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INTEROFFICE CORRESPONDENCE

DATE: April 5, 1993

TO: R. L. Benedetti, Environmental Restoration Mgmt., Bldg. 080, X8540

FROM: *E. M. Lee*
E. M. Lee, Solar Ponds Remediation Program, Bldg. 080, X8648

SUBJECT: PROPOSED FUTURE ORGANIZATION FOR MANAGING OU-4 - EML-194-93

Ref: R. L. Benedetti ltr (RLB-093-93) to Distribution, Environmental Restoration Management Organization, March 1, 1993.

Attached is my proposal for the future organizational structure of OU 4 (Solar Ponds Remediation Program).

In approaching the problem, we started by developing a new Work Breakdown Structure based on the remediation process as it applies to the major components of OU 4 work: remediating the ponds and the soil under them (IAG Phase I plus pond closure); remediating the groundwater and other contaminated media surrounding the ponds (IAG Phase II); managing, treating, and disposing of the waste (current and future); and providing programmatic support (both technical and management) to the entire effort. We applied the guidance from DOE HQ that each remediation activity must have an assessment leg and a remediation leg. We deferred putting functions into organizational boxes until we had a fully developed WBS. We then organized the work with as much emphasis as we could on managing the process of remediation.

In following this "textbook" approach, we believe we have arrived at an organizational structure which is the proper one for managing an enterprise as large, complex, and important to EG&G as is the remediation of OU 4. It may serve as a model for other OU remediations and D&D projects whose scope, cost, and complexity warrant this higher level of management. The structure is congruent with both the WBS and the remediation process. In keeping with modern *trends for organizational success in managing complex tasks* (especially speed and efficiency), it favors multi-disciplinary teams which focus on process-oriented objectives over large mono-functional organizations which focus excessively on their organization and function and often have difficulty keeping sight of and priority on numerous objectives and customers.

Our proposed structure achieves substantial compliance with your guidance memorandum for ERM restructuring, referenced above. There are some modifications to the strict interpretation of your memo, where modifications are necessary to avoid diminishing our ability to manage and to achieve the project management "island" concept which we discussed on March 4, 1993. At that time you agreed that my rationale for a OU 4 project management "island" had merit, you invited me to prepare a detailed proposal to you, and you stressed that your written guidance was not intended to dismantle our current organization or weaken our capacity for managing.

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My proposed organizational structure for managing the "OU 4 Remediation Program" has some similarities to the current structure, but there are some important differences. It will require restructuring work packages, reallocating the scope of work between current managers (whose assignments may change), and acquiring an additional project management person or two to augment technical skills we anticipate to be in greater demand in the future. These actions will require time and considerable effort. It would be extremely disruptive and risky if we attempted to complete them before finishing the fast-paced, intensively scheduled work associated with the startup of the B 910 evaporators. Therefore, I strongly recommend that we not implement the proposed OU 4 organizational structure until the start of FY 94. This will give us time to formulate the new work packages on the timetable developed by Central Planning, to acquire additional skills, and to work out additional details concerning the nature and extent of matrix support from other plant organizations and other ERM organizations, many of which still need additional clarity on the details of their mission and additional people to be able to properly fulfill it.

Some changes can, of course, be made much sooner, e.g. relying on the Records and Reporting organization to assume our records management responsibility and matrix back the dedicated support we now require, letting Program Integration and Records (PI&R) integrate our internally developed OU 4 strategy with the strategy for the remainder of the ERM program, and relying on the ERM Quality Support organization to provide matrix QA support to supplant the support we have been buying from the plant QA organization.

There are details yet to be clarified concerning the functions of individual ERM organizations, the nature and extent of the support they will provide, and the timetable on which they will be able to provide it. Although we have coordinated individually with each other, there is clearly a need to discuss many of these matters as a group before we can complete our individual planning.

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Attachment:
As Stated

**OU 4 (Solar Ponds Remediation Program)
Proposed Organizational Structure**

Ref.: R. L. Benedetti to Distribution, "ENVIRONMENTAL RESTORATION MANAGEMENT ORGANIZATION", RLB-093-93, March 1, 1993.

Following is the recommendation of the Solar Ponds Remediation Program Office for restructuring the organization more effectively to manage the complex remediation and other efforts that comprise OU 4. In developing the structure, we pursued several fundamental objectives and principles as listed below:

1. We assumed the OU 4 scope of work to be that of Approach 2A in the recent options analysis. This approach includes: deferring cementation of the sludge in B and C ponds until a disposal site is open to our Low Level Mixed Waste; interim consolidation of the sludge in one or more relined ponds for temporary storage; proceeding with accelerated assessment and feasibility study work for Phase I of the IAG (sources and extent of contamination in the soils under and around the ponds); accelerated diversion of the Interceptor Trench System (ITS) water from the ponds to the Temporary Modular Storage Tanks (TMSTs) and to either the B 374 or the B 910 evaporator; startup of the B910 evaporator; conduct of Treatability studies and conceptual design for failed pondcrete and saltcrete (PC/SC) on the 904 pad; eventual treatment and disposal of PC/SC; and ensuring compliant storage in the interim. The estimated Life Cycle Costs (\$577 million from FY 94 forward) for the scope of OU 4 are portrayed in Figure 1.

