POLICY
NOTATION VOTE

August 23, 2000 SECY-00-0180

FOR: The Commissioners

FROM: William D. Travers
Executive Director for Operations

SUBJECT: ISSUES AND FUNDING OPTIONS TO FACILITATE REMEDIATION OF DECOMMISSIONING SITES IN NON-AGREEMENT STATES

PURPOSE:

To describe and analyze the issues and funding options to facilitate the remediation of sites in non-Agreement states where adequate funding is not available and the site would not qualify for remediation by the U.S. Environmental Protection Agency (EPA). This Commission paper responds to both the August 25 and August 26, 1999, Staff Requirements Memoranda (SRMs) associated with SECY-99-193 and the July 29, 1999, Commission briefing on the decommissioning program, respectively. Significant policy issues and recommendations are provided for Commission decision.

SUMMARY:

This paper describes the key issues important to facilitating the remediation of sites in non-Agreement states where adequate funding might not be available. The issues discussed include: Nuclear Regulatory Commission's (NRC's) responsibility in the remediation process; legal authority for NRC to hold and distribute funds for remediation; criteria for determining remediation funding needs; estimated need for funding; and resolution of long-term controls for onsite disposal. Options for facilitating and funding remediation are also analyzed for two sets of sites: 1) formerly-licensed sites, and 2) Site Decommissioning Management Plan (SDMP) and complex sites.

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BACKGROUND:

Direction Setting Issue (DSI) 9, "Decommissioning–Non-Reactor Facilities" addressed concerns and options for resolving the funding at some decommissioning sites. On March 31, 1997, the Commission approved Option 7, of DSI-9, which discussed solutions for lower-cost disposal. In addition, SECY-97-188, SECY-98-011, and SECY-98-273 addressed funding assistance for formerly-licensed sites in Agreement States including the number of sites, initial cost estimates, and options for funding. Finally, SECY-99-193 reevaluated cost estimates for completing the formerly-licensed site program in both Agreement and non-Agreement States, and recommended that the Commission request funds for remediation of sites in Agreement States, and establish a grant process for allocating and managing these funds. SRM-SECY-99-193, dated August 25, 1999, approved the recommendation to request an appropriation for a grant program to fund remediation of formerly-licensed sites in Agreement States, which was included in the NRC's fiscal year (FY) 2001 budget request to Congress. This SRM also requested the staff to prepare a paper that:

1. Describes and analyzes the issues that need to be considered before the Commission can propose legislation aimed at facilitating the clean up of sites in non-Agreement States; and,

2. Explores options to make funds available to complete remediation at those few sites where adequate funding is not available and the site would not qualify for EPA clean-up.

Based on discussions during a July 1999 briefing to the Commission on implementing the License Termination Rule (LTR) and the decommissioning program, the Commission issued an SRM on August 26, 1999, repeating the request in SRM-SECY-99-193.

DISCUSSION:

I. Issues

Issues important to understanding the options for facilitating and funding the remediation of sites are summarized below. Additional description and analyses of each issue are included in Attachment 1. The sites at issue do not present immediate hazards to public health and safety or the environment, assuming that they have sufficient financial resources to maintain the controls that are currently in place. However, these sites are contaminated with radionuclides that will remain hazardous for a long period of time, and successful remediation and license termination is important to protecting the public health and safety and the environment. In addition, it will improve the public's confidence in NRC and resolve one of the remaining actions needed to close out the Government Accounting Office's concerns raised in 1989 regarding contamination at a few sites where licenses had been previously terminated.

A. NRC's Responsibility in the Remediation Process for Formerly-Licensed Sites in Non-Agreement States.

NRC does not have statutory authority to remediate formerly-licensed sites in non-Agreement States, either directly or through the use of an NRC contractor. As such, the staff is not seeking such authority and options focus on NRC facilitating decommissioning by other parties. However, for formerly-licensed sites in non-Agreement States, NRC has the authority to require an owner to obtain a possession-only license to provide the minimum control necessary for the protection of the public health and safety (e.g., posting, deed restriction, periodic monitoring, or possibly fencing). Such control would be in place until the site is remediated, thereby addressing any long-term public health and safety issues. If the site has no identified owner, or the owner cannot provide the minimum controls under a possession-only license, NRC may have no other alternative except to refer the site to EPA for remediation.

B. Legal Authority for NRC to Hold and Distribute Funds for Remediation of Sites in Non-Agreement States.

Although statutory authority exists for NRC to hold and provide funds for remediation in the form of grants to Agreement States, NRC does not have similar authority to hold and provide funds to licensees or other responsible parties in non-Agreement States. As such, there is no established Agency process to hold, distribute, and manage such funds. The grant process for remediation of sites in Agreement States that the Commission approved in SRM-SECY-99-193 is relevant only to the Agreement States and would need modification based on legislative authorization to provide funds for sites in non-Agreement States.

