



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20545-0001

August 24, 1994

MEMORANDUM FOR: The Chairman
Commissioner Rogers
Commissioner de Planque

FROM: James M. Taylor
Executive Director for Operations

SUBJECT: AGREEMENT STATE SITE DECOMMISSIONING MANAGEMENT
PLANS (SDMP) - FOLLOW UP

BACKGROUND

On March 18, 1994, in response to a November 18, 1993, Staff Requirements Memorandum, a status report on staff efforts to obtain information from the Agreement States on their radiologically contaminated sites was provided to the Commission. At that time, we indicated a report would be provided after the SDMP Workshop for the Agreement States. Staff committed to compile information obtained from the States on criteria used for release of contaminated sites including those contaminated with naturally-occurring radioactive materials (NORM). This memorandum reports on the March 23, 1994 SDMP Workshop and the information obtained from the States since the Workshop and from other SDMP-related activities such as the Office of Nuclear Material Safety and Safeguards' (NMSS) June 1, 1994 Termination Survey Workshop.

SDMP AGREEMENT STATE WORKSHOP

The March 23 Workshop was attended by 30 representatives from 25 of the 29 Agreement States. The Workshop was also attended by representatives from three of the four potential Agreement States, Massachusetts, Ohio and Pennsylvania. Four members of the General Accounting Office were present at the session to obtain background for the report they are preparing on NRC and Agreement State SDMP programs for the Senate Government Affairs Committee (Glenn) and the House Government Operations Committee's Subcommittee on Environment, Energy and Natural Resources (Synar).

At the Workshop, hosted by the Office of State Programs (OSP), representatives from NMSS, Nuclear Regulatory Research (RES), and the Office of the General Counsel (OGC) gave introductory and technical overview presentations. A copy of the Workshop notebook which includes slides from the staff presentations is available from OSP. Attachment 1 is a copy of the transcript of the Workshop.

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ATTACHMENT D

Two positions that appeared to be of most concern to the Workshop attendees are summarized below.

1. Several States believe that they have successful ongoing SDMP-like programs and voiced reservations about the form and content of NRC initiatives in the Agreement State/SDMP area. One commentor expressed the view that where the States are responsible for the programs, they do not want NRC to "exercise management control." While they do not mind providing information to the NRC about their efforts, they do not want NRC to track their actions into an NRC control system. This commentor also expressed the States' need for an overall "How Clean is Clean" standard, yet the States do not want NRC to impede their efforts to set more stringent standards. See transcript pages 107 and 108.
2. One State participant expressed concern about what is perceived by some as a fragmented approach by NRC on the overall issue of decommissioning and decontamination (D&D). The participant noted that NRC's D&D effort involves several offices (e.g., OGC, NMSS and RES), has multiple rules (e.g., Timeliness Rule and Enhanced Participatory Rulemaking) in various stages of development, and incorporates numerous position papers and guidance documents. The recommendation was made to initiate a study of all relevant documentation to ensure that the program achieves internal consistency and the relationship between NRC documents is clear. Taking the process one step further, NRC could then strive toward fostering an overall, coordinated Federal position. See transcript pages 232-236.

AGREEMENT STATE INFORMATION

As a result of the preworkshop survey and input received from Workshop participants, staff has developed a matrix summarizing the status of SDMP programs in the Agreement States. A copy of the matrix is provided as Attachment 2. The matrix summarizes information provided by the Agreement States in response to the questions forwarded to you by my March 18, 1994 memorandum. The findings reported as preliminary information in that memorandum have been updated to reflect new information. The most interesting finding is the apparent relative consistency in the criteria used by the Agreement States for release for unrestricted use of sites contaminated with Atomic Energy Act (AEA) material. In the absence of specific NRC regulations:

- 22 States said they use NRC criteria or NRC criteria supplemented by other criteria such as that recommended by the Conference of Radiation Control Program Directors (CRCPD) for releasing material contaminated with Atomic Energy Act regulated radioactive materials for unrestricted use. Two of these States (AZ, MS) indicated they are also either developing (AZ) or have developed (MS) specific regulations for soil contamination and;
- four States (AR, IL, ND, & TX) stated that they had promulgated their own regulations incorporating criteria for releasing either

material or soil contaminated with Atomic Energy Act regulated radioactive material for unrestricted use. These regulations appear to be based on State equivalent 10 CFR Part 20 effluent regulations (i.e., water limits converted to dry weight units (microcuries per milliliter to picocuries or microcuries per gram)). One State (Nevada) indicated it would use background, one (California) would use background or a dose that results in a less than 1×10^{-6} cancer risk, and one (New York) would use <10 mrem per year plus ALARA excluding background.

In addition, the staff also found that:

- five Agreement States indicated they have some type of SDMP program;
- 17 States reported having a potential of 95 SDMP-type sites;
- all 29 States conduct confirmatory surveys upon termination of a license; and
- 12 States say they have conducted a review of their previously released sites.

