The Mixed Waste Management Facility

FY95 Plan

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December 1994

Lawrence Livermore National Laboratory
Environmental Programs

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The Mixed Waste Management Facility

FY95 Plan

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December 1994

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Project Summary

During FY95, the MWMF Project has the following major objectives:

- Complete preliminary design of MWMF major systems.
- Begin final design of MWMF major systems.
- Issue Project Baseline, Revision 2, which addresses the technical, operational, permitting, schedule, and cost-minimization issues involved with the integration of the DWTF and MWMF into a single building complex.
- Complete submittal of, and ongoing support for, applications for air and RD&D permits.
- Complete implementation and documentation of management control systems.
- Begin detailed planning for start-up, activation, and operational interfaces with HWM.

In achieving these objectives during FY95, the MWMF Project will incorporate and implement recent DOE directives (Appendix A) and constraints: to maximize the cost savings associated with the DWTF/MWMF integration; that MWMF should reflect an "austere facility" in terms of scope and budget; that new Budget Authority for FY95 is limited to \$7656K; and that project fiscal year funding requirements should be largely uniform. A revised Project Baseline, to be issued during the second quarter of FY95, will address the implementation and impact of this guidance from an overall project viewpoint. For FY95, the impact of this guidance is that completion of preliminary design has been delayed, a planned rampup in staffing has been deferred, procurements have been delayed where possible beyond FY95, and management controls will be implemented in an austere manner.

The budget plan contained in this FY95 Plan does not reflect a level of OPEX and CENRTC funding consistent with that issued by DOE (see below). The work planned for FY95 involves primarily CENRTC-related activities; this is based on the determination of the appropriate type of funds developed in discussions with the LLNL Finance Department and DOE/OAK. The proper balance of Capital and Operation funding will need to be resolved with high priority to assure proper continuity of Project activities during FY95.

The attached Project Task Summaries detail the specific activities, milestones and markers, and budget profiles associated with each third-level WBS element. The schedule for FY95 is contained in Appendix B, which shows the current Integrated Project Schedule (IPS) for the duration of the project. Only the activities shown for FY95 are relevant to this FY95 Plan; future work is subject to change and more detailed planning as the project proceeds. However, the IPS is shown to place planned FY95 activities and milestones in context.

The Milestone Control Log is contained in Appendix C, and summarizes milestones and markers already completed and those planned for FY95. A subset of these milestones are taken as DOE-level milestones and are additionally reported in DOE/EM's Progress Tracking System (PTS).

The Responsibility Assignment Matrix for the MWMF project is presented in Appendix D.

The projected expenditures for FY95 are summarized in Table 1, which will also be updated monthly and used to summarize and report the financial status of the MWMF

Project in the Monthly Reports. Table 1 presents a roll-up, by OPEX- and CENRTC-funded activities, of all MWMF costs contained in the WBS Level 3 Task Summaries, along with the level of DOE funding. It additionally identifies the actual carryover from FY94 (under "DOE funds"), the management reserve budget, the FY95/96 carryover budget, and the amount of Laboratory Directed Research & Development (LDRD) tax withheld from CENRTC funds received into the Laboratory. Since the table will be used to report the monthly financial status, both monthly and cumulative expenses are shown. Liens will be shown only for the current reporting month since cumulative charges are not relevant.

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Table 1. MWMF Project monthly financial summary.

OPEX (\$K, monthly expenditures)

	CO*	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Subtotal*	Undistb #	Total Budget
DOE Funds	280													280		
FY95 Plan		59.3	57.8	56.2	57.8	52.6	62.5	66.2	65.9	65.9	65.8	70.5	65.8	746.3		746.3
Actual																
Liens**																
Mgmt Reserve															84	84
95/96 CO															100	100
FY95 OPEX budget =																930.3

OPEX (\$K, cumulative to date)

	CO*	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	DOE FY95 new-BA, OPEX		
DOE Funds	280	280												budget	guidance	delta
FY95 Plan		59	117	173	231	284	346	412	478	544	610	681	746			
Actual																
														650	2800	-2150

CENRTC (\$K, monthly expenditures)

	CO*	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total*	Undistb #	Total Budget
DOE Funds	2648															
FY95 Plan		657.2	725.1	715.3	748.2	691.8	724.2	700.3	749.4	671.2	605.9	736.8	632.4	8357.8		8357.8
Actual																
Liens**																
Mgmt Reserve															605	605
95/96 CO															400	400
LDRD-CAP															291	291
FY95 CENRTC budget =																9653.8

CENRTC (\$K, cumulative to date)

	CO*	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	DOE FY95 new-BA, CENRTC		
DOE Funds	2648	2648												budget	guidance	delta
FY95 Plan		657	1382	2098	2846	3538	4262	4962	5712	6383	6989	7725	8358			
Actual																
														7006	4856	2150

* DOE funds include FY94/95 carryover.

** Shown for current month only.

Undistributed remaining budget; CE/LDRD values assume 6% of new-BA budget.

Financial Planning Discussion and Notes

This section discusses in more detail the information contained in Table 1. By Laboratory procedure, the LDRD tax on capital equipment (LDRD-CAP) is immediately withheld on funds received from DOE in the Laboratory Contract Modification. For CENRTC funds, this tax does not appear on the monthly Laboratory accounting system and has accordingly not been included in the FY95 budgetary estimates in the Task Summaries, so that a direct comparison of "planned" versus "actual" costs is possible. An FY95 budget for LDRD-CAP tax has been established (taken as 6% of the new CENRTC Budget Authority), based on the estimated new-BA required for FY95. As DOE CENRTC funds are transferred to the Laboratory in Contract Modification, the corresponding amount of LDRD tax will be shown as a monthly expense and the undistributed portion of the LDRD-CAP budget will be reduced accordingly. In DOE/EM's PTS, this cost is distributed evenly across FY95. For OPEX funds, there is no "withhold" of funds upon receipt in the contract modifications, and the LDRD tax is included in the Laboratory monthly cost account reports, so that this expense has been included in the project budgetary estimates and is therefore not shown as a separate line under OPEX funds in Table 1.