C. Criteria for Determining Remediation Funding Needs.

Specific criteria are needed to determine when funding is appropriate and to minimize the need for Federal funding. In addition, guidance for implementing the criteria, including how to determine financial capability and address the types of cases expected, is needed. The following general criteria are proposed: 1) current or previous licensee is not financially capable; 2) current licensee cannot obtain sufficient financial assurance; 3) owner of non-licensed site is not financially capable; and 4) site would not qualify for EPA clean-up. One additional criterion, i.e., owner not responsible or previously released site, which the staff does not recommend, is discussed in Attachment 1.

D. Estimated Need for Funding of Formerly-Licensed Sites in non-Agreement States.

To date, one site, the International Mining Company site in Wyoming, will need remediation and possibly funding assistance. Remediation costs for this site might be as much as $1-3 million. Furthermore, the staff assumed that Regional reviews might identify two additional sites that could require approximately $800,000 for remediation. The final number of formerly-licensed sites that might need remediation, if any, will be determined after the Regions complete their formerly-licensed site reviews in FY 2001. However, a total cost of $1.8-3.8 million should be assumed for the three sites, at this time.

Additionally, if offsite disposal is required, as many as eight current SDMP sites may not have sufficient decommissioning funding. As noted in DSI-9, several of these sites have very large quantities of low-level waste and disposal at a licensed disposal site can exceed hundreds of millions of dollars. At this time, specific estimates of future funding needs are highly uncertain. Sources of uncertainties include: Licensee plans and staff approvals of onsite or offsite disposal, long-term institutional controls, disposal cost estimates, licensee financial capability, obtaining additional financial assurance, and qualifying for EPA remediation.

E. Resolution of Long-Term Controls for Onsite Disposal.

To date, SDMP and complex site licensees requesting restricted release are having difficulties finding qualified and willing entities for long-term control after license termination. Resolving this issue could facilitate approval of onsite disposal for restricted use at as many as eight sites. One approach might be to use Section 151(b) of the Nuclear Waste Policy Act of 1982 (NWPA) for onsite disposal of decommissioning waste. This provision authorizes the DOE, under certain conditions (including title transfer without cost to the Federal Government), and with DOE approval, to take custody of low-level radioactive waste and the land on which the waste is disposed of and provide long-term control.

II. Options for Facilitating and Funding Remediation

In view of these issues, the staff identified options to facilitate or fund remediation of both formerly-licensed sites in non-Agreement States and SDMP/complex sites. Two sets of options are presented because of the contrasting nature of the sites and level of remediation cost of the sites in each set. Detailed description and analyses, including pros and cons for each option, are provided in Attachment 2.

A. Formerly-Licensed Sites in Non-Agreement States. These options apply to non-SDMP/complex sites where the former licensee is no longer in existence and the current owner is not financially capable for remediation. They pertain to a few sites where low cost remediation for unrestricted release is anticipated. For these sites, a possession-only license will be issued to the owner to provide the minimum control necessary for the protection of the public health and safety until the site is remediated.

Option A1: Request authorization and appropriation for State-directed remediation;

Option A2: Seek agreement with, and then assist, another Federal agency to request authorization and appropriation to conduct site remediation in accordance with NRC regulations;

Option A3: Maintain the status quo and rely on the possession-only license for the long term until there is a remediation solution;

Option A4: Refer the site to EPA if the site is abandoned and without an identified owner/possessor or if the owner/possessor has insufficient funds for either remediation or the minimum controls under a possession-only license.

B. SDMP and Complex Sites. These options apply to licensed sites considering restricted release, where funds might not be available for offsite disposal. There may be as many as eight of these sites.

The following options are proposed as near-term actions to facilitate remediation and reduce the need for potential future funding:

Option B1: Seek DOE agreement through a memorandum of understanding (MOU) to provide long-term control as authorized under NWPA Section 151(b) after remediation and license termination for sites with restricted release;

Option B2: Seek lower-cost offsite disposal by consolidating waste from multiple sites in a region at one site and using onsite disposal with restricted release;

Option B3: If DOE agreement is not achieved per Option B1, seek legislation requiring DOE to provide long-term institutional control, as provided under NWPA;

The following options might be considered if high-cost offsite disposal is needed:

Option B4: Licensee funding by increasing financial assurance for offsite disposal until the NRC approves the sites's decommissioning plan;

Option B5: Seek legislation to give the NRC authority, similar to EPA's Superfund authority;

Option B6: Seek agreement with, and then assist, another Federal agency in requesting authorization and appropriation to conduct site remediation (same as Option A2, above);

Option B7: Maintain the status quo.

RECOMMENDATIONS:

Formerly-Licensed Sites in Non-Agreement States

The staff recommends that the Commission approve Option A1-- to request an authorization and appropriation to fund State-directed remediation. This option is preferable because it will facilitate remediation. It may be easier to implement, for the few sites that may be identified, than Option A2, which would include deciding which other agency remediation process should be used, negotiating agreements with the selected agency, and seeking legislation to transfer sites to another agency for remediation. However, if a State does not agree to direct the remediation for a site, the staff recommends that Option A2 be pursued.

RESOURCES:

$1 million in FY 2003 and $2.8 million in FY 2004. This is a planning wedge that will be refined after further discussions with the State of Wyoming and the Regions complete the remaining terminated license reviews in FY 2001.