Staff also made a less intensive effort to determine Agreement State criteria for unrestricted release of NORM contaminated sites. Again, the matrix displays the staff's findings. For the most part, it appears that the Agreement States are using radionuclide levels of ≤ 5 picocuries per gram in the first 15 centimeters of soil and ≤ 15 picocuries per gram in any layer of soil more than 15 centimeters below the surface (5/15) which is found in both the EPA uranium mill tailings regulations at 40 CFR 192 and the draft Conference of Radiation Control Program Directors' criteria.

Based upon the Agreement States' responses to written and telephone surveys and interactions at the SDMP Workshop, staff does not believe that existing contaminated sites in Agreement States pose an immediate health and safety threat to the public or that sites are being released with levels of contamination that would pose a significant threat to public health and safety. Although it appears that no immediate NRC action is appropriate, it does appear that more effort to assure a more systematic attempt to identify potentially contaminated sites on a national basis is needed for the long term. The major hurdles that remain are to determine "how clean is clean" and to establish a higher degree of confidence that contaminated sites in the Agreement States will be remediated in a timely manner. This is being addressed through the Enhanced Participatory Rulemaking process and the decommissioning timeliness rule, along with other efforts to develop guidance sufficient to address cleanup criteria in the Agreement States.

Telephone conversations with the States indicated that they did not seem to have copies of all of the appropriate NRC guidance documentation. Staff believes that it has gone a long way in remedying this through its interactions with the States and through documentation distributed at and since the March 23 workshop.

Staff further believes that the Agreement States understand the importance of adequate and timely remediation of contaminated sites and facilities and that their attendance at the workshops shows that they are interested in learning more.

TERMINATED LICENSE FILES FOR AGREEMENT STATES

One unexpected outgrowth of staff's data collection efforts and interactions with the Agreement States was learning that four of the Agreement States, California, Georgia, Rhode Island and Utah, have file retention policies that provide for the destruction of terminated license files. We have written to each of these States asking that they hold in abeyance any destruction of terminated license files until we have had an opportunity to discuss the policy with them. Staff plans to impress upon them the need to retain these files in their permanent record collections.

TERMINATION SURVEY WORKSHOP

NMSS held a more detailed workshop that focused primarily on the technical aspects of final radiological surveys at decommissioned sites on June 1, 1994, at the Crowne Plaza in Rockville. The Termination Survey Workshop was originally scheduled for May 19, 1994. However, a number of Agreement State representatives at the SDMP Workshop expressed an interest in attending and noted a conflict with the Annual Meeting of the Conference of Radiation Control Program Directors (CRCPD). Accordingly, the date of the Termination Survey Workshop was changed to accommodate the States. Of the over 250 attendees at that workshop, 32 were from 28 of the Agreement States, two were from potential Agreement States (Massachusetts and Pennsylvania) and two were from non-Agreement States (Indiana and New Jersey).

The response to the workshop was positive and the attendees requested additional workshops. NMSS intends to host a workshop on site characterization in the fall of 1994.

FUTURE RECOMMENDATIONS

Recommendations for Commission consideration to improve SDMP programs in the Agreement States will be forthcoming in at least the following areas. In formulating the recommendations, the staff will take into account the potential expenditure of NRC resources.

Should Agreement States SDMP remediation efforts be tracked in the NRC program?


Should NRC require Agreement States to develop a program equivalent to NRC's SDMP?

Should or can NRC provide any financial assistance to the Agreement States on SDMP?

Should the Oak Ridge National Laboratory's review of terminated licenses be expanded to include the Agreement States and, if so, should NRC extend the contract to look at State files or should ORNL's computer model be made available to the States for their own use?

Should NRC's contractor for radiological assessment, Oak Ridge Institute for Science and Education (ORISE), be funded to conduct confirmatory termination surveys for Agreement State contaminated sites that have been remediated?

Should NRC Agreement State program reviews be expanded to include a detailed, in-depth review of the State's program for regulating remediation of contaminated sites and facilities?


James M. Taylor
Executive Director
for Operations

Attachments:

