

September 27, 2001

MEMORANDUM TO: Chairman Meserve
Commissioner Dicus
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
(JULY - SEPTEMBER 2001)

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 July through September 2001. 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 (www.nrc.gov/NMSS/IMNS/controlsolids.html).

During the next quarter, the staff plans to publish a final report, NUREG-1725, "Human Interaction with Reused Soil: A Literature Search," which contains an information search on potential pathways for human interaction with reused soil and which updates the June 2000 draft report.

Attachment:
Quarterly Report on Control of Solid Materials
July - September 2001

cc: SECY
OGC
OCA
OPA
CFO

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

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 Quarterly Report on Control of Solid Materials
 July - September 2001

Attachment: Quarterly Report on Control of Solid Materials, July - September 2001
 cc: SECY OGC OCA OPA CFO

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Quarterly Report on Progress Made on Pertinent Issues
Related to Control of Solid Materials
July - September 2001

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 directed the staff to provide quarterly reports to the Commission on progress made on all pertinent issues and, approximately three months after completion of the National Academies study, to 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 July through September 2001. Three previous quarterly reports have been provided to the Commission in December 2000 and in March and July 2001, which describe activities prior to July 2001. 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/NMSS/IMNS/controlsolids.html>, has been kept up to date, principally by placing previous quarterly reports on the website ten days after their submittal to the Commission.

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

In accordance with the August 18, 2000, SRM, the National Academies is conducting a study on possible alternatives for release of slightly contaminated solid materials and is contracted to provide a report to the NRC 12 months after finalizing its study committee, which occurred in February 2001. Activities during this past quarter are:

- Following the National Academies' information gathering meeting on June 12-15, 2001, two writing meetings of the Academies' lead authors were held in July 2001.
- A working draft report was developed for initial review by the entire Committee on August 29-31, 2001.

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. Activities during this past quarter include:

- Following a competitive procurement process, a contract to finalize NUREG-1640 was awarded on July 16, 2001, to S. Cohen & Associates (SC&A).
- In August 2001, a meeting with SC&A was held on integrating analyses from NUREG-1640 and the contract for inventory, doses, and costs (see Item #3b).

3b. Technical basis contract for inventory, doses, and costs

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

- The staff reviewed the inventory report and determined that additional information should be obtained on the inventory of materials at licensed facilities at levels approaching background levels and on materials other than those in NUREG-1640.

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 a scoping analysis, by the CNWRA, of reuse scenarios for soils released from NRC-licensed facilities and an

identification, by the National Agricultural Library, of information sources for the technical basis. Activities during this past quarter include:

- The staff is revising NUREG-1725, "Human Interaction with Reused Soil: A Literature Search," to incorporate additional information on potential pathways for human interaction with reused soil.
- Based on considerations of potential scenarios, parameters, assumptions, and parameter distributions, the contractor is developing draft dose factors.

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, is preparing a proof-of-concept report to test the subsurface measurement modeling developed by EML. Activities during this past quarter include:

- A draft detectability/measurability report, prepared by EML/ORISE, was submitted in June 2001. Comments were provided to EML/ORISE in September 2001.

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 July 23-27, 2001, the IAEA convened a technical committee to consider defining the scope of the Basic Safety Standards, i.e., radioactive concentration levels below which regulation is unwarranted. The definition of scope could then be used to replace current concepts of clearance, intervention levels for commodities, exemption, and exclusion. The Committee recommended that work currently in progress on general clearance levels and concentration levels for commodities be completed and also recommended establishment of a coherent system of radionuclide-specific levels to define the nominal scope of regulatory standards and to supercede Schedule 1 in the Basic Safety Standard.

4b. EPA/DOS activities

EPA participated in the fall 1999 public meetings and as one of the stakeholders at the May 9, 2000, Commission meeting. NRC and EPA staff have had coordinated efforts on developing technical information bases on scenarios and pathways related to potential exposures. 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.

- EPA has revised its 1997 “Technical Support Document on the Evaluation of the Potential for Recycling of Scrap Metals from Nuclear Facilities” to add analyses of copper and aluminum to the existing analysis of carbon steel.

4c. Department of Energy (DOE) activities

DOE, which has a large inventory of stored solid material having low amounts of radioactivity, participated at NRC’s fall 1999 public meetings and as one of the stakeholders at the May 9, 2000, Commission meeting. During calendar year 2000, Secretary Richardson placed moratoriums on DOE’s release of volumetrically contaminated metals and on release of scrap metal for recycling if contamination is detected using appropriate instrumentation. Activities during this past quarter include:

- DOE published in the Federal Register (66 FR 36562, July 12, 2001), for public comment, a notice of intent to prepare a programmatic environmental impact statement (PEIS). The PEIS addresses alternatives for the disposition of DOE scrap metals. The DOE held public scoping meetings on the PEIS in July and August 2001. Issues presented by DOE at the scoping meetings included sources of scrap metal generated by DOE, the current DOE policies with regard to metal disposition, potential alternatives under consideration, and the purpose of the PEIS. The public comment period for the DOE notice was to have ended on September 12, 2001 but was extended to November 9, 2001 (66 FR 46613, September 6, 2001). NRC is scheduling a meeting with DOE for a technical exchange of information.

4d. Evaluation of case-specific situations

On August 7, 2000, the staff issued internal guidance on handling case-specific licensing decisions on release of solid materials from licensed facilities during the period that the National Academies’ study is in progress. The guidance states that requests for release of solid materials will be handled on a case-by-case basis using existing guidance. This guidance was updated on July 27, 2001, to address case-specific licensing decisions on controlling release of soils at licensed facilities.

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 - 12/01	Quarterly report - 3/02	SECY paper on NAS study results ~6/02 (~3 mo after NAS study)	SRM and next steps - TBD
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 - 2/02		
3a. NUREG-1640			Award contract to finalize - 7/01		Individual doses - 2/02	Final NUREG - 5/02	Supplement 1 on additional materials - 7/02
3b. Tech basis - Inventory		Letter report on available and needed data - 5/01	◆ 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 - 2/02	Letter report on build-up of radioactivity- 6/02	Letter report on build-up of radioactivity- 11/02
3b. Tech basis - collective doses and multiple exposures				Ltr rpt listing multiple exposure scenarios - 11/01		◆ Letter rpt on multiple exposures - 4/02 ◆ Letter rpt on additional scenarios - 4/02	Letter rpt on collective doses, 9/02
3b. Tech basis - costs		Interim letter report on cost models & format 6/01			Letter report on unit costs - 2/02		Letter report on costs of alternatives - 10/02

	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			Final NUREG- 1725 - 11/01			
3c. Soil - Soil scenario analysis	CNWRA scoping contract - 2/01			Draft report on scenario scoping analysis - 10/01		Letter rpt on soil doses - 6/02	
3d. Surveys - ORISE/EML			Letter rpt on survey analyses - 7/01		Draft NUREG on surveys - 3/02	Letter rpt on survey cost - 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	RASSC/ WASSC mtg - 10/01	◆ Consultant's meeting on clearance/commod ities - 1/02 ◆ Technical Comm. mtg-3/02		
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			