SDMP and Complex Sites in Non-Agreement States

The staff recommends that the Commission approve Option B1, seek DOE agreement to provide long-term control, as authorized under NWPA, and Option B3, to seek legislation if DOE does not agree.

Option B1 is considered to have the greatest potential benefit and will likely be less difficult to achieve because DOE is already authorized to provide long-term control under the NWPA. Option B2 is included for completeness and is not considered a viable option because the staff does not believe that States and the public would be receptive to the Option. The staff does not recommend Options B4-7 at this time because these options should only be considered if funding is needed for high-cost offsite disposal. The staff recommends that these options be revisited if Options B1 and 3 to reduce the need for future funding are not successful.

RESOURCES:

No additional resources are needed. Completing the MOU with DOE, for transfer of sites for DOE long-term custody, is part of resolving the long-term control issue, which is currently budgeted in FY 2000 under the SDMP program management activity, and in FY 2001, under the policy and issue resolution activity.

COORDINATION:

The Office of the General Counsel has reviewed this paper and has no legal objections. The Office of the Chief Financial Officer has reviewed this paper for resource implications and has no objections.

/RA by Frank J. Miraglia Acting For/

William D. Travers
Executive Director
for Operations

Attachments:
1. "Description and Analyses of Issues Related to Facilitating the Remediation of Sites in Non-Agreement States"
2. "Description and Analyses of Options to Make Funds Available for Remediation of Sites in Non-Agreement States"

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DESCRIPTION AND ANALYSES OF ISSUES RELATED TO FACILITATING THE REMEDIATION OF SITES IN NON-AGREEMENT STATES

A. NRC's Responsibility in the Remediation Process for Formerly-Licensed Sites in Non-Agreement States.

The NRC does not have statutory authority to remediate formerly-licensed sites in non-Agreement States--either directly, or through the use of an NRC contractor acting under its direction and on its behalf. The staff is not seeking such authority, as such a role appears to be inconsistent with NRC's regulatory responsibilities to review site remediation and make license termination decisions to release a site for either unrestricted or restricted use. This issue is an important consideration in evaluating funding options, because it precludes direct NRC remediation in contrast to other Federal agencies that have authorization to perform site remediation [e.g., U.S. Environmental Protection Agency (EPA), U.S. Department of Energy (DOE), and the U.S. Army Corps of Engineers (COE)].

Under the Atomic Energy Act of 1954, as amended (AEA), NRC is charged with ensuring the protection of the public health and safety from the use of byproduct, source, and special nuclear material. NRC has the authority to require the current owner of a formerly-licensed property to obtain a license, if licensable material remains on the site, as the AEA requires persons possessing licensed material to obtain a license. The NRC may decline to require such a license by exercising its enforcement discretion provided it does not abuse its discretion. In the past, NRC has taken the position that non-licensees who possess licensed material are responsible for the remediation of such material. NRC has not required these non-licensees to obtain licenses if they act in good faith and take necessary actions to provide for the public health and safety. The staff is considering a Commission paper that recommends a change to this policy to require non-licensees to become licensees in the case of restricted releases or where they do not meet the standards of the license termination rule in 10 CFR Part 20, Subpart E. Thus, if the possessor of the material that could be licensed has resources to provide the minimum control necessary for protection of the public health and safety (e.g., postings, deed restrictions, periodic monitoring, possibly fencing, etc.), it should be required to do so, as it is appropriate for the NRC to make use of the authority granted by Congress to provide for the protection of the public health and safety. This could be achieved by a possession-only license for the long-term consistent with the license termination rule.

If a possessor of the material and owner of the site is essentially bankrupt and does not have the assets for even a minimum level of controls for protection of the public health and safety, or the site has been abandoned without an identified owner, referral to EPA may be the only alternative available. Even if the person has funds for minimum controls, referral to EPA may be warranted if the person has insufficient funds for remediation to address long-term protection of public health and safety. However, a premise of this paper is that the sites will not qualify for EPA remediation. Thus, referral to EPA may be tantamount to having no action taken.

B. Legal Authority for the NRC to Hold and Distribute Funds for Remediation of Sites in Non-Agreement States.

Although statutory authority exists for NRC to hold and provide funds in the form of grants to Agreement States, the NRC does not have similar authority to hold and distribute Federal funds to either licensees or other responsible parties in non-Agreement States. Authorization

and appropriation would be needed from Congress. Likewise, there is no established Agency process to hold, distribute, and manage such funds. The specific grant process for remediation of sites in Agreement States that the Commission approved in SRM-SECY-99-193 is relevant only to the Agreement States and would need modification to provide Federal funds to licensees or trustees for sites in non-Agreement States. Similarly, the existing Agency process to transfer financial assurance funds to a trust for trustee use in site remediation is not set up for use of Federal funds.