1. Transcript of Workshop
2. Matrix of State SDMP Programs

cc: SECY
OGC
OPA
OCA
ACNW

STATE SDMP SITES/PROGRAMS

State	State SDMP Program	No. of Potential SDMP Sites	AEA	Unrestricted Release Criteria NORM	Soil	Perform Data Modeling	Release For Restricted Use	Have Finality Policy	Review Previously Released Sites	Standard Survey Procedures*	Retains Terminated Plus Indefinitely	Allow Inactive Sites to Remain Without Remediation
Alabama	No	0		NRC Criteria	Texas Criteria (see TX)	No	Not yet	No	Yes	SSP - Yes, TX criteria Com - Yes	Yes	Not yet
Arizona	Yes	1	NRC Criteria - RegGuide 1.86	Background by license condition	Arizona Regs' - equivalent to the 10 CFR Part 20 water limits converted to pCi/gm + < 10 pCi/hr at 1 meter	Yes IMPACTS BRC Version 2	No	No	No	SSP - NUREG 5849 Com - Yes	Yes	No
Arkansas	No	4	Arkansas Regs - equivalent to the 10 CFR Part 20 H ₂ O limits converted to pCi/gm	Arkansas Regs - 5/15*	Arkansas Regs - appropriate for AEA material or NORM	No	No	No	No	SSP - No Com - Yes	Yes	Yes
California	No	6	Background or dose that results in less than 1x10 ⁻⁴ lifetime cancer risk (CA Proposition 65 limits)	CRCPD criteria - 5/15	add Part 20 H ₂ O limits converted to pCi/gm	Yes IMPACTS BRC	No	No	Yes	SSP - Yes Com - Yes	No 7-10 yrs.	Not currently

*Arkansas Radiation Regulatory Agency staff indicated that they expected to promulgate these regulations in the very near future

1=5/15* refers to the unrestricted use criteria currently used by the State for radionuclide levels in soil. It is: ≤5pCi/gm in first 15 cm of soil and ≤15 pCi/gm in any layer of soil more than 15 cm below the surface. Several States indicated that these criteria were used by the State, but cited different sources for the criteria. In this table, the source of the criteria are cited and "5/15" indicates the levels in the criteria.

* NRC staff asked 2 questions concerning termination surveys:

- 1) Did the States employ standard survey procedures (and if so which one) and;
 - 2) Did the States perform confirmatory surveys.
- Responses prefixed with "SSP" refer to question 1. Responses prefixed with "Com" refer to question 2.

STATE SDMP SITES/PROGRAMS

State	State SDMP Program	No. of Potential SDMP Sites	AEA	Unrestricted Release Criteria NORM	Soil	Perform Dose Modeling	Release For Restricted Use	Have Finality Policy	Review Previously Released Sites	Standard Survey Procedures*	Retain Terminated Files Indefinitely	Allow Inactive Sites to Remain Without Remediation
Colorado	No	1	NRC Criteria RegGuide 1.86 + EPA's Uranium Mill Criteria at 40 CFR 192.12 (5/15) for uranium mills	No criteria	EPA's Uranium Mill Criteria (5/15) for Ra-226 or perform a risk assessment	Depends on available data - RESRAD	Not yet	No	No	SSP - No Con - Yes	Yes	No
Florida	No	2	NRC Criteria RegGuide 1.86	No Criteria	case-by-case evaluation	Yes, case-by-case RESRAD	No	No	Yes	SSP - Yes, NUREG 5849 Con - Yes	Yes	No
Georgia	No	3	NRC Criteria RegGuide 1.86	CRCPD Criteria (5/15)	None for AEA material	No	No	No	Yes	SSP - Yes, NUREG 5849 Con - Yes, if site specific factors warrant	No - 5 yrs.	No
Illinois	Yes	21	Illinois Regs surface - 32 IAC 340 Appendix A - limits are similar to Reg Guide 1.86 RAM except source material - 32 IAC 330, Appendix A (except conc. limits) source material - 5 pCi/gm of soil averaged over the first 15 below the surface and 5 pCi/gm averaged over 15 cm thick layers more than 15 cm below the surface (5/5)	Illinois Regs radium - 5 pCi/gm of soil averaged over the first 15 cm of soil and 5 pCi/gm averaged over 15 cm thick layers more than 15 cm below the surface (5/5)	Illinois Regs as appropriate for AEA material or NORM + the exposure rate at 100 cm from the surface shall not exceed background (exposure rate criteria also apply to materials other than soil)	Yes, for some SDMP sites RESRAD	Not yet	No	Yes	SSP - Yes, NUREG 5849 or BTP Con - Yes	Yes	No

STATE SDMP SITES/PROGRAMS

State	State SDMP Program	No. of Potential SDMP Sites	Unrestricted Release Criteria		Soil	Perform Dose Modeling	Release For Restricted Use	Have Feasibility Policy	Review Previously Released Sites	Standard Survey Procedures	Retain Terminated Files Indefinitely	Allow Inactive Sites to Remain Without Remediation
			AEA	NORM								
Iowa	No	2	NRC criteria or modified EPA Uranium MIB Criteria (e.g., 5/5 instead of 5/15)	EPA's Uranium MIB Criteria (5/15)	No regs except for NORM	No	Not yet	No	Yes	SSP - No Com - Yes	Yes	No
Kansas	Yes	0	NRC Criteria + ALARA	CRCPD Criteria (5/15)	Case-by-case determinations or CRCPD Criteria (5/15)	No	Yes - 1 NORM site	No	Yes	SSP - No Com - Yes	Yes	No
Kentucky	No	0	NRC Criteria RegGuide 1.86	Draft Kentucky NORM Regs - 5 pCi/gm or less	Site specific evaluations based on 100mrem/yr + ALARA	Yes RESRAD	No	No	No	SSP - No Com - Yes	Yes	No
Louisiana	No	0	NRC Criteria RegGuide 1.86 + <10mrem/yr	Louisiana Regs for land contaminated with Ra 226 or 228 with radon emanation rates > 20pCi/hr 5/15; if < 20 pCi/hr, 30pCi/gm averaged over a maximum depth of 15 cm	No cr. via	No	Not yet	No	No	SSP - No Com - Yes	Yes	Yes
Maine	No	1	NRC criteria	CRCPD and EPA Uranium MIB criteria (5/15)	CRCPD criteria (5/15)	Yes COMPLY	No	No	No	SSP - Yes, NUREG 5849, or CRCPD criteria Com - Yes	Yes	Not yet
Maryland	No	2	NRC Criteria RegGuide 1.86	Background	Any NRC Criteria + ALARA	No	Not yet	No	No	SSP - No Com - Yes	Yes	Not yet