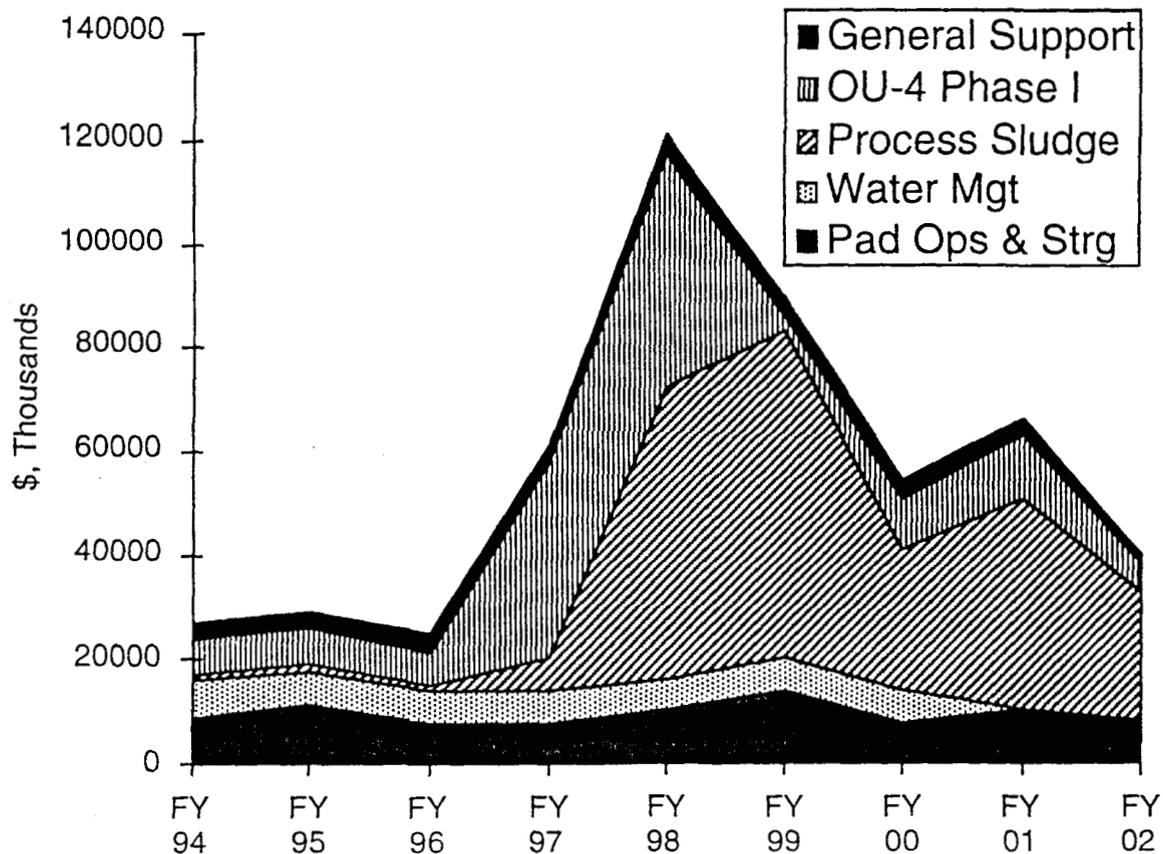


Figure 1 - Time-Phased Cost Estimate For OU 4

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2. We started the development of a new organizational structure by creating a new WBS based on the remediation process as it applies to the OU 4 work: remediating the ponds and the soil under them (IAG Phase I *plus* pond closure); remediating the ground water and other media surrounding the ponds (IAG Phase II); managing (storage, treatment, and disposal) the current and future waste; and providing programmatic support (both technical and management) for the entire effort. We applied the guidance from DOE HQ that each remediation activity must have an assessment leg and a remediation leg.

3. We deferred organizational considerations until we had a fully developed WBS. We then organized the work with around managing the *process* of remediation.

4. In following this approach, we believe we have arrived at an organizational structure which is proper for managing an enterprise as large, complex, and important to EG&G as the remediation of OU 4. It is congruent with both the WBS and the remediation process. In keeping with modern trends for organizational success, our plan favors multi-disciplinary teams which focus on process-oriented objectives over large mono-functional organizations which focus excessively on their organization and function and often have difficulty keeping sight of and priority on numerous objectives and customers.

DOE Order 4700.1 provides a compelling preference for maintaining a dedicated, line-organization Program Management "island" or team. The Order states repeatedly that the contractor as well as DOE should be organized such that there are clear, well-defined lines of responsibility, authority, and accountability. In short, the people who do the work should report directly to the person responsible for getting the work done.

The proposed organization is shown in Figure 2. The structure achieves substantial compliance with the guidance for ERM restructuring, referenced above. There are some modifications to the strict interpretation of the memo to achieve the project "island" concept.