The FY95/96 carryover budget is the amount of FY95 budget reserved to cover remaining liens (committed funds) at FY95 year-end closing. This estimate is based on a bottom-up estimate of planned major liens (contracts, major purchases, etc.) at WBS Level 3, and on prior experience with the level of miscellaneous liens. The carryover budget is not generally available to be distributed during FY95. As major commitments, which are expected to carryover as a lien into FY96, are made during FY95, costs will be shown in Table 1 as a monthly expense, and the undistributed portion of the carryover budget shown in the table will be reduced accordingly. In DOE/EM's PTS, this cost has been identified as occurring during the last month of FY95, since PTS has no other way to show carryover budget.

The management reserve budget is intended to address unplanned costs during FY95, such as Laboratory rate changes, unplanned work, and estimate uncertainties. This budget is available to be spent during FY95, but is reserved to be spent in the latter portion of FY95 as work and outside constraints become better defined. This estimate is based on an initial distribution of reserve at WBS Level 3, but has been maintained at a minimal level (5.3% for the full project) reflecting DOE reduced funding guidance. It should also be noted, however, that, given the newly instituted accounting structure and methodology at the Laboratory, programs have been notified that the initial indirect rates used to develop the FY95 budget plan are subject to greater-than-usual changes and contingency should be accordingly evaluated. As management reserve is utilized during FY95, these costs will be shown in Table 1 as a monthly expense, and the undistributed portion of the carryover budget shown in the table will be reduced accordingly. In DOE/EM's PTS this cost has been spread in a ramped manner over the last six months of FY95.

"DOE funds" show the new Budget Authority contained in the Laboratory Contract Modifications, since this action contains the authority for the project to allow expenditures. Other funding documents, such as Program Letters and the Financial Plan, will be evaluated against the Contract Modification for consistency. It is

important to highlight that there is currently an imbalance between the relative portion of OPEX and CENRTC funding for FY95, as developed and requested in this plan and as presented in DOE/OAK funding guidance for FY95. While the total project budget meets the overall-new-BA guidance by DOE, a transfer of about \$2150K from OPEX to CENRTC funds will be required to meet the FY95 Plan as presented here. The OPEX/CENRTC balance is determined by the type of activity that must be accomplished and financial determinations from DOE orders regarding the proper accounting of capital equipment expenses. The determination and distribution of proper type of funding is outside of the scope and control of the project; this issue will need to be resolved at the earliest date to avoid undue impact on FY95 activities.

WBS Element: 1.1.1. Quality Assurance

Task Description: Quality Assurance provides quality assurance support to the MWMF Project. This effort includes development and implementation of the project's quality assurance program and oversight for conformance to the approved plan and other quality and ES&H requirements. This WBS element covers only a proportional fraction of the OPEX quality assurance effort, with the CENRTC portion contained under WBS 1.3.2, Project Control.

FY95 Plan: This is an on-going activity by the QA manager. Primary activities for FY95 include continuing implementation of the Project Quality Assurance Plan, and general QA oversight.

FY95 Budget: Spending profile (\$K, OPEX)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
11/95 Plan	3	3	2	3	3	3	3	3	3	2	3	3	34

Total Project Costs to Date: \$106K

Actual liens into FY95 (included in FY95 budget): None

Estimated Liens into FY96: None, miscellaneous liens only

Significant FY95 Procurements: None

Milestones and Markers:

*See "Milestone/Marker Log" for original dates and reconciliation.

ID no.	Milestone/Marker	Scheduled Date*
None	Level of effort activity	

WBS Element: 1.1.2. PSAR

Task Description: The Preliminary Safety Analysis Report (PSAR) provides the integration of safety input, design reviews, and safety analysis for Phases I and II of the integrated MWMF/DWTF project. Safety analysis includes analysis, generation of documentation, and documentation review and approval. The element includes the generation of the PSAR, which must be completed prior to major procurements and follow-on analysis required for the generation of the Final Safety Analysis Report (FSAR). The FSAR is required after construction and prior to operation.

FY95 Plan: The majority of the work to complete the PSAR for the MWMF (based on the Building 494 location) was done in FY94. This document will be routed for LLNL approval in FY95. Once approved, the analysis in the PSAR will be reconsidered to determine whether potential safety concerns associated with relocation of the MWMF to Building 695 are bounded or whether additional analysis needs to be performed. Copies of the approved PSAR and any subsequent analysis will be provided to DOE for information following the suggested approval protocol in DOE Order 5481.1B.

Milestone D112-1* was deleted to reflect that the PSAR does not require DOE approval, since the facility is below Category 3, low hazard. DOE Order 5481.1B Chapter II, Section 5 recommends approval at the line organization level.

FY95 Budget: Spending profile (\$K, CENTRC)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
11/95 Plan	5	5	3	2	2	2	1	0	0	0	0	0	20

A capitalization determination by the Laboratory Finance Department, based on DOE guidance, has determined that PSAR costs should be CENRTC-related beginning FY95.