STATE SDMP SITES/PROGRAMS

State	State SDMP Program	No. of Potential SDMP Sites	AEA	Unrestricted Release Criteria NORM	Soil	Perform Dose Modeling	Release For Restricted Use	Have Finality Policy	Review Previously Released Sites	Standard Survey Procedures*	Retain Terminated Files Indefinitely	Allow Inactive Sites to Remain Without Remediating
Mississippi	No	0	NRC Criteria	<5pCi/gm + restrictions on Radon flux rate	Miss Regs - equivalent to the 10 CFR Part 20 H ₂ O limits converted to pCi/gm + EPA Uranium Mill Criteria (5/15)	No	No	No	No	SSF - No Com - Yes	Yes	Yes - NORM sites
Nebraska	No	0	NRC Criteria	No criteria	Background	No	No	No	No	SSF - No Com - Yes	Yes	No
Nevada	No	0	Background	Background	Background	No	Yes	Yes	No	SSF - No Confirm - Yes	Yes	Not yet
New Hampshire	Yes	0	NRC Criteria	No criteria	Case-by-case determination	No	Yes - 1 site. None expected in the future	No	No	SSF - No Com - Yes	Yes	N/A
New Mexico	No	0	NRC Criteria RegGuide 1.36	<50 nB/hr including bkg	Background or Case-by-case determination	No	Not yet	No	No	SSF - No Com - Yes	Yes	Not yet
New York ¹	No	9	<10 mrem/yr + ALARA excluding background	<10 mrem/yr + ALARA excluding background	<10 mrem/yr + ALARA excluding background	Yes (DOL would defer to NYDEC) RESRAD, PRESTO	Yes - DEC & DOH No - NYC & DOL	No	Yes	SSF - Yes, NUREG 5849 or cbc Com - Yes	Yes	DEC - Yes DOL - No DOH - cbc NYC - cbc

*The regulatory authority for radioactive material in the State and City of New York is shared by the Departments of Environmental Conservation (DEC), Labor (DOL), Health (DOH) and New York City (NYC). Unless otherwise noted, the responses are consistent between these regulatory authorities.

STATE SDMP SITES/PROGRAMS

State	State SDMP Program	No. of Potential SDMP Sites	Unrestricted Release Criteria		Soil	Perform Dose Modeling	Release For Restricted Use	Have Finality Policy	Review Previously Released Sites	Standard Survey Procedures*	Retain Terminated Files Indefinitely	Allow Inactive Sites to Remain Without Remediation
			AEA	NORM								
North Carolina	No	7	NRC Criteria	Case-by-case determination	<MTL on suitable instrument	No	Not yet	No	Yes	SSP - Yes, cbc Con - Yes, if site specific conditions warrant	Yes	Yes - NORM sites
North Dakota	No	3	North Dakota Regs - NDRHR Appendix F - similar to RegGuido 1.86 for surface RAM except source material - Chapter 33-18-03, Schedule A (except conc. limits) source material - SpClign averaged over the first 15 cm below the surface and 3 pClign averaged over 15 cm thick layers more than 15 cm below the surface (5/5)	25 uR/hr screening level, then <SpClign in any 15 cm of soil Radium - Chapter 33-18-03, Schedule A (except conc. limits)	As appropriate for NORM or AEA material + the exposure rate at 100 cm from the surface shall not exceed background (exposure rate criteria also apply to materials other than soil)	No	No	No	Yes	SSP - Yes, NUREG 5849 Con - Yes	Yes	Yes
Oregon	No	3	NRC Criteria RegGuido 1.86 + ALARA, 1981 BTP, CRCPD Criteria (5/15)	Background + ALARA, 1981 BTP, CRCPD Criteria (5/15)	Background + ALARA, 1981 BTP, CRCPD Criteria (5/15)	Yes	Yes, 1 site	No	No	SSP - Yes, NUREG 5849 Con - Yes, if site specific conditions warrant	Yes	No
Rhode Island	No	0	NRC Criteria	No criteria	No Criteria	No	Not yet	N/A	No	SSP - Yes, NUREG 5849 Con - Yes	No	No

