ public input	Quarterly report - 3/01	Quarterly report - 7/01	Quarterly report - 9/01	Quarterly report - 1/02	Quarterly report - 4/02	SECY paper on NAS study results - 6/02	Commission meeting - 8/02
2. NAS study	◆ 1 st Committee mtg & NRC briefing - 1/01 ◆ 2 nd Committee mtg - 3/01	◆ NRC response to info request - 4/01 ◆ 3 rd Committee mtg - 6/01	Committee review of working draft - 8/01		Complete report - 3/02		
3a. NUREG-1640			Award contract to finalize - 7/01			Final NUREG - 5/02	Supplement 1 on additional materials - 11/02
3b. Tech basis-Inventory		Letter report on available and needed data - 5/01	◆ Draft letter report on inventory - 7/01 ◆ Letter rpt on literature on current practice that cause NARM/TENORM to enter commerce - 7/01 ◆ Letter rpt on bkg level of radioactivity in various matls and eqmt - 7/01				Draft NUREG on inventory - 7/02
3b. Tech basis - collective doses and multiple exposures				Draft letter report on multiple exposures - 11/01			◆ Letter rpt on multiple exposure 9/02 ◆ Draft letter rpt on collective doses 4/03

	1 st qtr 2001 January -March 2001	2 nd qtr 2001 April - June 2001	3 rd qtr 2001 July -September2001	4 th qtr 2001 October - December 2001	1 st qtr 2002 January - March 2002	2 nd qtr 2002 April -June 2002	Post 2 nd qtr 2002 past July 2002
3c. Soil - NUREG-1725	NAL focused search on parameters - 1/01			Draft report on final NUREG- 1725 - 11/01	Issue final NUREG-1725 - 1/02		
3c. Soil - Soil scenario analysis	CNWRA scoping contract - 2/01			Draft letter report on scenario analysis - 11/01		Letter rpt on soil doses - 6/02	
3d. Surveys - ORISE/EML			Letter rpt on survey analyses - 7/01		Draft NUREG on surveys - 3/02	Draft letter rpt on survey cost - 4/02 Publish final report on surveys as draft NUREG - 6/02	
4. Other							
4a. International Initiatives	IAEA TCM on Commodities, 2/01	◆ RASSC/WASSC mtg - 4/01 ◆ IAEA consultants mtg - 5/01	IAEA consultants mtg - 7/01	◆ Consultant's meeting on commodities - 12/01	◆ Technical Comm. mtg- 2/02		
4b. EPA	Briefing of NAS - 1/01 IAEA mtg - 2/01		Update of report on metals recycling				
4c. DOE	Briefing of NAS - 1/01 Secretary memos on control of solid materials - 1/01		FRN on PEIS on control of solid material - 7/01 Scoping mtgs - 7/01-8/01	Scoping mtgs - 10/01 End comment period, 11/01			Publish draft PEIS on metal recycling for comment - 7/02