Total Project Costs to Date: \$341K

Actual liens into FY95 (included in FY95 budget): \$86.4K. Contract was awarded under a Master Task Agreement to Roy F. Weston, Inc. to prepare both the PSAR and FSAR. Under the original scope of work the task was to have been completed by end of calendar year 1994. The contract will expire prior to completion of the FSAR due to changes in project schedule.

Estimated Liens into FY96: None

Significant FY95 Procurements: None

* Note in Revised FY95 Plan, there was a typographical error in which this milestone was labeled L113-1. D112-2 would have been the corrected identification for DOE approval of PSAR.

Milestones and Markers:

*See "Milestone/Marker Log" for original dates and reconciliation.

ID no. Milestone/Marker	Scheduled Date*
L112-1 PSAR to DOE for review	Dec 94

WBS Element: 1.1.3 NEPA/CEQA

Task Description: The NEPA portion of this WBS provides for the preparation of the Environmental Assessment (EA) and all required follow-up documentation required by DOE to make a determination about impacts. The effort includes preliminary evaluations, preparation of technical information, EA preparation, and comment resolution.

The CEQA and permitting portion of this WBS provide for the preparation of permit applications and associated environmental analysis to support the regulatory agency permitting and CEQA review process. The effort includes preliminary evaluations, and preparation of technical information to support the agency CEQA document and permit evaluation, and comment resolution. This element prepares and coordinates approval of State, and local permits and supports public participation activities associated with the permits approvals.

FY95 Plan: An EA was prepared according to DOE's requirements to comply with the National Environmental Policy Act (NEPA) and submitted to DOE for review in FY94. This EA presents an evaluation of the potential environmental impacts associated with the proposed project as located in Building 494. A preliminary set of comments was received from DOE. The EA will be revised and resubmitted to DOE in FY95 to serve as a baseline document from which to reassess environmental impacts posed by the project as proposed for a new location, Building 695. It is assumed that DOE/OAK will review, solicit public comment, and make the final determination on this EA.

Additionally, the air and RD&D permit applications (begun in FY94) will be completed in FY95 and submitted to the Bay Area Air Quality Management District (BAAQMD) and the California Department of Toxic Substances Control (DTSC), respectively, for agency review and approval. These agencies may require LLNL to provide information to support their analyses of potential environmental impacts associated with the permitting process as required by the California Environmental Quality Act (CEQA). It is assumed that LLNL will provide a draft Initial Study to the agencies. This document will include similar information prepared for the EA under NEPA.

FY95 Budget: Spending profile (\$K, OPEX): NEPA

1.1.3.1 (NEPA)	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
11/95 Plan	5	5	5	5	1	5	5	0	0	0	0	0	31

Spending profile (\$K, CENRTC): CEQA, Permitting

1.1.3.2 & 3 (CEQA)	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
11/95 Plan	40	40	40	40	10	8	7	8	7	6	5	5	216

A capitalization determination by the Laboratory Finance Department, based on DOE guidance, has determined that CEQA and permitting costs should be CENRTC-related beginning FY95.

Total Project Costs to Date: \$190K

Actual liens into FY95 (included in FY95 budget): None

Estimated Liens into FY96: None

Significant FY95 Procurements: None

Milestones and Markers:

***See "Milestone/Marker Log" for original dates and reconciliation.**

<u>ID no.</u>	<u>Milestone/Marker</u>	<u>Scheduled Date*</u>
L113-4	Submit revised EA to DOE	Dec 94
L113-3	Submit RD&D permit application to DTSC	Jan 95
L113-2	Submit air permit to BAAQMD	Mar 95
D113-1	EA determination by DOE	Mar 95
C113-2	Authorization to construct issued by BAAQMD	Jul 95
C113-1	RD&D permit issued by DTSC	Jul 96

FY95 Plan

WBS Element: 1.1.4. ES&H

Task Description: ES&H provides for on-going Environment, Safety, and Health (ES&H) representation to the MWMF project by ES&H specialists to ensure that all activities are conducted in a safe and environmentally sound manner and to ensure that ES&H standards have been properly applied.

FY95 Plan: This element provides for conducting and/or monitoring safety-related analyses and the resultant documentation. Specific activities include preparing and implementing various assurance plans; performing hazard evaluations and safety assessments; participating in design reviews to ensure compliance with safety and environmental standards and regulations; preparing safety and environmental procedures; and preparing input for permit applications and other documentation required for compliance with Federal and/or State requirements.

FY95 Budget: Spending profile (\$K, OPEX)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
11/95 Plan	13	14	13	14	13	14	13	14	13	14	13	14	162

Total Project Costs to Date: \$136K

Actual liens into FY95 (included in FY95 budget): None

Estimated Liens into FY96: None

Significant FY95 Procurements: None

Milestones and Markers:

*See "Milestone/Marker Log" for original dates and reconciliation.

ID no.	Milestone/Marker	Scheduled Date*
None	Level of effort activity	

WBS Element: 1.1.5. Program Support

Task Description: Program Support provides top-level planning, control, and support of MWMF Project OPEX-funded activities. Specific activities include management of project assurances and interface with development activities. This element encompasses support for the Project Office including organization, schedule and budgeting activities, project plans and reporting, personnel hiring and housing, project operations control, facility technical support, and OPEX-funded technical support.

FY95 Plan: This element provides for project management and technical support associated with the OPEX-funded activities of the MWMF Project. FY95 activities will include the following: developing project plans, budgets and schedules; placing personnel; ensuring housing/office requirements for MWMF personnel; Project Management Plan; developing industrial participation; and providing for technical support to the Project office. During the first quarter of FY95, the effort will be focused on activities associated with the rebaseline of the DWTF and MWMF Projects to support the decision to co-locate facilities (see 1.3.1). In addition, key activities will include support to the DOE in response to requests for information relative to the Office of the Inspector General evaluation, Draft Site Treatment Plan and Options Analysis Team follow-up, Water Treatment Trade Study, and other studies as required.