STATE SDMP SITES/PROGRAMS

State	State SDMP Program	No. of Potential SDMP Sites	AEA	Unrestricted Release Criteria		Perform Dose Modeling	Release For Restricted Use	Have Finality Policy	Review Previously Released Sites	Standard Survey Procedures*	Retain Terminated Files Indefinitely	Allow Inactive Sites to Remain Without Remediation
				NORM	Soil							
South Carolina	No	0	NRC Criteria NUREGs 0586 & 5512	Currently drafting regs	No Criteria	No	No	No	No	SSP - Yes, NUREG 5849 Con - Yes	Yes	Yes
Tennessee	No	9	NRC Criteria RegGuide 1.86 + 1981 BTP	< 5pCi/gm above background, + CRCPD Criteria (5/15), 1981 BTP Option 1	same as NORM Criteria	Yes - Case-by-case RESRAD	No	No	Yes	SSP - No Confirm - Yes	Yes	No
Texas - NRCC & DOH	Yes	10 11	Texas Regs Part 21 - Texas H ₂ O water limits converted to uCi/gm. Limits for certain RAM are specified in Part 21	Texas Regs - Part 21 for ²²⁶ Ra or ²²⁸ Ra (5/15) and Part 46 (surfaces) (RegGuide 1.86 limits for U-nat)	Texas Regs - Parts 21 or 46 as appropriate for AEA material or NORM	No - may for NORM RESRAD	No	No	No	SSP - Yes, TX RegGuide Con - Yes	Yes	No
Utah	No	0	NRC Criteria	1981 NRC BTP and EPA's Uranium Mill Criteria (5/15)	1981 BTP, EPA's Uranium Mill Criteria (5/15), NUREG-5512	No	No	No	Yes	SSP - Yes, NUREG 5849 Con - Yes	No	No
Washington	No	1-2	NRC & CRCPD Criteria (5/15)	currently developing criteria	Case-by-case determination	No	Not yet	No	No	SSP - No Con - Yes	Yes	Yes, 20,304 sites



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

May 19, 1995

MEMORANDUM TO: The Chairman
Commissioner Rogers
Commissioner de Planque
Commissioner Jackson

FROM: James M. Taylor *[Signature]*
Executive Director for Operations

SUBJECT: NRC ASSISTANCE IN AGREEMENT STATE SITE
DECOMMISSIONING MANAGEMENT PLANNING (SDMP)

My memoranda of March 18 and August 24, 1994, provided the Commission with a requested overview on the status of site decommissioning management planning in the 29 Agreement States. This request grew out of the Commission's briefing by the staff on the status of the NRC SDMP program. During and after that briefing the Commission expressed interest in obtaining more information on the experiences of the Agreement States in identifying and remediating contaminated sites.

The August 24 memorandum further reported on the results of staff interactions with the Agreement States through written and telephone information requests. The Office of State Programs (OSP) also hosted a March 23, 1994 workshop designed to provide Agreement States with documentation and techniques necessary to develop and run their own SDMP program. A followup open workshop which focused entirely on site termination surveys was held by the Office of Nuclear Material Safety and Safeguards (NMSS) on June 1, 1994. NMSS also conducted a site characterization open workshop on November 28 and 29, 1994. These workshops were well attended with nearly all of the Agreement States represented at each workshop.

The Agreement States have pointed out that a major hurdle that remains is to determine "how clean is clean" through the Enhanced Participatory Rulemaking (EPR) on radiological criteria for decommissioning. A second major item cited as needing resolution is to establish a higher degree of confidence that contaminated sites in the Agreement States will be remediated in a timely manner. NRC's EPR continues to progress toward a final rule that will establish cleanup standards and the Environmental Protection Agency's environmental standard for decommissioning is under development. NRC's final rule on Timeliness was issued on July 15, 1994. After equivalent rulemaking

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actions to the EPR and Timeliness rule in the Agreement States are complete, all regulatory authorities for Atomic Energy Act materials will have the same basis upon which to require additional remediation at contaminated sites.

Before the development of a recommendation for possible further Agreement State action on the remediation of problem contaminated sites, staff identified six questions which they believed needed to be addressed. The following questions were outlined in the August 24 memorandum:

1. Should NRC require Agreement States to develop a program equivalent to NRC's SDMP?
2. Should Agreement States SDMP remediation efforts be tracked in the NRC program?
3. Should NRC Agreement State program reviews be expanded to include a detailed, in-depth review of the State's program for regulating remediation of contaminated sites and facilities?
4. Should or can NRC provide any financial assistance to the Agreement States on SDMP?
5. Should the Oak Ridge National Laboratory's (ORNL) review of terminated licenses be expanded to include the Agreement States and, if so, should NRC extend the contract to look at State files or should ORNL's computer model be made available to the States for their own use?
6. Should NRC's contractor for radiological assessment, Oak Ridge Institute for Science and Education (ORISE), be funded to conduct confirmatory termination surveys for Agreement State contaminated sites that have been remediated?

