

July 26, 1999

FOR: The Commissioners

FROM: William D. Travers /s/
Executive Director for Operations

SUBJECT: COST ESTIMATES FOR COMPLETION OF FORMERLY TERMINATED NRC LICENSED SITES PROGRAM

PURPOSE:

To respond to Staff Requirements Memorandum (SRM) SECY-98-273 on funding completion of remaining Formerly Licensed Sites (former sites) in both Agreement and Non-Agreement States.

BACKGROUND:

SECY-98-273, SECY-98-011, SECY-97-188 and their associated SRMs provide background on previous actions relating to former sites. SRM-SECY-98-273 approved continued Agreement State jurisdiction over former sites and requested the development of a grant program to make funds available to Agreement States for file reviews and remediation in certain cases.

The SRM directed several actions:

1. Re-evaluate the cost estimates for completion of Agreement State sites in view of the much higher known costs for cleaning up Site Decommissioning Management Plan (SDMP) sites.
2. Communicate further with the Agreement States to obtain better cost estimates.
3. Include funding for file reviews and site remediation, if necessary, of sites located in non-Agreement States in the revised cost estimates.
4. Pursue a separate appropriation from the General Fund to establish a fund for use through grants to assist in the remediation of former sites when the original owner or successor cannot be found or does not have sufficient funds.
5. Seek stakeholder views before pursuing a General Fund appropriation.
6. Provide the Commission with a clear basis for a General Fund appropriation request prior to submitting it to Congress for FY 2001 and FY 2002, and a decision framework that describes how NRC will allocate the appropriated funds to individual Agreement States.
7. Develop a decision framework for providing funds to individual Agreement States to ensure a relatively fair and equitable allocation of available funds.
8. Seek to resolve NRC/Agreement State jurisdictional issues over regulatory responsibility and evaluate possible approaches for returning identified sites to NRC jurisdiction. (This issue will be addressed in a separate Commission paper, to be submitted to the Commission in September 1999, and will not be addressed further in this paper.)

DISCUSSION:

- **Items 1, 2 and 3: Cost Estimates for Completion of Formerly Licensed Sites Program:**
 - File Review and Initial Site Survey Costs
 - Site Characterization and Remediation Costs
 - Total Cost Estimate For the Formerly Licensed Sites Program
- **Items 4, 5, 6, and 7: Pursuing a Separate General Fund Appropriation:**
 - Stakeholder Views
 - Separate General Fund Appropriation
 - Grant Program

Items 1, 2 and 3: Cost Estimates for Completion of Formerly Licensed Sites Program:

Through All Agreement States letter (SP-99-016, March 22, 1999), staff requested additional cost data from the Agreement States by April 30, 1999. Five States responded. One State (North Carolina) commented on the program but did not provide cost data. Three States (Colorado, Illinois, and Texas) provided copies of previously submitted data. One State (Washington) provided data based on two file reviews. A summary of this information is presented in [Attachment A](#).

Staff also reviewed cost estimates for former sites and SDMP sites for which the staff has cost information (11 former sites, 33 SDMP sites). This information is summarized in [Attachment B](#). The average cost for former sites, based on this limited data, is \$0.43M. The average cost for SDMP sites,

based on current estimates, is \$9M. The cost estimate for one former site is in the range of cost estimates for SDMP sites. Otherwise, the costs to remediate former sites are significantly less. Staff believes the singular reason for this difference is that former sites went through decommissioning when their licenses were terminated and, therefore, the sites should not have large quantities of residual radioactive material remaining. The majority of SDMP sites did not have any significant decommissioning prior to their designation as an SDMP site.

FILE REVIEW AND INITIAL SITE SURVEY COSTS

Based on review of 31,482 former site files, Oak Ridge National Laboratory (ORNL) identified 675 loose material files and 564 sealed source files for follow-up review by NRC or the Agreement States. Tables C.1, C.2, and C.3, respectively, in [Attachment C](#) list for Agreement and non-Agreement States the number of loose material and sealed source sites that either: (1) have been closed, based on file review and initial site surveys when necessary, (2) are pending review, or (3) have been confirmed as contaminated.

In the Agreement States, 70 loose material sites and 64 sealed source sites remain and require file review. In addition, four sites have been confirmed as being contaminated and will require site characterization and remediation.

In the non-Agreement States, there remain 54 loose material sites and 196 sealed source sites. In addition, fifteen sites have been confirmed as contaminated and require characterization and remediation. Tables C.4 and C.5 in [Attachment C](#) identify the number of sites pending file review in both Agreement and non-Agreement States.