FY95 Budget: Spending profile (\$K, OPEX)

Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
30	29	27	29	27	33	27	31	31	29	33	29	354

Total Project Costs to Date: \$1901K

Actual liens into FY95 (included in FY95 budget): \$139.5K

Estimated Liens into FY96: None, miscellaneous liens only

Significant FY95 Procurements: None

Milestones and Markers:

*See "Milestone/Marker Log" for original dates and reconciliation.

	Item	Scheduled Date*
L115-7	Submit FY95 Plan	Nov 94
L115-1	Submit Project Management Plan (Final)	Jan 95
D115-1	DOE issues Project Plan	Jan 95
L115-8	Technology Selection and Implementation Plan, Part II	Mar 95
L115-9	FY97 Project Validation	Apr 95
L115-10	Submit FY96 Plan	Oct 95

FY95 Plan

WBS Element: 1.1.6. Public Participation

Task Description: Public Participation provides for public input to the planning and execution phases of the MWMF Project. Included are a National Advisory Committee (NAC), a Community Newsletter, and preparation and coordination of press releases and community tours.

FY95 Plan: The FY95 effort on Public Participation will be directed toward producing a public information document and preparing for the public participation meeting and newsletters. Due to the delays associated with initiating key activities of the project, a number of activities planned for FY94 have been rescheduled for FY95. Participants for the NAC will be contacted, and the first public participation meeting will be held. The first meeting of the NAC will be to establish a panel charter and for initial introduction to the MWMF Project. At this meeting, it is anticipated that the current design configuration and permitting strategy will be presented. A second meeting may be presented late in the FY to present the Preliminary Design and review status of the permit application. Two newsletters are planned.

FY95 Budget: Spending profile (\$K, OPEX)

Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
8	8	8	8	8	8	8	8	8	8	8	8	96

Total Project Costs to Date: \$12K

Actual liens into FY95 (included in FY95 budget): \$28.2K

Estimated Liens into FY96: None, miscellaneous liens only

Significant FY95 Procurements: None

Milestones and Markers:

*See "Milestone/Marker Log" for original dates and reconciliation.

Item		Scheduled Date*
L116-1.1	National Advisory Committee (NAC) formed	Dec 94
L116-1	First meeting of NAC	Feb 95
L116-2.1	Issue first public newsletter	Mar 95
L116-2.2	Receive comments from NAC	Apr 95
L116-2	Second meeting of NAC	Aug 95
L116-3.1	Issue second newsletter	Sep 95

WBS Element: 1.2.1. Conceptual Design

Task Description: Conceptual Design provides the Project's technical, cost, and schedule baselines that form the basis for KD-1.

FY95 Plan: Conceptual design activity is complete. No further activities remain in this WBS element.

FY95 Budget: Spending profile (\$K, OPEX)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
11/95 Plan	0	0	0	0	0	0	0	0	0	0	0	0	0

Total Project Costs to Date: \$2240K

Actual liens into FY95 (included in FY95 budget): None

Estimated Liens into FY96: None

Significant FY95 Procurements: None

Milestones and Markers:

*See "Milestone/Marker Log" for original dates and reconciliation.

ID no.	Milestone/Marker	Scheduled Date*
None	No activity	

WBS Element: 1.2.2. Plant Start-Up Management

Task Description: Plant Start-Up Management provides (1) operations and maintenance review of system designs; (2) the development of top-level plans for staffing, training, testing, and readiness review; (3) task analysis and preparation, review, and revision of site operating plan, maintenance, instrument calibration, and emergency response procedures; (4) recruiting, hiring, clearing, and providing general employee training for the plant staff; and (5) the development of training materials, training the trainers, and special technical and on-the-job training for the plant staff.

FY95 Plan: Plant start-up activities are planned to begin during the late-preliminary and early-final design phases of the project when participation in, and review of, final designs of MWMF systems from an operational viewpoint commence. Conceptual development of operational methodology, organization, interfaces with HWM, operational and acceptance testing, maintenance, etc., are required to support final design work. Consideration of operational activities to comply with regulatory requirements in support of permitting activities will also occur.

FY95 Budget: Spending profile (\$K, OPEX)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
11/95 Plan	0	0	0	0	0	0	10	10	10	13	13	13	69

Total Project Costs to Date: None

Actual liens into FY95 (included in FY95 budget): None

Estimated Liens into FY96: None, miscellaneous liens only

Significant FY95 Procurements: None

Milestones and Markers:

*See "Milestone/Marker Log" for original dates and reconciliation.

ID no.	Milestone/Marker	Scheduled Date*
L122-1	Issue MWMF Start-Up and Activation Plan	Sep 95

WBS Element: 1.2.3. Activation

Task Description: Activation provides: (1) the preparation, review, revision, and release of all Operational Test Procedures (OTPs); (2) plant systems activation, integration, and performance of OTPs in each of the technology areas including Operational Readiness Reviews (ORRs); (3) technical support for the preparation of Operational Safety Requirements (OSRs) and Facility Safety Requirements (FSRs), as well as the identification and resolution of problems during plant operational testing, start-up, and activation, including finalization of design documentation for equipment and process modifications; (4) maintenance support to perform equipment or process modifications during start-up, testing, and activation; (5) all operational spares and the initial stores inventory; and (6) all manpower and materials required to deliver support services (e.g., utilities, power, etc.) during construction, testing, and activation of the MWMF.

FY95 Plan: There are no activities under this WBS element during FY95.