The staff's evaluation of the issues associated with each question is attached.

Based on the information obtained from the Agreement States and the staff's evaluation of the six questions, staff concludes that dialogue with the Agreement States on problem contaminated site remediation should continue. Further, Agreement States that have not done so will be encouraged to evaluate past license terminations in order to identify any sites or facilities in need of additional remediation to assure that acceptable levels of health and safety and protection of the environment are, and will be, provided. With the assumptions that (1) all known contaminated sites are controlled and public health and safety and environmental protection are assured, and (2) unidentified contaminated sites in need of additional remediation do not pose an unacceptable level of risk for the next few years, NRC will encourage the Agreement States to initiate efforts to identify sites needing further remediation no later than when the Agreement State's equivalent EPR and Timeliness rules are promulgated. Since Agreement States are currently required to promulgate necessary regulations within 3 years of the date of NRC

final rulemaking, the approach outlined here (1) allows time for NRC to discuss this recommendation further with Agreement States and to modify it, as appropriate, based on Agreement State input, (2) allows time for Agreement States to plan for this activity, (3) eventually results in the identification of most or all Agreement State contaminated sites in need of additional remediation, and (4) results in assurance that most or all Agreement State contaminated sites are remediated to acceptable levels of risk based on national standards currently under development.

Attachment:
As stated

cc: SECY
OGC
OCA
OPA

RESPONSES TO QUESTIONS RAISED IN AUGUST 24, 1994 MEMORANDUM
ON SITE DECOMMISSIONING MANAGEMENT PLANNING (SDMP)

Should NRC require Agreement States to develop a program equivalent to NRC's SDMP?

No, NRC should not require Agreement States to develop SDMP-equivalent programs. The NRC's SDMP was developed to identify and resolve issues associated with the timely cleanup of radiologically contaminated sites. NRC's SDMP provides a comprehensive strategy for NRC and NRC licensee activities dealing with the cleanup and closure of contaminated nuclear material facilities. The SDMP has been effective in ensuring resolution of some of the policy and regulatory issues affecting site decommissioning.

Based on the information provided by the States in response to the staff's inquiry, approximately 95 sites in 17 Agreement States are comparable to the 52 sites currently included in NRC's SDMP. It seems reasonable to assume that the same type of obstacles to timely remediation will surface at the Agreement State sites. In that the NRC SDMP provides a comprehensive strategy for the identification, evaluation and remediation of contaminated nuclear material facilities, it would follow that the Agreement States having such sites would benefit from NRC experience in regulating the timely cleanup of their contaminated sites. Urging Agreement States to develop a similar approach, based on requirements established in their regulations, would help ensure that licensees are regulated in a consistent manner, regardless of whether they are regulated by NRC or by an Agreement State. Program goals, definitions, timeliness requirements and cleanup criteria are common elements that NRC and Agreement State programs should share. The degree of compatibility as well as the identification of other common elements will be identified during an NRC/Agreement State dialogue on the development and implementation of the new compatibility policy.

However, the lack of SDMP-equivalent programs in Agreement States has not led to unacceptable risks. It is likely, also, that Agreement States would strongly object to an NRC effort that would, in effect, require SDMP-equivalent programs.

Should Agreement States SDMP remediation efforts be tracked in the NRC program?

No, SDMP-type remediation efforts regulated by Agreement States should not be tracked in NRC's program beyond ensuring that the State is effectively regulating contaminated sites as part of its overall program. Incorporating the tracking of Agreement State efforts to remediate sites in the NRC SDMP program would have the administrative benefit of establishing an efficient, centralized data base for all contaminated sites that are difficult to remediate. While listing Agreement State-lead sites on the NRC's SDMP could prompt more timely remediation by some site owners because of the increased visibility associated with such a listing, there appears to be no significant

health and safety benefit associated with such a listing. The Agreement States have indicated that contaminated sites in their States do not result in any unacceptable risks in their current condition. Furthermore, such a listing would not be welcomed by Agreement States since they would view such action as setting an overly invasive precedent. NRC does not formally track State projects in other program areas. States have routinely expressed their objections to such NRC "interference" in what they consider to be intrusions on their authority under Section 274(n) of the Atomic Energy Act. As one State participant at the March 23, 1994 Agreement State SDMP Workshop declared, "...we, the States who are doing these projects, do not need; want or accept NRC management of our programs, SDMP or others."

NRC maintenance of such a list would require an additional small or modest expenditure of NRC resources. Moreover, these resources would be borne by licensees in non-Agreement States and, in some or many cases, could duplicate efforts made in Agreement States.

On balance, there does not appear to be sufficient justification to warrant tracking of Agreement State sites in NRC's SDMP. It is appropriate for NRC, in the context of Agreement State program reviews, to provide specific oversight and evaluation of the regulation of remediation efforts at contaminated sites in Agreement States.