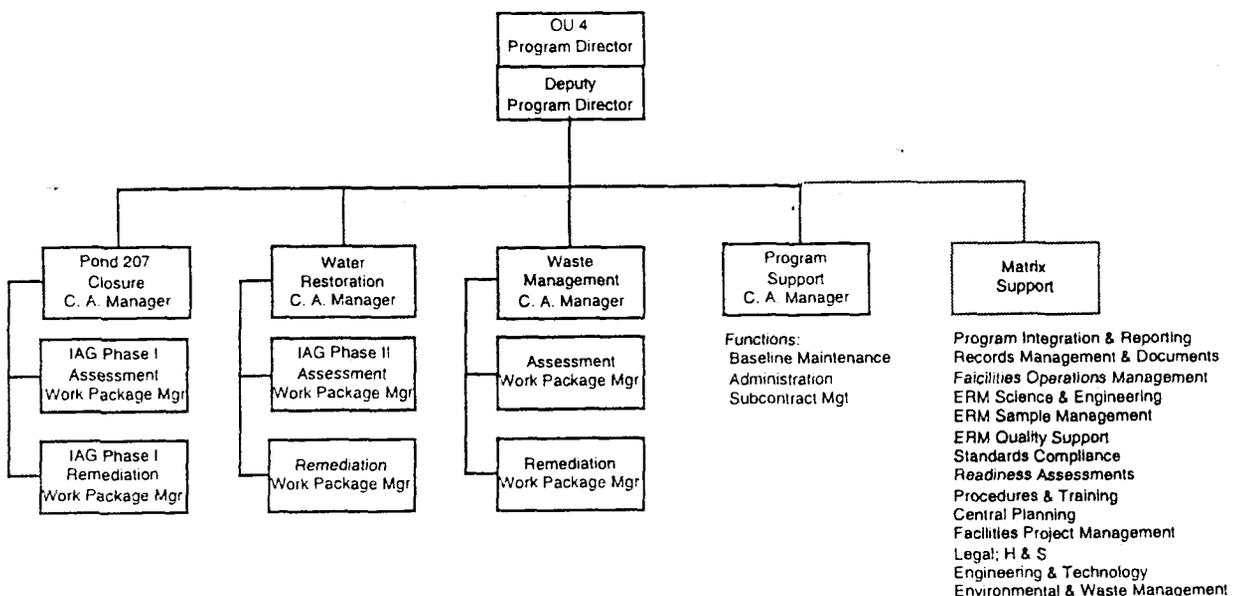


Figure 2 - Recommended Organization

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The following discussion, keyed to the correspondingly numbered paragraphs in the referenced guidance memorandum, describes the manner in which the proposed organization meshes with the guidance.

1. Program Integration and Reporting (PI&R).

A. Planning, control, and reporting. Substantial consistency with the guidance. PI&R matrix support is planned for integration of OU 4 into the rest of the ER project as described in their charter. However, the OU 4 Program Management Office (PMO) will, with Central Planning and PI&R matrix support, be responsible for its own internal program control, integration, systems engineering, report input generation, and baseline maintenance for the individual and integrated elements of the OU 4 Program. An MOU with PI&R may be needed to clarify what each organization will do.

B. Requisition coordinator. Substantial consistency with the guidance. Relying on PI&R for coordination of requisitions is envisioned, but coordinating and integrating the efforts of various OU 4 subcontracts (some of which may appear in different work packages) will require at least the full time effort of a Contracting Officers' Technical Representative (COTR) who is organic to the OU 4 PMO.

2. Records Management and Documentation (RMD). Total consistency with this guidance. Our proposed organization assumes this function will be provided by a combination of dedicated, collocated matrix support and normal matrix support from the RMD organization. The current lack of clarity on the details of the total requirement precludes our forecasting the exact extent of support required. We will continue to coordinate with RMD between now and the time that FY 94 work packages are prepared to further define the nature and extent of required support.

3. Facility Operations Management (FOM). Substantial compliance with the guidance. FOM will supply buffer zone support functions, decon pad operations, occurrence reporting, etc. However, our proposal for turnover of the B 910 Evaporator, the Interceptor Trench System (ITS), and the Temporary Modular Storage Tanks (TMSTs) deviates somewhat from the guidance. Coordination with FOM indicates that FOM has no intention to operate these facilities in the sense that Liquid Waste Treatment Operations (Rick Dunn) now does. FOM's objective would be to eventually take over the project management function which the OU 4 PMO currently performs. We propose that the appropriate time for this "turnover" is when the facilities are running routinely, i.e. the functions are clearly defined and there are no major outstanding issues requiring significant engineering, construction, or integration with ongoing OU 4 activities. Due to the known and anticipated large number of outstanding post-startup issues and modifications which will run well into FY 94 and the high desirability of insuring a smooth transition of work package responsibility, this conversion should not occur before FY 95. However, this matter can be reviewed again after B 910 startup.

4. Science and Engineering (S&E). This area is somewhat unclear since (1) S&E's entire capability has not yet been developed and (2) the ongoing parallel efforts to let an EG&G MTS Engineering contract on one hand and to comply with the recent RFO guidance that EG&G should relinquish Construction Management to J.A. Jones on the other hand need to be sorted out. RFO's

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direction to pursue a total service Engineering and Construction (E&C) contract further complicates the matter. Until the situation is clarified and we better understand the long term nature and timetable for S&E capabilities, OU 4 must continue to rely on a mixture of ERM S&E, plant engineering, FPM, J. A. Jones, and MTS subcontractors. It is, therefore, essential that the OU 4 PMO have his own manager or lead person for coordinating Technical Support and insuring technical configuration management.