C. Criteria for Determining Site Remediation Funding Needs.

Specific criteria are needed to determine when funding is appropriate and to minimize the need for Federal funding assistance. In addition, guidance for implementing the criteria, including how to determine financial capability and address the types of cases expected is needed. Criteria or various conditions have been previously discussed in Direction Setting Issue (DSI) 9 and SECY-98-273. Furthermore, criteria approving a grant to an Agreement State to remediate formerly-licensed sites in Agreement States are given in SECY-99-193 and were approved by the Commission. Based on this background, the following criteria are proposed:

1) Current or previous licensee is not financially capable.

a) Current licensee is already bankrupt; or

b) All available licensee assets have been obtained from the current licensee without causing bankruptcy, but these assets are insufficient to complete remediation; or

c) The previous licensee and, if any, parent companies for formerly-licensed sites are either not in existence, not financially capable, or not legally reachable.

2) Current licensee cannot obtain sufficient financial assurance.

a) Licensee would be bankrupt by paying for higher financial assurance amount that might be needed for offsite disposal; or

b) Licensee does not have sufficient collateral to obtain a sufficient financial assurance instrument needed for offsite disposal.

3) Owner of non-licensed site is not financially capable.

a) Owner is bankrupt; or

b) All available owner assets have been obtained without causing bankruptcy, but these assets are insufficient to complete remediation.

4) Site would not qualify for EPA remediation under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

a) As a result of EPA analysis of site data, the site does not score high enough on EPA's hazard ranking system to be added to EPA's National Priorities List (NPL).

The staff also considered but does not propose another criterion: the owner of a site was not responsible for the contamination regardless of the person's financial capability. Two situations are envisioned to be under this criterion. First would be the person, who in good faith,

purchased the property knowing that the U.S. Atomic Energy Commission or NRC had released the property for unrestricted use. Presumably, such persons might not have purchased the property had they known that there was a potential for being held responsible for the cleanup of the residual radioactivity. In addition, the existence of the release documents from the Government may have caused such persons to not perform an investigation to determine the presence of radioactivity on the property, assuming they had reason to know or suspect that there were past uses of radioactive material on the property. The second situation would be where the person receives radioactive material that had been properly released for unrestricted use. A sewer district would fall into this category. Although arguments can be made that persons in these situations should not be held financially responsible for the cleanup of the radioactive material, the Atomic Energy Act holds the possessor of the radioactive material responsible for its control, including remediation. In the past, the Commission has not relieved these persons, if financially capable, from their responsibility. For example in SECY 99-193, the Commission approved criteria based on financial capability, but not responsibility for the material. Persons who receive waste from others, such as sewer districts, take the risk that the material may be subject to regulation. Purchasers of property take a risk that regulatory requirements may change or past decisions may be revisited, based on changed policies or past errors. Although a person may seek a remedy against the Government for its negligence, it is doubtful that a person would receive a remedy under the Federal Tort Claims Act for a negligent decommissioning decision. Finally, CERCLA establishes a strict liability standard that makes it very difficult for landowners to escape financial responsibility for remediation of their properties.

D. Estimated Need for Funding of Formerly-licensed Sites in Non-Agreement States.

1. Formerly-licensed sites in Non-Agreement States [non-Site Decommissioning Management Plan (SDMP) or complex sites]. SECY-99-193 reported two confirmed contaminated sites [Fostoria Glass in West Virginia and International Mining Company (IMC) in Wyoming] and assumed future reviews would identify two additional contaminated sites that would need funding and likely would not qualify for EPA remediation. Subsequently, the staff found the Fostoria Glass site in compliance with criteria for unrestricted use, and remediation was not needed. SECY-99-193 included an estimated remediation cost of about $400,000 per site or $1.3 million for the three sites, based on an average historical cost of site remediation. This is an initial estimate that needs to be revised based on new, site-specific information that the Regions will obtain when they complete their site reviews and surveys during fiscal year (FY) 2001.

Regarding the one confirmed site, additional information about the IMC site indicates that the $400,000 estimate may be low for this mill tailings remediation. Although $400,000 is similar to a completed remediation of a uranium mill tailings site that was small and relatively simple, the cost of remediation will likely be higher, for two reasons: 1) additional contamination could be found at two additional locations that need to be located and surveyed for contamination; and 2) the disposal will likely be more costly than the simple method used for the remediation noted above. Therefore, additional information that will be collected will provide a more realistic estimate. Also, initial discussions between Region IV and the State of Wyoming indicate that Wyoming will consider participating to a limited extent in the remediation. However, no commitments have been made at this time. Therefore, until new information is available and more specific discussions are conducted with the State of Wyoming, a total estimate of $1-3 million is assumed for remediation of all three locations for the IMC site.

2. SDMP/complex sites in non-Agreement States. There is a potential future need for financial assistance at some licensed and unlicensed sites, as summarized below. One licensed site was recently granted an exemption from the financial assurance requirement and permitted to proceed with limited remediation using available funds to achieve some remediation progress and avoid possible bankruptcy (Safety Light). This site will be reevaluated at the end of the 5-year license renewal period, to determine completed remediation, remaining remediation cost estimate, and licensee financial capability.

