



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

November 28, 1997

MEMORANDUM TO: Claudia A. Seelig, Chief
Program Analysis Branch
Program Management, Policy Development,
and Analysis Staff, NMSS

FROM: John W. N. Hickey, Chief *John W. N. Hickey*
Low-Level Waste and Decommissioning
Projects Branch
Division of Waste Management, NMSS

SUBJECT: DATA FOR FUTURE BUDGETS

In response to Carl Paperiello's memorandum, dated June 5, 1997, the attached table summarizes the contractor costs, staff hours, and Full Time Equivalents (FTEs) expended in removing sites from the Site Decommissioning Management Plan (SDMP) and the Ft. St. Vrain and Shoreham nuclear power facilities. Note that the contractor costs and FTEs for the removal of the Mallinckrodt and Kerr-McGee, West Chicago SDMP sites are not included on the list, as these sites were removed from the SDMP in 1990, and did not involve significant contractor or staff time expenditures. Also, information concerning staff hours for the Allied Signal Corporation, and information concerning the Oak Ridge Institute for Science and Education (ORISE) costs for this site are not available, as ORISE did not keep records on a per-site basis during the time the work was performed at the site. Finally, information on staff hours for the Aberdeen Proving Ground, United Technologies/Pratt & Whitney, and Wyman-Gordon sites could not be developed in time to respond to Dr. Paperiello's memorandum.

Dr. Paperiello's memorandum stated that this information would be used to develop more realistic estimates of the cost to remove sites from the SDMP. In terms of both contractor costs and FTE expenditures, it is important to realize that future contractor costs and FTE may be impacted by ongoing Division of Waste Management (DWM) programmatic activities and that these impacts are not reflected in the attached summary. These activities, and their potential impacts, are:

1. Approximately half of the sites currently on the SDMP will be remediated using the new decommissioning criteria. This may result in additional FTEs being expended in the development, or review, of site-specific dose assessments.

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2. Contractors are being used to prepare EAs and EISs for several remaining sites, and these costs are not characterized in the attached summary. The need to develop EISs or extensive EAs for some sites increases the overall cost to "remove" a site from the SDMP.
3. Some sites currently on the SDMP may elect to decommission under a restricted use option. This may result in increased staff or contractor costs due to the additional public participation required and possible need to develop EISs for the sites.
4. The staff has undertaken a program to "streamline" the confirmatory survey process. This may decrease contractor costs, while increasing NRC staff FTEs.

Finally, it is important to recognize that the sites that have been removed from the SDMP were not unusually complex. Conversely, the sites that are still on the list may be more complex and controversial (that's why they are still on the list). If the unit costs were developed solely on the experience of the completed cases, we may substantially underestimate the level of effort required to successfully resolve these decommissioning cases.

In addition, please note that between FY90 and mid-FY97, NRC staff of the Office of Nuclear Material Safety and Safeguards charged approximately 3,876 hours (or 2.8 FTE) to the SDMP Program Management/Policy Issue Resolution Technical Assignment Control (TAC) number, while the NRC Regional offices charged approximately 4,741 hours (or 3.4 FTE) to this TAC.

Therefore, in developing estimates of the resources needed to manage the SDMP in future budgets, the DWM staff will use the information in the attached table as a baseline for the estimate, and will incorporate information concerning: the resources that will be needed to decommission specific sites; information on the resources expended to address generic SDMP policy issues; and the staff's experience decommissioning sites under the new decommissioning rule, to develop more accurate estimates of the resources needed to remove the remaining sites from the SDMP.