5. Sample Management. Total consistency with the guidance.

6. Quality Support (QS). Total consistency and agreement with the guidance as it relates to providing QA services and preparation of sub-project specific Quality Plans and procedures. We have already started relying on this organization for support. However, the ERM Quality Support organization is still very immature. Until its full capability is hired and developed (perhaps by the beginning of FY 94), OU 4 needs to incorporate coordination and oversight of this function into the job duties of one of our functional managers or leads. Irrespective of the source of support, the OU 4 WBS contains a quality support element, since most of this support will be purchased as direct funded support from either the plant QA organization or the ERM QS organization.

7. Budgeting and staffing.

A. SPRP has coordinated with other ER organizations as necessary. After a decision is reached on the structure of the new OU 4 PMO, and after further coordination with supporting ERM (and plant) organizations, it will be possible to detail more precisely the nature and extent of the OU 4 PMO support requirements and identify specific OU 4 key personnel assignments.

B. The proposed OU 4 organization is structured as a sub-project (in the DOE 4700.1 sense) with clearly defined Program Managers (according to EG&G Human Resources job titles), who are also cost account managers. Depending on the nature, extent, and maturity of the work they manage, these Program Managers may also be work package managers, or they may have one or more Project Managers working for them who are work package managers.

C. When work is performed primarily as a support service from an ERM organizational element, the people performing that work are planned as matrix support. If that work is essentially full time for a prolonged period (6 months or longer), it is essential that these people be collocated with SPRP personnel.

D. When the nature of work performed by a person is long term and is primarily that of coordinating and integrating the efforts of other people in the OU 4 PMO, in other ERM organizations, or in other plant organizations, that person is now and must remain an *organic* OU 4 PMO asset directly accountable to his/her Project Manager, Functional Manager, or the OU 4 Program Director. This principal is fundamental to the successful execution of a program as complex as the OU 4 Program; it is in consonance with the principals of 4700.1; and it is consistent with precedents for the successful execution of complex missions at RFP and elsewhere in the DOE complex.

Determination of responsibility for readiness assessment and the coordination of facility start up operational training and procedures. It is not clear whether FOM or any other ERM organization is tasked with these functions, and we do not believe that any organization other than the OU 4 PMO has developed an

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appreciable capability to fulfill these commitments yet. OU 4's need for maintaining its own organic capability is compelling until B 910 starts up (currently scheduled to occur by 9/9/93). After that, our need will diminish. The capability we have developed could become the nucleus of a new direct report ERM organization to fulfill this function -- a function which will become increasingly important as other OUs begin constructing and operating ER facilities. Having this new organization in place could also be a vital element in the successful planning and execution of Decontamination & Decommissioning (D&D), an eventual ERM mission which could materialize sooner than we anticipate.

There are many precedents elsewhere in DOE for this "Project island" concept. The cleanup of the K-1407 B and C ponds at Oak Ridge is organized in this manner with a Program Manager reporting directly to the ER Program Director and a full-time dedicated team. The Defense Waste Processing Facility (DWPF) MSA at Savannah River was also structured this way. For DWPF, both DOE, SRO and the contractor had separate full-time teams. The DOE Project Manager at SRO reported to both the SRO manager and the Acquisition Executive. The Contractor's manager reported directly to the SRS Plant Manager.

There are also many precedents for dedicated project teams at RFP. Examples include the Supercompactor, Pu In The Ducts, the Residue Elimination Project (formerly PRMP), the organization for the I&E upgrades, and even the resumption of Buildings 559 and 707. All of these efforts were so large, and they involved so many different RFP organizations that they had to be managed by a dedicated task force which owned virtually all of its required resources to accomplish the job. OU 4 is at least as large or larger than these precedent setting projects and would normally require the same management approach for success. However, in order to achieve a more cost effective solution (demanded by the customer and by the need for EG&G to become more competitive), the proposed OU 4 PMO structure does not seek to capture all of its required resources. Rather, it will (and does now) operate in a true matrix management fashion, relying on the minimum cadre of key people and functions to direct and oversee the efforts and support of other organizations. This concept strikes the proper balance between economy of scale and necessity for program direction, coordination and ownership. It is crucial to our ultimate success. Reliance on matrixed personnel from other groups to a greater extent than is proposed would dilute responsibilities, create longer lines of communication, cause more priority conflicts with other organizations, and would substantially undermine the ability of the OU 4 Program Director to execute this difficult Program in an acceptable manner.

The proposed OU 4 Program Management Office would function as discussed in the following paragraphs.

Function of the Program Director and Deputy

The Program Director is responsible for the successful execution of all phases of the Program. He is directly responsible for the planning, budgeting, scheduling, engineering, and construction of new facilities as well as for the operation of existing facilities. He is also responsible for developing, training, and managing a multi-disciplined staff. He must ensure that all activities have a sound

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technical basis and are in compliance with all applicable laws and regulations. The Program Director represents EG&G with the DOE, the regulators, and the public when statusing the Program. He also provides them technical guidance, recommendations, information, coordination and support. While some of the Program personnel are dedicated matrix from various organizations, all of the key managers in the Program must report directly to the Program Director to facilitate this work which takes place in an environment that is organizationally complex. The Deputy Program Director represents and acts for the Program Director in his absence. The Deputy may also manage the support functions of the organization.