To provide a basis to determine the cost estimates to complete pending reviews for sites in Agreement States, staff developed a labor rate for completing the remaining file reviews and initial site surveys to either close the file, or confirm that the site is contaminated and requires characterization and remediation. The calculations are presented in [Attachment D](#). Based on application of these labor rates, staff estimates \$0.6M would be needed to fund completion of file reviews and initial site surveys. This action will lead to either closure of the file where no contamination exists or identification of sites that have elevated radiation levels and may need remediation.

For sites in non-Agreement States, staff used the current budgeted level of 1.6 FTE (or \$0.2M) for completion of pending file reviews and initial site surveys. This would bring the total for file review and initial site surveys to \$0.8M.

SITE CHARACTERIZATION AND REMEDIATION COSTS

For sites identified as contaminated, and potentially requiring remediation, the next regulatory action would be to require the site owner to conduct site characterization to identify the extent of contamination present and remediation needed to release the site for unrestricted use. Until characterization is complete, a site specific cost estimate is not possible. Therefore, since site characterization has not been completed for the remaining Agreement and non-Agreement States' sites, staff estimated an average cost per site of \$0.43M to characterize and remediate the remaining sites. [Attachment B](#) contains the basis for this estimate.

The number of sites to which the cost estimate might apply was also estimated. Based on staff experience with other former sites, the staff estimates that there will be a total of six former sites in the Agreement States that will need financial assistance to complete characterization and remediation at an average cost of \$0.43M for a total cost of about \$2.6M. The staff estimates that there will be four sites under NRC jurisdiction that will need financial assistance to complete

characterization and remediation at an average cost of \$0.43M for a total of \$1.7M. This would bring the total cost for remediating former sites to \$4.3M. To date, for the sites within NRC jurisdiction that have been remediated, the current site owners or previous licensees have paid for the remediation costs for their respective sites. The regulatory oversight cost to complete clean up of the contaminated sites is estimated to be \$0.1M for the Agreement States (See [Attachment D](#)). NRC regulatory oversight costs are not explicitly identified since NRC conducts this effort as part of its decommissioning program and does not separate out these resources.

TOTAL COST ESTIMATE FOR THE FORMERLY LICENSED SITES PROGRAM

Staff has summarized the program costs for FY 2001-2002 in the table below. The costs for non-Agreement State activities are not included in the General Fund appropriation request discussed later in this paper.

	Agreement State Sites (\$M)		Non-Agreement State Sites (\$M)		Total (\$M)
File review and initial survey		\$0.6M	0.9 FTE in FY 2001 <u>0.7 FTE</u> in FY 2002 1.6 FTE	\$0.1M <u>\$0.1M</u> \$0.2M	\$0.8M
Site characterization and remediation		\$2.6M		\$1.7M	\$4.3M
Regulatory oversight		\$0.1M	Work done through NRC decommissioning program		\$0.1M
Subtotal		\$3.3M		\$1.9M	\$5.2M
Administer grant program in Agreement States	0.75 FTE in FY 2001 <u>0.75 FTE</u> in	\$0.1M <u>\$0.1M</u> \$0.2M		0	\$0.2M

	FY 2002 1.5 FTE			
Grand Total		\$3.5M	\$1.9M	\$5.4M

Items 4, 5, 6, and 7: Pursuing a Separate General Fund Appropriation:

STAKEHOLDER VIEWS

The staff in a Federal Register (FR) notice (64 FR 28014) requested stakeholders' views and comments on the use of a separate General Fund appropriation as well as information to assist in development of more accurate cost estimates. The staff also requested comments on the approach of administering the funds to the Agreement States through a grant program. In response to the FR notice, the staff received three responses: two from Agreement States (Illinois and Maine) and one from an industry group (Nuclear Energy Institute (NEI)). The comments and responses are presented in [Attachment E](#).

In summary, the commenters made the following major comments. Two commenters agreed with the proposal as "the only fair and equitable method of dealing with these sites." The other commenter disagreed with the proposal mainly on the basis that the proposal is prospective and does not deal with reimbursement of costs already incurred by the Agreement States that took the initiative to address and close former sites on their own. One commenter suggested that NRC use a phased approach to funding site activities. One commenter stated that the 25 mrem /year dose standard can be used as guidance, but it should not be the cleanup standard. Licenses terminated under earlier standards should be evaluated against the standard in effect at the time of license termination.

SEPARATE GENERAL FUND APPROPRIATION

The staff has prepared draft language ([Attachment F](#)) for appropriation of \$1.65M from the General Fund for the purposes of funding the former sites program for FY 2001 through grants from the NRC. These funds are to be held until expended for the former sites program or returned to the U.S. Treasury. The relationship of this request to the current budgeted resources is discussed in the Resource section of this paper. A similar appropriation would be included in the FY 2002 budget request.