FY95 Budget: Spending profile (\$K, OPEX)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
11/95 Plan	0	0	0	0	0	0	0	0	0	0	0	0	0

Total Project Costs to Date: None

Actual liens into FY95 (included in FY95 budget): None

Estimated Liens into FY96: None

Significant FY95 Procurements: None

Milestones and Markers:

*See "Milestone/Marker Log" for original dates and reconciliation.

ID no.	Milestone/Marker	Scheduled Date*
None		

FY95 Plan

WBS Element: 1.3.1. Project Management

Task Description: Project Management provides top-level project planning, direction, and control of the MWMF Project CENRTC-funded systems. Specific activities include project management and support of Project Office, project assurance (including quality assurance, safeguards, environmental, and safety oversight), management overview of information management and technical activities, and interface with DOE.

FY95 Plan: This effort will encompass project management of the CENRTC phase of the MWMF Project. This is essentially a level-of-effort funded activity covering Project management personnel, clerical, administrative, and technical support. Additional support for key project reviews is also included. The FY95 plan calls for project management oversight of all capital-funded technical and administrative activities, placing personnel, response to DOE requests for information, and other management controls to assure effective completion of the milestones and markers of the project. A key element for the first quarter of FY95 is support of the rebaseline effort of the DWTF to reflect co-location of the MWMF and DWTF facilities (Building 494 will not be upgraded for the MWMF, but rather, the MWMF will be co-located within the DWTF complex). A revised baseline for the MWMF will also be completed during the second quarter to reflect this facility merging. The Project Management element will also support the Preliminary Design Review, scheduled for the fourth quarter, FY95.

FY95 Budget: Spending profile (\$K, CENRTC)

Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
59	56	54	56	54	65	54	101	101	92	105	60	856

Total Project Costs to Date: \$169K

Actual liens into FY95 (included in FY95 budget): None

Estimated Liens into FY96: None, miscellaneous liens only

Significant FY95 Procurements:

Service contract for project support and independent technical and administrative reviews, ~\$50K.

Milestones and Markers:

*See "Milestone/Marker Log" for original dates and reconciliation.

	Item	Scheduled Date*
L131-2	Input to FY95 Plan (see 115-7)	Nov 94
L131-4	Submit MWMF Rebaseline (MWMF/DWTF Merge)	Mar 95
L131-1	Preliminary Design Review completed	Jul 95
D131-2	DOE Issues KD-2	Jul 95
L131-5	Submit Post-PDR Project Baseline	Sep 95

WBS Element: 1.3.2. Project Control

Task Description: Project Control provides for the Project integration, configuration management, cost and schedule control, quality assurance (see WBS 1.1.1), and administration of the CENRTC-funded systems. It develops and maintains the management systems used to monitor progress against the established baselines and to ensure configuration control (drawings, documents, etc.).

FY95 Plan: Primary activities during FY95 include implementation and documentation of project control management systems. Due to reduced funding levels, the planned scope of these planned activities has been reduced to provide essential cost, schedule, and technical baseline control using manual interfaces. Several QA procedures that are necessary for the design phase of the project will be prepared and implemented, along with a QA self-assessment late in FY95. Significant work will be required to support preparation of project rebaselines, FY Plans, Management Plan, Monthly Reports, and other documentation required by DOE.

FY95 Budget: Spending profile (\$K, CENRTC)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
11/95 Plan	42	40	37	39	37	45	37	43	43	39	45	39	486

Total Project Costs to Date: \$157K

Actual liens into FY95 (included in FY95 budget): None

Estimated Liens into FY96: None, miscellaneous liens only

Significant FY95 Procurements: None

Milestones and Markers:

*See "Milestone/Marker Log" for original dates and reconciliation.

ID no.	Milestone/Marker	Scheduled Date*
L132-4	Input to FY95 Plan (see 115-7)	Nov 94
L132-1	Implement cost planning/tracking systems (document)	Dec 94
L132-5	Issue Configuration Control System Document	Jan 95
L132-6.1	Input to MWMF Project Management Plan (see L115-1)	Feb 95
L132-7	Performance Management System documented	Apr 95
L132-9.1	Records Control Procedure	Apr 95
L132-8.1	Complete support of Project PDR (see L131-1)	Jun 95
L132-9.2	Assessment/Surveillance Procedure	Jul 95
L132-9	Complete QA Self Assessment	Aug 95
L132-10.1	Input to FY96 Plan (see L115-10)	Oct 95

WBS Element: 1.3.3. Technical Systems Integration

Task Description: Technical Systems Integration provides the oversight and performance studies intended to verify or document system integration performance, system analysis, special process diagnostics, and planning and analysis of the process aspects of integrated tests. It covers technical issues that affect all primary and support processes. It also includes the responsibility for assuring that the systems interfaces are addressed in the integrated design, including interfaces with LLNL Hazardous Waste Management and facility engineering. The element coordinates the System Design Requirements, the MWMF floor plan, and the Integrated Operating Plan.

FY95 Plan: Technical Systems Integration will continue to coordinate technical issues that affect all primary and support processes.

FY95 Budget: Spending profile (\$K, CENRTC)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
11/95 Plan	28	26	26	26	26	30	26	29	29	26	30	26	328

Total Project Costs to Date: \$106K

Actual liens into FY95 (included in FY95 budget): \$31.8K

Estimated Liens into FY96: \$20K

Significant FY95 Procurements:

CAD workstation storage upgrade: 2 each, 2-GB hard drives = \$4K
 CAD plotters: 2 each = \$12K

Milestones and Markers:

*See "Milestone/Marker Log" for original dates and reconciliation.