The functions of the Program Director are not expected to change in magnitude over time, although public interface may become more time consuming preferred remediation approaches firm up. The size of some of the groups in the Program Management Office will vary with time as projects are added or completed. The estimated OU 4 staffing for the next few years is shown in Figure 3 and is keyed to the implementation of the currently proposed baseline (Option 2A) which defers cementation of all pond sludge and remix until a disposal site opens, and in the interim consolidates the sludge in one or more relined ponds. Figure 3 does not include the organic OU 4 Records Management or Readiness Assessment resources. These are assumed to be matrixed to the new OU 4 organization.

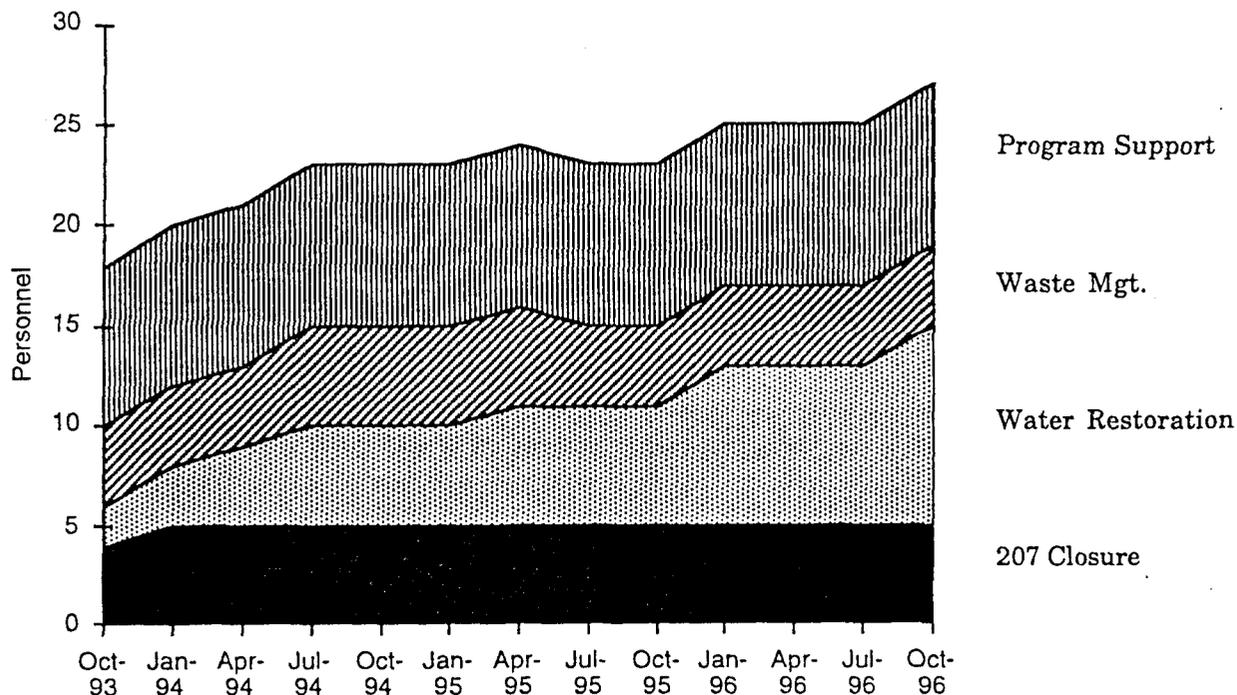


Figure 3 - OU 4 Staffing

Functions of the Pond 207 Closure Manager

The Pond 207 Closure Manager (Program Manager in the current Personnel system of titles) is responsible for managing the Cost Account containing the two work packages for the IAG Phase I Assessment and Remediation under RCRA

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and CERCLA (see Figure 4.) These work packages include the consolidation of the existing pond liquids and solids into two ponds, the RCRA Facility Investigations (the CERCLA Remedial Investigations), the RCRA Corrective Measures Studies (CERCLA Feasibility Studies), Public Involvement, and the RCRA Corrective Action Decisions (CERCLA Records of Decision). They also include the remediation of the ponds including the RCRA Interim Measure (CERCLA Interim Removal Action), the RCRA Corrective Measures (CERCLA Remedial Design and Remedial Action), the RCRA Post Closure Monitoring (CERCLA Operation and Maintenance), and the RCRA and CERCLA Verification activities. The Pond 207 Closure Manager has up to two Work Package Managers (Project Managers) reporting to him. Each Work Package Manager may have a Project Administrator and an Assistant Project Manager.

As shown in Figure 3, the size and structure of the Pond 207 Closure Manager's organization will vary over time.