Should NRC Agreement State program reviews be expanded to include a detailed, in-depth review of the State's program for regulating remediation of contaminated sites and facilities?

Staff does not believe at this time that a detailed, in-depth review is required. What seems appropriate is a review to gain confidence that Agreement State efforts assure that risks associated with contaminated sites in their States are acceptably low and that regulatory oversight continues; that program goals, objectives, and necessary actions to achieve site remediation are established; and that site remediation regulatory efforts have been prioritized according to Agreement State program-wide safety significance. The staffing and funding of Agreement State programs should be sufficient to ensure that regulatory actions necessary for oversight and remediation of contaminated sites can be completed. A more detailed, in-depth review would be warranted only if Agreement State program adequacy concerns developed associated with regulation of contaminated site control and remediation. If Agreement State programs tailored to the needs of the individual State's experience and safety priorities are developed and implemented, the adequacy of the State programs should be discernable by comparing the regulatory actions and actual rate of removal of sites from the States' equivalent of an SDMP list to the goals developed by the States for their programs. If States routinely fail to meet their own goals for reasons that are under their control, then it may be appropriate for NRC to perform a more in-depth review of a State's program.

Can or Should NRC provide any financial assistance to the Agreement States on SDMP?

No, NRC should not provide direct financial assistance to Agreement States for SDMP-type programs. Staff researched a similar question in responding to SECY-94-088, "Request for Seed Money for State Seeking 274b Agreement." The legal and equity issues identified and discussed in that paper are apropos to the question of providing funds to the Agreement States for initiating or improving SDMP programs. SECY-94-088 also indicated that the legislative intent associated with promulgation of Section 274 of the Atomic Energy Act indicated that Federal funding for the operation of Agreement State programs was not contemplated. Nothing in the analysis contained in SECY-94-088 supports NRC financial assistance for Agreement State SDMP-equivalent regulatory actions. Based on the legal and equity issues evaluated in SECY 94-088, the Commission decided not to provide seed money to a candidate Agreement State (Oklahoma). NRC technical assistance could be provided, however, if it were requested by an Agreement State and if NRC resources were sufficient to provide the technical assistance. Such assistance would likely be provided only on a cost reimbursable basis, beginning with FY97.

Should the Oak Ridge National Laboratory's (ORNL) review of terminated licenses be expanded to include the Agreement States and, if so, should NRC extend the contract to look at State files or should ORNL's computer model be made available to the States for their own use?

NRC could make the ORNL site screening methodology available to Agreement States for their own use, but NRC's current budget and schedule for the ORNL project do not allow this technology transfer to the States. Based on the discussion of assistance which can be provided to Agreement States, it does appear to be possible, both legally and financially, for NRC to pay ORNL to provide copies of the computer program, some limited training, and some additional technical assistance, if necessary, to the Agreement States. These costs would be small. If this technology transfer is budgeted in a future fiscal year, assurance would be established that all sites requiring additional remediation to satisfy current residual contamination limits are identified and assessed as to their threat to health, safety and the environment, in both Agreement and non-Agreement States. Because of the equity concerns discussed in SECY-94-088 and the potential costs to NRC, ORNL could only perform such work for Agreement States on a cost reimbursable basis. Whether all Agreement States would use ORNL's computer model for terminated license site screening is uncertain.

To transfer this technology in the near term, funds would have to be obtained through reprogramming or supplemental appropriation. Unless directed by the Commission, however, the staff does not plan to conduct the training and transfer the technology to the States because sufficient resources are not available. NRC's first priority is to complete review of records associated with formerly terminated licenses. This will be completed by ORNL in 1997-1998.

Should NRC's contractor for radiological assessment, Oak Ridge Institute for Science and Education (ORISE), be funded to conduct confirmatory termination surveys for Agreement State contaminated sites that have been remediated?

No, NRC should not fund ORISE to conduct confirmatory surveys at Agreement State-licensed sites. In fact, NRC funding of ORISE to conduct confirmatory surveys of contaminated and remediated sites in non-Agreement States has been substantially reduced. It would be inappropriate for NRC to pay the costs, except (for equity reasons) in cases where the site was remediated and released under an Atomic Energy Commission or NRC license. While NRC's contractor, ORISE, or another contractor hired by an Agreement State, could be utilized to conduct the survey, the State as regulator should bear the cost.

As current or future remediation actions are completed, confirmatory termination surveys will be required if Agreement States conduct their programs in a manner that is similar to NRC's SDMP and other large decommissioning projects. Those confirmatory surveys in Agreement States could be performed by Agreement State personnel themselves, by ORISE, or by another contractor hired by the Agreement State. In all cases, however, costs would be paid by the Agreement State, except when the site was remediated and released originally under an Atomic Energy Commission or NRC license.