ID no.	Milestone/Marker	Scheduled Date*
L133-1.4	Input to FY95 Plan (see 115-7)	Nov 94
L133-2	Issue Integrated Operations Plan	Jan 95
L133-3	Issue Title I System Design Requirements	Feb 95
L133-4	Issue Metrication Plan	Feb 95
L133-5	Input to FY95 Plan (see 115-10)	Oct 95

WBS Element: 1.4.1. Receiving and Shipping

Task Description: The principal objective of the Receiving and Shipping (RAS) system is to provide for the receiving, logging, identification and characterization of all incoming waste containers and to determine the acceptability for processing the waste. Receiving and Shipping provides the management, system analysis and support, design (Title I, II, III) engineering, procurement, installation of Receiving and Shipping equipment, Title III inspection, and acceptance test procedures (ATP). Receiving and Shipping includes both receiving and shipping equipment and systems integration.

FY95 Plan: After completion of Preliminary Design, Final Design will begin. Design activities will focus on the receiving station, efficient data entry systems for the transport system to the facility, and the container characterization equipment. Design support activities include using existing LLNL facilities to perform pilot characterization studies on statistical samples of representative waste containers expected to be received. Characterization studies will confirm design base assumptions from the conceptual design and validate the characterization approach appropriate for representative feeds. Final Design will incorporate any revisions required from the Preliminary Design and effort will be directed toward final working drawings, specifications, bidding documents, cost estimates, and procurement and construction schedules.

FY95 Budget: Spending profile (\$K, CENRTC)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
11/95 Plan	18	17	16	17	16	19	14	15	15	9	10	9	175

Total Project Cost to Date: \$30K

Actual liens into FY95 (included in FY95 budget): None

Estimated Liens into FY96: None

Significant FY95 Procurements: None

Milestones and Markers:

*See "Milestone/Marker Log" for original dates and reconciliation.

	Item	Scheduled Date*
L141-1.1	Complete pilot characterization studies	Dec 94
L141-1.2	Identify equipment and define floor plan	Mar 95
L141-1.3	RAS LI&C System Functional Requirements Document complete	Jun 95
L141-1.4	RAS LI&C System Preliminary Design review complete	Jul 95
L141-1	RAS System Preliminary Design Review	Jul 95

FY95 Plan

WBS Element: 1.4.2. Solids Feed Preparation

Task Description: The principal objective of the Solids Feed Preparation (SFP) system is to provide for the receipt, characterization, preparation for processing, and handling of homogeneous and heterogeneous solids received from storage and other processes in the facility. This includes segregating the incoming waste stream into combustible solids, heterogeneous solids, homogeneous inorganic solids and metals, and liquids not previously identified. Solids Feed Preparation provides the management, system analysis and support, design (Title I, II, III) engineering, procurement, installation of Solids Feed Preparation equipment, Title III inspection, and acceptance test procedures (ATP). Solids Feed Preparation includes both solids feed preparation equipment and systems integration.

FY95 Plan: After completion of Preliminary Design, Final Design will begin. Activities will focus on identifying and validating the characterization and segregation equipment needed for the initial treatment technologies, design and specification of equipment interfaces, and preliminary design of the operator interface and control system. Final Design will incorporate any revisions required from the Preliminary Design and effort will be directed toward final working drawings, specifications, bidding documents, cost estimates, and procurement and construction schedules.

FY95 Budget: Spending profile (\$K, CENRTC)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
11/95 Plan	95	91	86	91	87	104	87	100	100	36	41	36	954

Total Project Cost to Date: \$158K

Actual liens into FY95 (NOT included in FY95 budget): \$28K

Estimated Liens into FY96: None

Significant FY95 Procurements:

Telerobotic Robot Engineering Development:

Telerobotic Robot	\$192K
Force Reflection Hand Controller	\$65K
Robot Controllers	\$25K
Telerobotics Control Software	\$75K

Workstation Engineering Development:

3D Graphic Workstation	\$25K
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Milestones and Markers:

*See "Milestone/Marker Log" for original dates and reconciliation.

	Item	Scheduled Date*
L142-1.2	Identify initial suite of characterization equipment	Dec 94
L142-1.3	Complete validation of characterization, isolation and segregation methods	Jan 95
L142-1.5	Process Vision/Robline bilateral communication link demonstrated	Feb 95
L142-1.4	Complete preliminary operator control station design	Mar 95
L142-1.6	Process Vision/Robline bilateral message handling demonstrated	Mar 95
L142-1.7	SFP workcell control architecture designed	May 95
L142-1.8	SFP LI&C System Functional Requirements Document complete	Jun 95
L142-1.9	SFP LI&C System Preliminary Design review complete	Jul 95
L142-1	SFP System Preliminary Design Review	Jul 95

FY95 Plan

WBS Element: 1.4.3. Liquids Feed Preparation

Task Description: The principal objective of the Liquids Feed Preparation system is to provide for the receipt, characterization, preparation for processing, and handling of homogeneous and heterogeneous liquids and solids/liquids mixtures received from storage and other processes in the facility. This includes segregating the incoming waste stream into aqueous with Trimsol, chlorinated organic liquids, oils, solvents and scintillation cocktails. Liquids Feed Preparation provides the management, system analysis and support, design (Title I, II, III) engineering, procurement, installation of Liquids Feed Preparation equipment, Title III inspection, and acceptance test procedures (ATP). Liquids Feed Preparation includes both liquids feed preparation equipment and systems integration.