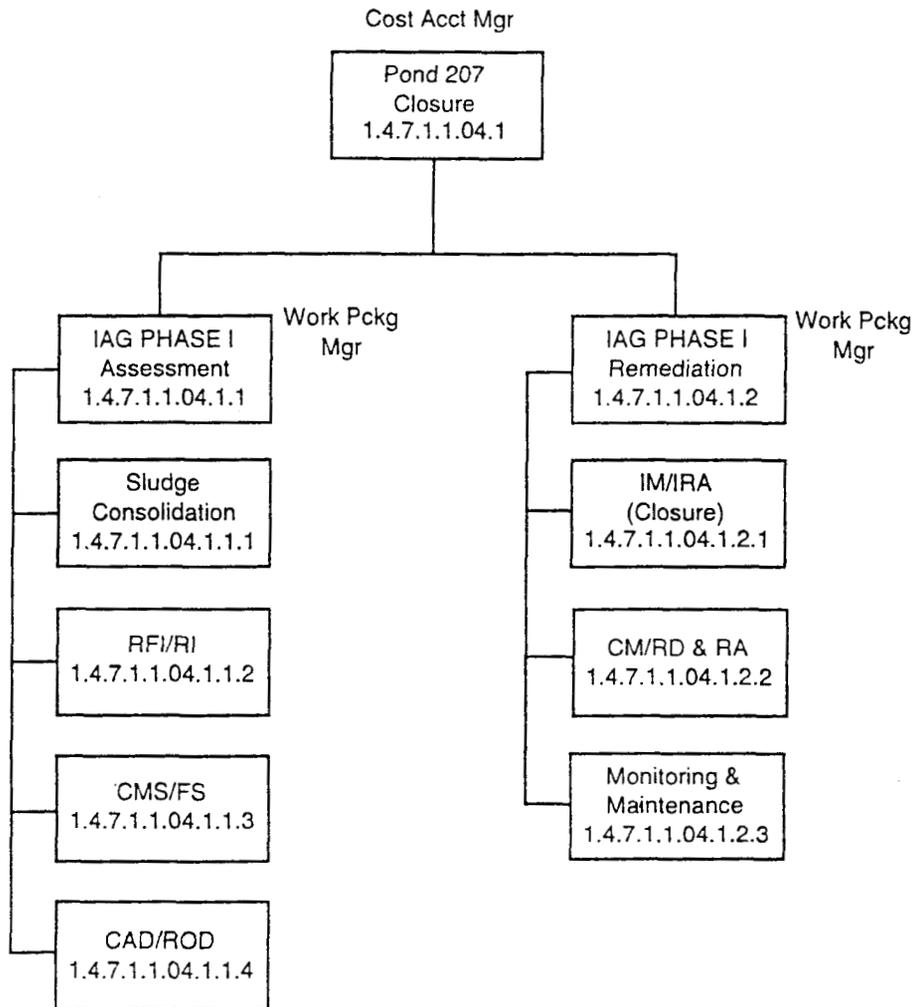


Figure 4 - Functions of the Pond 207 Closure Organization

Functions of the Water Restoration Manager

The Water Restoration Manager (Program Manager) is responsible for managing the Cost Account containing the two work packages for the IAG Phase II

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Assessment and Remediation under RCRA and CERCLA as well as the IM/IRA for the ITS water (see Figure 5.) The first work package includes the RCRA Facility Investigations (the CERCLA Remedial Investigations), the RCRA Corrective Measures Studies (CERCLA Feasibility Studies), Public Involvement, and the RCRA Corrective Action Decisions (CERCLA Records of Decision) for the ground water. The second work package includes the remediation of the ground water including the RCRA Interim Measure (CERCLA Interim Removal Action), the RCRA Corrective Measures (CERCLA Remedial Design and Remedial Action), the RCRA Post Closure Monitoring (CERCLA Operation and Maintenance), and the RCRA and CERCLA Verification activities. The Water Restoration Manager has up to two Work Package Managers reporting to him. Each Work Package Manager will have a Project Administrator and may have an Assistant Project Manager.

As shown in Figure 3, the size and structure of the Water Restoration Manager's organization will vary over time. As work is completed (such as the startup of the TMST's and B910 evaporators) the organization will shrink. As work is added (such as the execution of the Phase II Assessment), the organization will expand.