Attachment: As stated

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SUMMARY OF CONTRACTOR COSTS AND FTE EXPENDED PER SITE REMOVED

Facility Name	License Docket Number	Date On/Off SDMP	Contractor Costs	NMSS hours ¹ /FTE ²	NRR hours ¹ /FTE ²	Regional hours ¹ /FTE ²	Total hours ¹ /FTE ²
Allied Signal Corp.	STB-424 040-00772	3/29/90 2/28/92	Unknown	Unknown	Unknown	Unknown	Unknown
ALCOA	NA 040-00501	5/29/92 4/9/96	ORISE - \$352,641	673 hrs. 0.4 FTE	0	46 hrs. 0.03 FTE	719 hrs. 0.5 FTE
AMAX	SNM-1418 040-08820	3/29/90 6/7/94	0	375 hrs. 0.27 FTE	0	0	375 hrs. 0.27 FTE
Anne Arundel County/Curtis Bay Depot	STC-133 040-00341	1/29/93 7/31/97	ORISE - \$188,959 ³	1562 hrs. 1.13 FTE	0	487 hrs. 0.35 FTE	2049 hrs. 1.5 FTE
Army - Aberdeen Proving Ground	SMB-141 040-06354	3/29/90 3/27/97	0	Unknown	Unknown	Unknown	Unknown
Babcock and Wilcox - Apollo	SNM-145 070-00135	3/29/90 1/17/97	ORISE - \$848,187 SAIC - appx \$25,000 ⁴	3529 hrs. 2.54 FTE	0	2461 hrs. 1.77 FTE	5990 hrs. 4.32 FTE
Budd Company	37-05680-04 030-19963	3/29/90 4/21/93	0	0	0	271 hrs. 0.2 FTE	271 hrs. 0.2 FTE
Engelhard Corp.	NA 070-00139	1992 3/21/97	ORISE - \$48,180	523 hrs. 0.4 FTE	0	29 hrs. 0.02 FTE	552 hrs. 0.4 FTE
Fromme Investment Corp.	NA 040-0235	8/19/94 7/26/96	0	197 hrs. 0.14 FTE	0	347 hrs. 0.3 FTE	544 hrs. 0.4 FTE
Magnesium Electron	NA 040-008984	3/29/90 11/17/95	ORISE - \$86,008	531 hrs. 0.4 FTE	0	188 hrs. 0.1 FTE	719 hrs. 0.5 FTE
Nuclear Metals, Inc.	SUB-179, SUB-1452 040-00672, 040-08866	6/1/93 3/21/97	ORISE - \$7,762	710 hrs. 0.5 FTE	0	2838 hrs. 2.1 FTE	3548 hrs. 2.6 FTE
Old Vic, Inc.	31-26394-01 030-19594	1992 12/6/93	ORISE - \$192,704	0	0	54 hrs. 0.04 FTE	54 hrs. 0.04 FTE
Pawling (Chevron)	SNM-871 070-00903	3/29/90 7/6/94	ORISE - \$236,320	746 hrs. 0.5 FTE	0	52 hrs. 0.04 FTE	798 hrs. 0.6 FTE
RTI, Inc.	29-13613-12 030-07022	3/29/90 1/24/97	0	0	0	1470 hrs. 1.1 FTE	1470 hrs. 1.1 FTE
Texas Instruments	SNM-23 070-00033	3/29/90 3/13/97	ORISE - \$110,475	74 hrs. 0.05 FTE	0	1019 hrs. 0.74 FTE	1093 hrs. 0.8 FTE

SUMMARY OF CONTRACTOR COSTS AND FTE EXPENDED PER SITE REMOVED

Facility Name	License Docket Number	Date On/Off SDMP	Contractor Costs	NMSS hours ¹ /FTE ²	NRR hours ¹ /FTE ²	Regional hours ¹ /FTE ²	Total hours ¹ /FTE ²
United Nuclear Recovery Systems	SNM-777 070-00820	3/29/90 10/12/95	ORISE - \$28,602	1087 hrs. 0.78 FTE	0	102 hrs. 0.07 FTE	1189 hrs. 0.9 FTE
United Technologies/Pratt & Whitney	060-00550-03 030-0091	1/1/92 10/4/95	0	Unknown	Unknown	Unknown	Unknown
Westlake Landfill	NA 040-08035,040-08801	3/29/90 6/16/95	0	204 hrs. 0.2 FTE	0	54 hrs. 0.04 FTE	258 hrs. 0.2 FTE
Wyman-Gordon Company	STB-840 040-01650	4/12/91 3/21/97	PNL - \$26,000	Unknown	Unknown	Unknown	Unknown
Ft. St. Vrain - Unit 1 ⁵	DPR-34 50-267	NA NA	ORISE - \$220,037 DOE/EML - \$10,000 ⁶	4351 hrs. 3.1 FTE	7731 hrs. 5.6 FTE	15,333 hrs. 11.1 FTE	27,415 hrs. 19.8 FTE
Shoreham - Unit 1 ⁵	DPF-82 50-322	NA NA	ORISE - \$599,162	1928 hrs. 1.4 FTE	11,229 hrs. 8.1 FTE	10,703 hrs. 7.7 FTE	23,860 hrs. 17.2 FTE

1. Hours include both Regular and Overtime hours. Regional hours include time expended on inspections, allegations support and licensing actions
2. FTE was calculated as follows: FTE = hours X 1.5 + 2080
3. This value includes a 1992 scoping survey as well as the 1996 Confirmatory survey
4. This value is based on discussions with the Technical Assistance Project Manager. Actual cost data could not be located.
5. Hours reported are from FY89 to the present and include all licensing and inspection activities associated with the decommissioning of the facility.
6. This study was study funded by RES

contractor costs for these types of assessments). The need to develop EISs or extensive EAs for some sites may increase the overall cost to "remove" a site from the SDMP.

3. Some sites currently on the SDMP may elect to decommission under a restricted use option. This may result in increased staff or contractor costs due to the additional public participation required and possible need to develop EISs for the sites.
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In addition, please note that between FY90 and mid-FY97, NRC staff of the Office of Nuclear Material Safety and Safeguards charged approximately 3,876 hours (or 2.8 FTE) to the SDMP Program Management/Policy Issue Resolution Technical Assignment Control (TAC) number, while the NRC Regional offices charged approximately 4,741 hours (or 3.4 FTE) to this TAC.

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contractor costs for these types of assessments). The need to develop EAs and EISs for some sites may increase the overall cost to "remove" a site from the SDMP, if the staff relies on contractor assistance in developing these assessments.

- 3. Some sites currently on the SDMP may elect to decommission under a restricted use option. This may result in increased staff or contractor costs due to the additional public participation required and necessity to develop EISs for the sites.
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