Six licensed sites might be unable to fund the high cost of offsite disposal if their desired onsite disposal options are not approved by the NRC (Fansteel; Michigan Department of Natural Resources; SCA Services; Molycorp Washington; Sequoyah Fuels; and Shieldalloy-Newfield). DSI-9 estimated that offsite disposal costs can exceed hundreds of millions of dollars. One site-specific example is for the Sequoyah Fuels site in Oklahoma, where the licensee estimated a total cost of $174 million for offsite disposal of approximately 255,000 cubic meters (9 million cubic feet) of contamination. This cost estimate includes about $55 million for rail shipping and $90 million for disposal at Envirocare, Utah. For comparison with this offsite disposal cost estimate, the licensee estimated a variety of onsite disposal options, ranging from $29-44 million.

One unlicensed site under NRC jurisdiction that is not responsible for contamination is unlikely to possess the funds necessary to remediate the site since, at this point in the staff's review, there is a question if onsite disposal is acceptable (Kiski Valley Water Pollution Control Authority).

3. Uncertainties in funding estimates. Numerous uncertainties exist at this time regarding the estimated financial assistance needed: the number of identified sites that meet the criteria; potential for additional sites to be identified in the future; onsite versus offsite disposal decisions; extent of contamination present and the remediation needed; cost estimates; financial capability; decision schedules; and results of the Regions' remaining reviews of formerly-licensed sites.

4. Uncertainties in evaluating potential for EPA remediation under CERCLA. Qualification for EPA remediation depends on requesting the EPA to score a site using its Hazard Ranking System; if the site score is high enough to be added to the NPL, it would qualify for remediation under CERCLA. Scoring on the Hazard Ranking System is based on judgments about type of contamination, potential for release, and proximity to receptors. Although the staff has not requested EPA to score sites with NRC- licensed material, the staff continues to believe its view -- given in DSI-9 and SECY-99-193 -- that low scores on the Hazard Ranking System would likely be assigned and these scores may not meet the threshold for listing on the NPL. The fact that EPA may not provide a high priority for these sites does not mean that there is not a potential long-term health and safety concern about these sites; rather, it means that there are more important sites with greater risks to health and safety.

E. Resolution of Long-Term Controls for Onsite Disposal.

Long-term control, including stewardship and institutional control, is a key issue to resolve that should facilitate remediation at those sites planning onsite disposal and restricted release.

The staff's experience to date indicates that licensees are having difficulties finding qualified and willing entities for long-term stewardship and institutional control after remediation and

license termination. These difficulties are primarily caused by the concern over financial liability over a time period of up to 1000 years arising from the possibility of future regulatory changes requiring additional remediation or failures of engineered barriers necessitating rebuilding containment cells. Although neither one of these events is likely to occur, one cannot guarantee that they will not. In addition, the durability of long-term institutional controls is another concern. Resolving the issue of long-term control could significantly facilitate the approval of onsite disposal for restricted use at as many as eight sites and avoid the higher cost of offsite disposal, which could exceed hundreds of millions of dollars. Some licensees might not have adequate funds or might not be able to obtain additional financial assurance for these higher costs.

A solution to the long-term control issue might be to use Section 151(b) of the Nuclear Waste Policy Act of 1982 (NWPA) for onsite disposal of decommissioning waste. This provision authorizes DOE, with DOE's approval, to take custody of low-level radioactive waste and the land on which the waste is disposed of on request of the owner and after termination of the license, if the Commission determines that: 1) NRC requirements have been met, including financial assurance for long-term institutional control; 2) title and custody will be transferred at no cost to the Federal Government; and 3) Federal ownership and management are necessary or desirable to protect the public health and safety and the environment. For those sites transferred, DOE would maintain the waste and land in a manner that would protect the public health and safety and the environment. The Commission approved this approach as part of Option 7 in DSI-9. Subsequently, as reported in SECY-97-046, regarding the final license termination rule, the staff began work with DOE at the staff level on a draft MOU to implement the Section 151(b) provision. Higher-priority work impacted completion of the draft MOU. The staff has reinitiated its discussion with DOE staff to seek agreement in principle with DOE to use Section 151(b) of NWPA and complete the MOU. Also, in response to a recent DOE request, the staff has provided a list of potential sites and site descriptions, to DOE, that might be considered for transfer under Section 151(b).

Finally, staffs from both Nuclear Materials Safety and Safeguards and the Office of the General Counsel have established the Institutional Control Working Group to: 1) assist in completing the MOU with DOE; 2) resolve issues and coordinate activities related to implementing institutional control requirements under the license termination rule; and 3) identify needs for additional guidance or issues warranting further Commission policy consideration.

DESCRIPTION AND ANALYSES OF OPTIONS FOR FACILITATING AND FUNDING THE REMEDIATION OF SITES IN NON-AGREEMENT STATES

A. Formerly-licensed Sites in Non-Agreement States [Non-Site Decommissioning Management Plan (SDMP) or Complex Sites]:

Option A1. Request authorization and appropriation of Federal funds for State-directed remediation. Determine the amount to request for fiscal year (FY) 2003 and possibly FY2004, after discussions with the State of Wyoming, regarding the International Mining Company (IMC) site, and after the Regions complete the remaining terminated license reviews, to identify sites that need funding assistance for remediation, and estimate remediation costs to support a budget request. Based on information at this time, an initial, rough estimate is $1 million in FY 2003 and $2.8 million in FY 2004, for the three assumed sites.