FY95 Plan: After completion of Preliminary Design, Final Design will begin. Design activities will focus on identifying and validating the characterization and segregation equipment needed for the initial treatment technologies, design and specification of equipment interfaces, and preliminary design of the operator interface and control system. Final Design will incorporate any revisions required from the Preliminary Design, and effort will be directed toward final working drawings, specifications, bidding documents, cost estimates, and procurement and construction schedules.

FY95 Budget: Spending profile (\$K, CENRTC)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
11/95 Plan	38	36	34	36	34	41	34	40	40	18	21	18	390

Total Project Cost to Date: \$142K

Actual liens into FY95 (NOT included in FY95 budget): None

Estimated Liens into FY96: None

Significant FY95 Procurements: Miscellaneous

Milestones and Markers:

*See "Milestone/Marker Log" for original dates and reconciliation.

	Item	Scheduled Date*
L143-1.1	Define surrogate feeds	Nov 94
L143-1.2	LFP general arrangement plan finalized	Dec. 94
L143-1.3	Complete validation of characterization and segregation methods	Mar 95
L143-1.4	LI&C Functional Requirements Document complete	Jun 95
L143-1.5	LI&C System Preliminary Design review	July 95
L143-1	LFP System Preliminary Design Review	Jul 95

WBS Element: 1.5.1. Mediated Electrochemical Oxidation

Task Description: The principal objective of Mediated Electrochemical Oxidation (MEO) System is to receive appropriately characterized mixed waste streams and completely convert the organic portions to CO₂ and water, to recycle acid and silver, and to remove ash containing the radioactive constituents. The MEO element provides the management, system analysis and support, design (Title I, II, III) engineering, procurement, and installation of the MEO equipment, Title III inspection, and acceptance test procedures (ATP) covering both equipment and system integration activities.

FY95 Plan: The plan for FY95 is to complete Title I design and the associated engineering development work.

Engineering Development:

1. Complete the steady-state chemistry and flow balances required to establish the capacity of both MEO Primary and secondary systems.
2. Resolve remaining technical issues relating to the NaOH-AgCl recovery process.
3. Establish the method and type of on-line process control instrumentation required.
4. Define the specific distillation equipment to be used and characterize the expected performance.
5. Conclude development and testing of the prototype cellulose feeder.

Design:

1. Complete a computer simulation of the combined MEO and Acid Recovery control systems.
2. Complete P&IDs.
3. Select and write preliminary specifications and lay out major pieces of equipment, including preliminary floor plan.

FY95 Budget: Spending profile (\$K, CENRTC)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
11/95 Plan	79	98	94	113	102	91	81	73	73	73	73	73	1023

Total Project Costs to Date: \$717K

Actual liens into FY95 (included in FY95 budget): \$11.8K

Estimated Liens into FY96: \$20K

Significant FY95 Procurements: None

Milestones and Markers:

*See "Milestone/Marker Log" for original dates and reconciliation.

ID no.	Milestone/Marker	Scheduled Date*
L151-1.1	Complete tests on turbo-aerator for nitrous-acid conversion (document)	Dec 94
L151-1.4	Summarize silver recovery chemistry results to date (document)	Dec 94
L151-1.6	Report on NaOH-AgCl recovery (document)	Feb 95
L151-1.7	Computer simulation of the combined MEO and Acid Recovery control systems (document)	Feb 95
L151-1.8	Final Report on steady-state flow and chemistry balance tests (document)	Apr 95
L151-1.9	Demonstrate prototype cellulose feeder (document)	Jun 95
L151-1.12	LI&C Functional Requirements Document complete	Aug 95
L151-1.10	P&ID drawings (document)	Sep 95
L151-1.11	Layout drawings of major equipment items (document)	Sep 95
L151-1.13	LI&C System Preliminary Design review	Sep 95
L-151-2	MEO System Preliminary Design review	Sep 95

WBS Element: 1.5.2. Molten Salt Oxidation

Task Description: The principal objectives of Molten Salt Oxidation (MSO) are to receive appropriately characterized mixed waste streams and completely convert the organic portions to CO₂ and water, to remove ash containing the radioactive constituents, and to recycle/process the spent salt. The MSO project element provides the management, system analysis and support, design (Title I, II, III) engineering, procurement, and installation of the MSO equipment, Title III inspection, and acceptance test procedures (ATP) covering both equipment and system integration activities.

FY95 Plan: Complete Preliminary Design and start Final Design. Initiate the acquisition of the MSO system in conjunction with a commercial partner or supplier, either through a CRADA or collaboration. The list of candidates is based on responses to a Commerce Business Daily (CBD) announcement soliciting interest in participating in MSO. Process Flow Diagrams for representative MWMF waste streams will be updated. Equipment layouts will be frozen. Engineering development activities (material selection, salt selection and saltrecycle demonstration, Injector testing) will be completed.

FY95 Budget: Spending profile (\$K, CENRTC)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
11/95 Plan	140	147	194	210	209	196	235	221	153	202	279	242	2428

Total Project Costs to Date: \$438K

Actual liens into FY95 (included in FY95 budget): None

Estimated Liens into FY96: miscellaneous \$K

Significant FY95 Procurements: Development vessel: \$35K

Milestones and Markers:

*See "Milestone/Marker Log" for original dates and reconciliation.