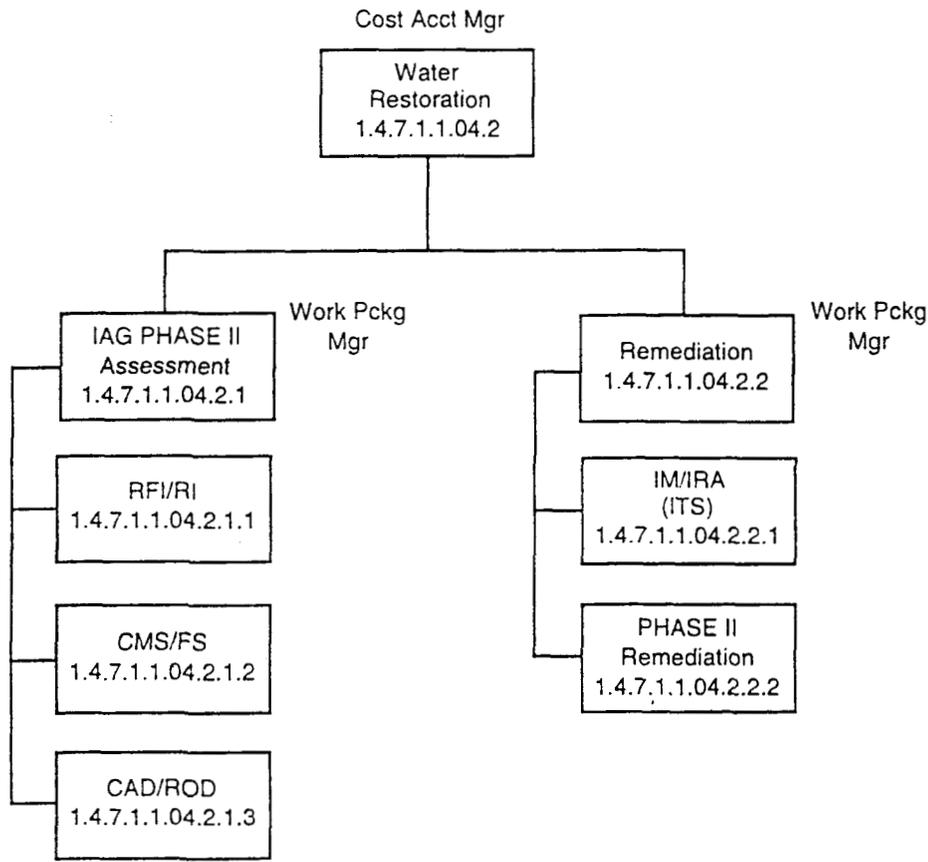


Figure 5 - Functions of the Water Restoration Organization

Functions of the Waste Management Manager

The Waste Management Manager is responsible for managing the Cost Account containing the two work packages associated with storage and operations on the 750 and 904 pads (see Figure 6.) The first work package includes the activities

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associated with treating and disposing of the failed saltcrete and pondcrete from operations in prior years. The second work package includes activities associated with the daily operation and maintenance of the pads. The Waste Management Manager (Program Manager) has one or two Work Package Managers reporting to him. Each Work Package Manager may have a Project Administrator and/or an Assistant Project Manager.

As shown in Figure 3, the size and structure of the Waste Management Manager's organization will vary over time.

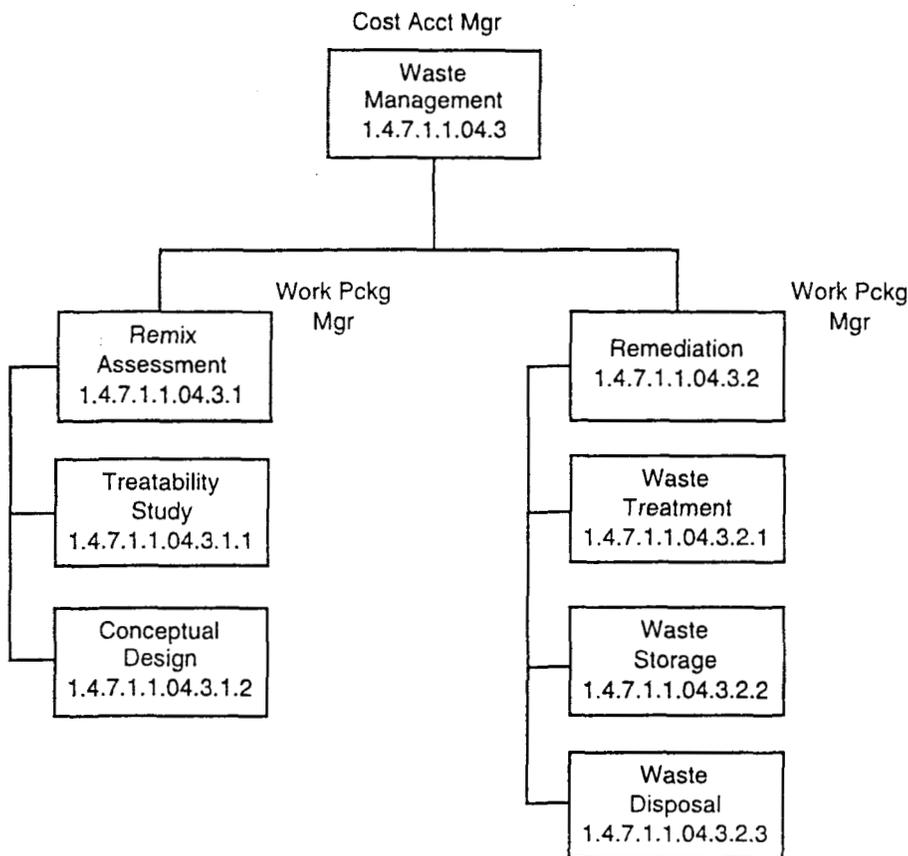


Figure 6 - Functions of the Waste Management Organization

Functions of the Program Support Manager

The Program Support Manager (Program Manager) is responsible for managing the cost account containing all of the organic and matrixed technical and management support functions for the Program. Figure 7 depicts the structure of this organization. In the figure, stippled boxes represent organizations which support the OU 4 Program with matrixed personnel. The Program Support Manager is responsible for maintaining the Technical (Scope), Schedule, and Cost Baselines for the OU 4 Program. He receives important help with the Schedule and Cost Baselines from the Central Planning Organization. He provides Program Managers and Project Managers with regulatory and environmental support, configuration management, systems engineering, and administrative management. He coordinates and integrates programmatic controls and change control for the Program, coordinates and facilitates the

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execution of support organizations, and provides the OU 4 specific reporting and communications for the OU 4 Program. The Support Manager supervises the leads for technical and administrative support and coordinates the matrixed Central Planning support with each of the work package managers to ensure that the workload is balanced and the OU 4 program is properly integrated. The lead for sub contract management also reports to the Program Support manager as well as a systems analyst, a communications/graphics specialist, and clerical personnel. The sub contract management function is particularly important due to increasing reliance on sub contractors and having the same sub contractors service multiple work packages. As shown in Figure 3, the size and structure of the Technical and Administration Manager's organization is not expected to vary over time.