Pros:

The one actual site identified (IMC) is a small uranium mill tailings site in Wyoming. Initial discussions with the State of Wyoming indicate it will consider participating to a limited extent in remediation; however, no specific commitments have been made. This remediation would be similar to Wyoming's activities to remediate the nearby American Nuclear Corporation (ANC) mill tailings site. ANC went bankrupt and the available financial assurance funds were transferred to the State of Wyoming when it chose to conduct the remediation.

This option is similar in concept to funding Agreement States for formerly-licensed sites, which was approved by the Commission. This option could be implemented using procedures similar to existing the U.S. Nuclear Regulatory Commission (NRC) procedures for establishing grants to Agreement States for remediation of formerly licensed sites in Agreement States.

These two funding requests, taken together, will allow remediation of all remaining sites identified as part of the Terminated License Review Project; remediation is an important part of closing out the 1989 Government Accounting Office (GAO) concerns.

Cons:

This option would need Congressional authorization and appropriation for NRC to hold and allocate funds to States. This would be an Agency precedent and legislation may be difficult to obtain.

Legislation and Agency procedures would need to be developed.

Some NRC oversight would be needed to administer the remediation activities.

Making a FY 2003 budget request is dependent on obtaining additional site-specific information early in FY 2001, to have a better basis for a budget request.

There could be some concern with why the Federal government should pay for remediation of sites that would likely not score high enough to be on EPA's National Priorities List (NPL).

Option A2. Seek agreement with and then assist another Federal Agency [U.S. Environmental Protection Agency (EPA), U.S. Department of Energy (DOE), and the U.S. Army Corps of Engineers (COE)] in requesting authorization and appropriations to conduct site remediation in accordance with NRC regulations. This option would provide for modifying the Formerly Utilized Sites Remedial Action Program (FUSRAP), the Uranium Mill Tailings Radiation Control Act (UMTRCA), or the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) legislation to include NRC designated sites.

Pros:

The DOE and the COE have radiological remediation experience and contractors for similar sites and contamination. In particular, the DOE is responsible for remediating certain mill tailings sites under UMTRCA, which the NRC approves. The COE is responsible for remediation of FUSRAP sites. The EPA also has extensive experience under CERCLA with remediation, including radioactive contamination.

Remediation is an important part of closing out the GAO concerns.

DOE or COE remediation would also allow the existing transfer processes after remediation to DOE for long-term care.

No NRC budget request.

Cons:

There is no existing legislation nor arrangements with agencies; staff resources would be needed to assist in proposing legislation and establishing arrangements with the selected agency. Legislation may be difficult to obtain.

There could be some concern with why the Federal government should pay for remediation of sites that would likely not score high enough to be on EPA's NPL.

This option could be viewed as relinquishing our regulatory responsibility.

Option A3. Maintain status quo and request no funding nor transfers to another agency for remediation in the short term. Rely on the possession-only license for the long term until there is a remediation solution.

Pros:

No NRC request for authorization or appropriation. This can be done under existing law.

Cons:

Contamination at one to three sites would not be remediated.

The GAO concerns would not be closed out.

There is a potential to initiate public concern within communities close to the sites because of lack of remediation.

Option A4. Refer to EPA if the site is abandoned and without an identified owner/possessor or if the owner/possessor has insufficient funds for either remediation or the minimum controls under a possession-only license. This would also include referring sites where the owner/possessor can support the minimum controls under a possession-only license but not remediation.

Pros:

No request for authorization or appropriation is needed. Furthermore, if authorization/appropriation requests are attempted but not approved, this option is an available option under existing law.

Protection of public health and safety in the near term can be ensured by minimum controls put in place under the possession-only license.

Having no other viable alternative, no further NRC action would be necessary.

Cons:

Because these sites would likely score low on EPA's Hazard Ranking System (see page 4 of Attachment 1) they would likely not qualify for EPA remediation after referral to EPA.

The failure to seek a legislative solution such as in Options A1 and A2, could be seen as a failure of NRC to address the termination of licenses that did not provide adequate long-term protection of public health and safety.

B. SDMP and Complex Sites

The following short-term options are proposed to facilitate remediation and reduce the need for potential future funding:

Option B1. Seek DOE agreement through a MOU to provide long-term institutional control as authorized under Section 151(b) of the Nuclear Waste Policy Act of 1982 (NWPA) after remediation and license termination for sites with restricted release. A DOE agreement would likely resolve the long-term control issues, thereby facilitating the licensee's preparation of decommissioning plans and NRC's approval of these plans for onsite disposal and restricted release. Furthermore, this approach would likely reduce the number of sites needing higher-cost offsite disposal and avoid the need for future funding where licensees do not have sufficient funds for offsite disposal.