Although staff has estimated the cost of cleaning up the sites located in non-Agreement States, the proposed legislative language found in [Attachment F](#) would only appropriate funds for the cleanup of Agreement State sites. Congress has not enacted (nor has the Commission sought) legislation which would authorize the NRC itself or an NRC contractor acting under the direction and on behalf of the NRC to remediate sites in non-Agreement States. In this paper, the staff does not set forth nor analyze the issues that would need to be considered before the Commission could propose legislation aimed at facilitating the cleanup of sites in non-Agreement States.

GRANT PROGRAM

Staff has outlined a grant program which entails three phases for allocation of funds: (1) completion of the file reviews and initial site surveys to determine if there is any contamination requiring remediation, (2) characterization of the identified contaminated sites, and (3) remediation of contaminated sites. The first two phases would be administered based on the number of sites in a State and the State's labor rate and site specific cost for each site. The funding for remediation would be issued based on a prioritization of the sites. Staff would propose that the Agreement States be given a specific time frame under which they could choose to participate in the funding program. This would enable staff to approve the three phases of the funding program. In particular, this would enable the awarding of the remediation funds with consideration of the risk ranking of the sites, if appropriated funds are not sufficient. These phases are discussed in more detail in [Attachment G](#). The grant program would be administered in accordance with Management Directive 11.6, "Financial Assistance Program." The detailed forms and implementing procedures for the grant program would be developed upon Commission approval of this approach for the grant program and approval of funding by Congress. Grants would only cover remediation efforts taking place after the enactment of the appropriation legislation.

RESOURCES:

Staff estimates that a total of \$5.4M will be required to complete the formerly licensed sites program in Agreement and non-Agreement States over a 2-year period. Of this amount, \$3.3M and 1.5 FTE (\$0.2M) are required for Agreement States, and \$1.7M and 1.6 FTE (\$0.2M) are required for non-Agreement States.

NRC will request funding each year (FY 2001 and FY 2002) from the General Fund appropriation to support the grant program for Agreement States only. The additional staff effort (0.75 FTE each fiscal year) is not included as part of the General Fund appropriation request.

The FY 2001 budget request includes a planning wedge of \$2M for funding assistance to Agreement States to complete the former sites program. The 0.5 FTE (0.25 for OSP and 0.25 for ADM) to administer the grant program was to be accomplished within current resources. The same planning wedge assumptions (\$2M and 0.25 FTE (OSP) and 0.25 FTE (ADM)) are also identified in FY 2002. After evaluating this program in more detail, staff believes the FTE needed in FY 2001 to implement all three phases will take a level of effort higher than originally anticipated. Staff estimates an FTE level of 0.75 FTE per year instead of 0.5, with the 0.25 increase being needed by OSP to administer the Agreement State portion of this program. This level of effort is slightly above the existing resources noted above.

Staffing resources for NRC to conduct file reviews and regulatory oversight activities for non-Agreement State sites are included in the current fee-based budget (0.9 FTE in FY 2001 and 0.7 FTE in FY 2002). Funds needed to facilitate the cleanup of sites in non-Agreement States (\$1.7M) are not included in the budget and will not be requested as part of the General Fund appropriation.

PROGRAM	FY 2001	FY 2002
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	\$M	FTE	\$M	FTE
Agreement State Former Sites (OSP, ADM)	1.65	0.75	1.65	0.75
Non-Agreement State Sites Waste Management (NMSS)		0.9		0.7

COORDINATION:

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

RECOMMENDATIONS:

The staff recommends that the Commission:

Approve:

1. Submittal of the General Fund appropriation in [Attachment F](#) to the Office of Management and Budget as part of the FY 2001 budget request.

Note:

1. Upon Congressional approval of the appropriation request, staff will initiate development of the detailed forms and procedures for implementation of the grant program described in this paper.
2. Upon Congressional approval, the staff will initiate coordination with the Agreement States on the information needed to be submitted for the staff to conduct the ranking of the sites for remediation funding priority.

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- Attachments:**
- A. State Responses to All Agreement States Letter SP-99-016
 - B. Re-evaluation of Remediation Cost Estimates
 - C. Potential Former Sites That Need Funding Assistance
 - D. Cost Estimates for File Reviews, Initial Surveys, and Regulatory Oversight
 - E. FR Notice and Comment Summary
 - F. Draft Grant Appropriation
 - G. Grant Program Summary and Priority Logic