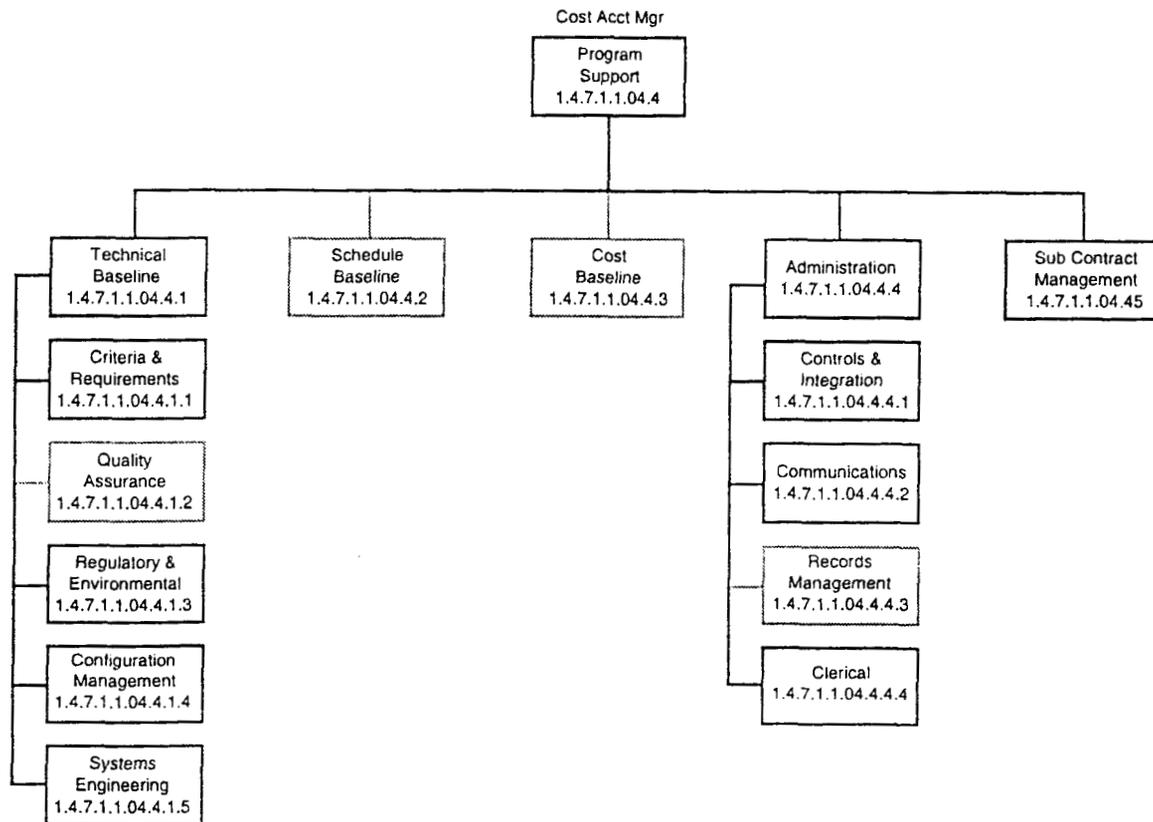


Figure 7 - Functions of the Support Organization

The Program Support Manager coordinates/integrates the following specific tasks:

- Maintains technical oversight and integrates the related components of the OU 4 Program. Controls the work against the contracted scope. This is a vital function which must occur within the OU 4 Program, although Central Planning provides the ongoing OU 4 cost and schedule data and PI&R provides the linkage between OU 4 and the rest of ER. The Support organization provides an internal integrating function for all of this information and prepares OU 4 program-wide reports.
- Develops technical criteria and project requirements, programmatic logic, and priorities to ensure that the OU 4 Program is technically correct.

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- Prepares and maintains the Program Technical Baseline.
- Maintains the integrated, life-cycle OU 4 Program Schedule and Cost Baseline (with the support of Central Planning and P&IR.)
- Ensures the proper development and integration of Work Plans, Work Packages, WBS, WBS Dictionary, and RAM. This task involves coordination with Central Planning, but the Support organization must decide on the number of work packages required and the scope of each.
- Maintains effective communications including preparing the DOE Weekly Highlights Report, the Program Monthly Progress Report, the DOE monthly Status Review, and numerous reviews and presentations. This task involves coordination with P&IR.
- Develops the OU 4 input to the Five-Year Plan.
- Establishes and maintains the Cost Control Plan for the Program as required by 4700.1. This task involves coordination with Central Planning and P&IR.
- Provides OU 4 Program subcontract administration through the Contracting Officer's Technical Representative (COTR).
- Ensures that all aspects of the OU 4 Program are in concert with regulatory compliance.
- Provides all non-technical administrative and clerical functions including preparing purchase requisitions, personnel training records, commitment tracking, personnel documentation, etc.