Pros:

This approach would provide an acceptable solution to long-term control for sites where licensee efforts have failed to obtain a party willing to accept the responsibility for the site and potential liability for long-term control. Long-term protection through Federal ownership was a purpose in establishing Section 151(b) of NWPA.

This approach potentially could save hundreds of millions of dollars in remediation costs, depending on the number of sites that could meet the regulations for the less costly onsite disposal with restricted release and long-term institutional controls.

Onsite disposal with restricted release is a disposal approach permitted by the existing regulations if the requirements are met.

No legislation would be needed to authorize transfer of sites to DOE, since provisions already exist in Section 151(b) of NWPA. Under this provision, if the requisite conditions are met, title and custody of the sites could be transferred with no cost to DOE, for long-term monitoring and maintenance. Although DOE is authorized to accept title and custody, it would need to approve such a transfer.

A similar provision in Section 151(c) of NWPA pertains to special sites where the low-level waste is the result of a licensed activity to recover zirconium, hafnium, and rare earths from source material. This provision was used to transfer the AMAX site in Wood County, West Virginia, to DOE, after it was stabilized, and a funding account was established to cover future surveillance and monitoring costs.

This option could be arranged by first seeking a verbal “agreement in principle” from the DOE and then completing an NRC/DOE MOU to implement the agreement.

This option is similar to what DOE currently provides under UMTRCA, which requires DOE or a State to take possession of uranium mill tailing disposal sites for long-term custody and monitoring, unless the Commission determines that such an action is not necessary or desirable. DOE has an existing program in place through its Grand Junction Field Office. In addition, DOE has long-term stewardship responsibility for some FUSRAP sites.

This approach would avoid unnecessary regulatory burden associated with arranging and approving potentially complex and contentious institutional control provisions. Burden would be avoided for as many as six licensees and one non-licensee, and their associated stakeholders, including State governments and affected public near these sites.

This approach would be more efficient for the staff and licensees by arranging one MOU, with DOE, that would result in a generic approach that the staff would find acceptable for many sites to use. This generic approach would avoid the need for licensees to prepare, and staff to review, customized approaches for many individual sites. These site-specific approaches can be complex and contentious arrangements among the licensee and other parties that may be undecided about being responsible for long-term institutional control.

This approach might increase public confidence in onsite disposal and long-term institutional control by: using a single and simpler approach for all sites; relying on the Federal Government for greater long-term stability of controls; and using DOE, which has experience with similar sites.

Cons:

It is uncertain if DOE will agree to future use of Section 151(b) of NWPA. If the staff is not successful in negotiating an agreement with DOE management, special Commissioner interactions with DOE at the Secretary level may be needed to achieve agreement, or legislation might be needed that would require DOE to take custody of those sites that meet the conditions of Section 151(b), as proposed in Option B4.

An MOU with DOE is not as permanent as legislation.

Even if DOE were to agree with this approach, the public might remain opposed to onsite disposal at specific sites.

The review and decision process for any site proposing onsite disposal with restricted release will require more staff resources than offsite disposal with unrestricted release, because of additional technical review complexity and the need for an Environmental Impact Statement (EIS).

Option B2. Seek lower cost offsite disposal by consolidating waste from multiple sites in a region at one site and using onsite disposal with restricted release (e.g., Fansteel, Sequoyah Fuels, and Kaiser in Oklahoma; Molycorp Washington, Safety Light, and Kiski Valley in Pennsylvania). The NRC would initiate discussions first with the States and then among licensees, owners, low-level waste compacts, and other stakeholders in Oklahoma and Pennsylvania, to explore potential interest, benefits, and impediments. This Option is included in this paper for completeness only, as the staff does not consider this a viable option.

Pros:

Offsite disposal costs would be lower, in part, because of the lower cost of transportation to nearby sites.

More sites would be decommissioned with unrestricted use and there would be fewer sites with onsite disposal and restricted use. This would reduce environmental impacts associated with land withdrawal at restricted use sites.

Sites with unrestricted use would be more acceptable to members of the public living near the sites.

Sites with unrestricted release would simplify and lower licensee and staff costs for the decommissioning process because technical reviews would be simpler and an EIS would not be needed, as it would be for restricted release.

This option is similar in concept to the existing policy of reducing the number of mill tailings disposal sites by approving disposal of waste from in-situ leach uranium recovery facilities at uranium mill tailings impoundments.

Cons:

It is not clear how to select the site to receive waste from other sites.

Licensees may not agree to this approach.

State and local officials and members of the public may strongly oppose this option.

There would be environmental impacts related to transportation of large volumes of waste to the sites where waste would be consolidated.

Low-level waste compacts may oppose this option to the extent it is perceived as interfering with developing low-level waste sites.

An exemption from 10 CFR Part 61 would also be required.

The following option is proposed if DOE agreement is not achieved in Option B1.

Option B3. Seek legislation requiring DOE to provide long-term control, as provided under NWPA.

Pros:

This option would give the same benefits as Option B1, but is more permanent than an Agency MOU.

Legislation would resolve any potential questions about the applicability of Section 151(b) to decommissioning sites.