SDMP Federal Liability and Estimated Decommissioning Costs

SDMP Site	Federal Liability*	Estimated Decommissioning Cost
Advanced Medical Systems; Cleveland, OH	Clean up funds do not appear to be adequate	\$1,800,000
Aluminum Company of America; Cleveland, OH	No	Remediation complete
Anne Arundel County/Curtis Bay; Anne Baltimore, MD	Defense Logistics Agency site	\$1,700,000
Army, Aberdeen Proving Ground; Aberdeen, MD	Department of Army site	\$17,000,000
Army, Jefferson Proving Ground; Madison, IN	Department of Army site	Army requested restricted termination for use as wildlife refuge; EIS in preparation
Babcock & Wilcox; Apollo, PA	Congress provided \$29 Million for remediation	Remediation complete
Babcock & Wilcox; Parks Township, PA	No	\$22,000,000 to \$37,000,000 for on-site disposal; \$62,000,000 to \$115,000,000 for off-site disposal
BP Chemicals America; Lima, OH	No	\$19,500,000

- * As of the Current Date.
- * Comprehensive Environmental Response Compensation and Liability Act.

Brooks & Perkins; Detroit, MI	No	Not available, needs characterization
Brooks & Perkins; Livonia, MI	No	Not available, needs characterization
Cabot Corporation; Boyertown, PA	No	Not available
Cabot Corporation; Reading, PA	No	Not available
Cabot Corporation; Revere, PA	No	Not available
Chemetron Corporation, Bert Avenue; Newburgh Heights, OH	No	\$5,300,000
Chemetron Corporation, Harvard Avenue; Cuyahoga Heights, OH	No	\$2,120,000
Clevite Corporation; Cleveland, OH	No	Not available, needs characterization
Dow Chemical Company; Midland, MI and Bay City, MI	No	\$8,000,000
Elkem Metals, Inc.; Marietta, OH	No	Remediation Complete
Engelhard Corporation; Plainville, MA	No	Not available, needs characterization
Fansteel, Inc.; Muskogee, OK	No	\$3,860,000
Hartley and Hartley Landfill; Bay County, MI	No	Not available, needs characterization
Heritage Minerals; Lakehurst, NJ	No	\$400,000
Horizons, Inc.; Cleveland, OH	DOE accepted responsibility to remediate based on old AEC contract provisions	Not available, needs characterization

Kaiser Aluminium; Tulsa, OK	No	Not available, needs characterization
Kerr-McGee; Cimarron, OK	No	Not available
Kerr-McGee; Cushing, OK	No	\$3,200,000
Lake City Army Ammunition Plant; Independence, MO	Department of Army site	\$4,700,000
Magnesium Elektron; Flemington, NJ	No	To be removed from SDMP list, characterization shows no licensable material
Minnesota Mining and Manufacturing Co.; Pine County, MN	No	Not available
Molycorp; Washington, PA	No	\$8,000,000 for on-site disposal
Molycorp; York, PA	No	\$3,900,000
Northeast Ohio Regional Sewer District; Cleveland, OH	No	Not available, characterization just completed
Nuclear Metals, Inc.; Concord, MA	Department of Army may provide partial funding	Proprietary information
Permagrain Products; Media, PA	No	\$5,000,000
Pesses Company; Pulaski, PA	CERCLA site	\$6,000,000 to \$10,000,000
RMI Titanium Company; Ashtabula, OH	DOE providing remediation funding under contract provisions	\$143,700,000
RTI, Inc.; Rockaway, NJ	No	Not available, needs characterization

Safety Light Corporation; Bloomsburg, PA	Clean up funds do not appear to be adequate	More than \$20,000,000, needs characterization
Schott Glass Technologies; Duryea, PA	No	\$500,000 to \$88,000,000 depending on on-site or off-site disposal
Sequoyah Fuels Corporation; Gore, OK	Clean up funds do not appear to be adequate	\$86,000,000
Shieldalloy Metallurgical Corporation; Cambridge, OH	Licensee petitioned for Chapter 11 bankruptcy, possible CERCLA site	\$3,800,000 for on-site disposal; \$293,000,000 for off-site disposal
Shieldalloy Metallurgical Corporation; Newfield, NJ	Licensee petitioned for Chapter 11 bankruptcy, possible CERCLA site	\$2,500,000 for on-site disposal
Texas Instruments, Inc.; Attleboro, MA	No	Not available, remediation almost complete
UNC Recovery Systems; Wood River Junction, RI	No	Remediation complete
United Technologies - Pratt & Whitney; Middletown, CT	No	Remediation complete
Watertown Arsenal/Mall; Watertown, MA	Department of Army site	\$80,000,000; remediation almost complete
Watertown GSA; Watertown, MA	General Services Administration site	Not available; needs additional characterization
Westinghouse Electric Corporation; Waltz Mill, PA	No	Not available; characterization just completed

West Lake Landfill; Bridgeton, MO	CERCLA site	Not available; EPA performing Remedial Investigation/ Feasibility Study
Whittaker Corporation; Greenville, PA	No	Not available; needs characterization
Wyman-Gordon Company; North Grafton, MA	No	Not available; will provide in remediation plan