Cons:

Legislation might be difficult to achieve and would be even more difficult without DOE support.

The time that would be needed to seek legislation would delay resolution of the institutional control issue; decommissioning decisions regarding use of onsite or offsite disposal; and, ultimately, completing remediation.

The staff considered an additional option to seek legislation to facilitate placing waste in uranium mill tailings impoundments as recommended in SECY-99-012. However, in SRM-SECY-99-012, dated July 26, 2000, the Commission did not approve this recommendation and directed the staff to revise the existing guidance to allow material other than 11e.(2) byproduct material into tailings impoundments provided that the long-term custodian (DOE or the appropriate State) agrees and other authorities with regulatory oversight also agree. If the staff's action to implement this decision results in tailings impoundments becoming available for disposal of this kind of material, it would lower the cost of offsite disposal. However, the total cost of removing the material, transporting it to the tailings impoundment, and disposing of it would likely result in an overall higher cost than onsite disposal.

The following options might be considered if high-cost offsite disposal is needed.

Option B4. Licensee funding by increasing financial assurance for offsite disposal until NRC approves the site's decommissioning plan.

There is uncertainty about approval of decommissioning plans with onsite disposal at many sites. Until approval of a licensee's decommissioning plan, many licensees are proposing lower-cost onsite disposal and would only be required to have financial assurance as required by 10 CFR 30.35. However, if onsite disposal is not approved, higher-cost offsite disposal would likely be needed. A conservative approach could be taken by requiring licensees to have financial assurance for the higher cost of offsite disposal until their decommissioning plans are approved by the NRC, unless they can justify a lower amount. Such an approach might minimize potential Federal financial assistance for remediation, should the licensee go bankrupt before the decommissioning plan is approved. After approval of the decommissioning plan, including its remediation approach and cost estimate, the required financial assurance amount would be adjusted, consistent with the approved cost estimate. For some sites, if onsite disposal were approved, the required financial assurance amount could be substantially less than the offsite amount.

Pros:

Accounts for uncertainties in the potential for offsite disposal and associated higher costs until a decommissioning plan is approved.

Reduces financial risk to the Federal government of remediation costs that could exceed $100 million.

The public would probably support this approach, since it reduces the cost that the public might need to pay.

Cons:

May be overly conservative.

This approach is inconsistent with NRC regulations and would require an issuance of an order or a rulemaking to change the existing requirements for financial assurance amounts.

Licensees may not be able to pay for the higher cost of financial assurance or they may not have sufficient collateral for financial institutions to approve an increase in financial assurance. As a result, licensees would likely object because they would either be put out of business or consider this approach overly conservative and an unnecessary financial burden.

Option B5. Seek legislation to give the NRC authority, similar to EPA's Superfund authority. This is Option 9 in DSI-9, which the Commission did not approve. It is included in this paper for completeness only, as the staff does not consider this a viable option.

Pros:

This option could give NRC Superfund authority similar to what the EPA has used under CERCLA.

Such authority would provide additional incentives for responsible parties, including the licensee, to remediate the site.

Cons:

This option would give NRC direct cleanup authority, which is in conflict with NRC's regulatory role as described in section I.A. of the paper.

Time and staff resources would be needed to seek legislation and substantial resources would be needed to implement a staff and contractor remediation capability.

Given Congressional concern with the existing Superfund, it may be unlikely that Congress would enact this approach.

Some licensees and other parties might litigate, which could substantially delay remediation and would require staff resources to address.

The triple damage provision may not be effective because, for most cases, failure to remediate is due to lack of resources.

Option B6. Seek agreement with and then assist another Federal agency (COE, DOE, or EPA) in requesting authorization and appropriations to conduct site remediation as in Option A2.

Pros:

The DOE and the COE have radiological remediation experience and contractors for similar sites and contamination. In particular, the DOE is responsible for remediating certain mill tailings sites under UMTRCA, which the NRC approves. The COE is responsible for remediation of FUSRAP sites. The EPA also has extensive experience under CERCLA with remediation, including radioactive contamination.

Remediation is an important part of closing out the GAO concerns.

DOE or COE remediation would also allow the existing transfer processes after remediation to DOE for long-term care.

No NRC budget request.

Cons:

There is no existing legislation nor arrangements with agencies; staff resources would be needed to assist in proposing legislation and establishing arrangements with the selected agency. It may also be difficult to obtain legislation.

There could be some concern with why the Federal government should pay for remediation of sites that would likely not score high enough to be on EPA's NPL.

This option could be viewed as relinquishing our regulatory responsibility.

Option B7. Maintain status quo and do not request funding or transfer to another Federal agency. Work with licensees to continue limited site remediation or site control to the extent limited resources permit, under possession-only licenses, until there is a solution.

Pros:

No NRC budget request.

Cons:

Remediation, decommissioning, and license termination of up to seven sites could be either delayed or not completed .

Potential increased public concern over lack of remediation, although there is not a radiological threat to public health and safety and protection of the environment.

Potential loss of public confidence in NRC's ability to facilitate resolution of issues important to achieving remediation and protecting the public health and safety and the environment.