ID no.	Milestone/Marker	Scheduled Date*
L152-3.3	Initiate vessel material study	Oct 94
L152-2.2	Complete Design Specification	Dec 94
L152-2.3	Conduct Industrial Partner meeting	Dec 94
L152-3.5	LI&C Functional Requirements Document complete	May 95
L152-3.6	LI&C System Preliminary Design review	Jun 95
L152-2	Select Industrial Participation method	Jun 95
L152-3.4	Install development unit	Jun 95
L152-3	MSO System MWMF PDR	Jun 95
L152-5	Start Title II design	Jul 95

WBS Element: 1.5.3. Wet Oxidation

Task Description: The principal objective of Wet Oxidation (WOX) is to demonstrate treatment of organic mixed wastes using a wet oxidation process to convert the organic portions to CO₂, water, and inorganic ions, leaving ash, salts, metals, and radionuclides in a residual solution/slurry. The WOX Project element provides the management, system analysis and support, design (Title I, II, III) engineering, procurement, and installation of the WOX equipment, Title III inspection, and acceptance test procedures (ATP) covering both equipment and system integration activities.

FY95 Plan: This activity has been closed out. No FY95 activities.

FY95 Budget: Spending profile (\$K, CENRTC)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
11/95 Plan	0	0	0	0	0	0	0	0	0	0	0	0	0

Total Project Costs to Date: \$98K

Actual liens into FY95 (included in FY95 budget): None

Estimated Liens into FY96: None

Significant FY95 Procurements: None

Milestones and Markers:

*See "Milestone/Marker Log" for original dates and reconciliation.

ID no.	Milestone/Marker	Scheduled Date*
	None	

WBS Element: 1.5.4. UV Photolysis

Task Description: The principal objective of UV Photolysis (UVP) is to demonstrate ultraviolet-driven treatment of the hazardous and toxic organic constituents in the condensate from the Wet Oxidation process (WBS 1.5.3) to produce a sewerable water stream. The UVP Project element provides the management, system analysis and support, design (Title I, II, III) engineering, procurement, and installation of the UVP equipment, Title III inspection, and acceptance test procedures (ATP) covering both equipment and system integration activities.

FY95 Plan: This activity has been closed out. No FY95 activities.

FY95 Budget: Spending profile (\$K, CENRTC)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
11/95 Plan	0	0	0	0	0	0	0	0	0	0	0	0	0

Total Project Costs to Date: \$23K

Actual liens into FY95 (included in FY95 budget): None

Estimated Liens into FY96: None

Significant FY95 Procurements: None

Milestones and Markers:

*See "Milestone/Marker Log" for original dates and reconciliation.

ID no.	Milestone/Marker	Scheduled Date*
	None	

WBS Element: 1.5.5. Experimental Off-Gas

Task Description: The principal objective of the Experimental Off-Gas Treatment (XOGT) is to demonstrate advanced, more effective off-gas treatment technologies that minimize secondary waste. These are improved Selective Catalytic Reduction (SCR) of NO_x to nitrogen in gaseous phase, acidic urea DeNO_x scrubbing, and advanced metal filters. The second objective is to demonstrate feasibility and effectiveness of off-gas treatment at or near to the source of the gas where the treatment can be tailored to that specific source. The XOGT project element provides the management, system analysis and support, design (Title I, II, III) engineering, procurement, and installation of XOGT equipment, Title III inspection, and acceptance test procedures (ATP) covering both equipment and system integration activities. The XOGT will be backed by the Facility off-gas system.

FY95 Plan: The plan for FY95 includes completion of the Title I design for the XOGT system in June. In addition to the design effort, experimental work will continue as part of engineering development of the XOGT system. The pilot-scale gas-liquid contactor with turbo-aerator intended for MWMF demonstration will be designed and fabricated to be used in experiments on destruction of NO_x with acidic urea. New, more robust and efficient SCR catalysts will also be tested in the existing Testing Unit. Testing of instrumentation and controls for automated operation will be initiated.

FY95 Budget: Spending profile (\$K, CENRTC)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
11/95 Plan	13	13	12	13	12	15	12	14	14	13	14	13	158

Total Project Costs to Date: \$108K

Actual liens into FY95 (included in FY95 budget): None

Estimated Liens into FY96: None

Significant FY95 Procurements: None

Milestones and Markers:

*See "Milestone/Marker Log" for original dates and reconciliation.

ID no.	Milestone/Marker	Scheduled Date*
L155-1.1	Fabricate prototype gas-liquid contactor for acidic urea DeNO _x scrubbing	Jan 95
L155-3.2	Initiate systematic catalysts testing	Jan 95
L155-2.1	Initiate instrumentation and control system test	Feb 95
L155-3.3	I&C Functional Requirements Document complete	May 95
L155-1	Summarize Gas Liquid Contactor Tests (document)	Jun 95
L155-3.4	LI&C System Preliminary Design review	Jun 95
L155-3	XOG System Preliminary Design review	Jun 95
L155-3.1	Summarize NO _x -urea chemistry to date (document)	Sep 95

WBS Element: 1.6.1. Process Transport and Storage

Task Description: The principal objective of the Process Transport and Storage system is to collect, transfer, deposit, store and handle containers, discrete items, dry and wet bulk materials, slurries, and liquids. Process Transport and Storage provides management, system analysis and support, design (Title I, II, and III) engineering, procurement, installation of Process Support Systems equipment, Title III inspection, and acceptance test procedures (ATP). Process Transport and Storage includes both process transport and storage equipment and systems integration.

FY95 Plan: After completion of Preliminary Design, Final Design will begin. Design activities will focus on the bagless material transfer interface between processes, sizing of the interim storage area, and secondary containment for stored material. Design support activities include using existing LLNL equipment to develop a low-cost prototype system that can be evaluated as part of the Molten Salt Oxidation engineering development system. Final Design will incorporate any revisions required from the Preliminary Design and effort will be directed toward final working drawings, specifications, bidding documents, cost estimates, and procurement and construction schedules. PT&S Title I activities will be delayed until late in the MWMF Title I process to allow all interfacing systems to develop more detailed transport and storage requirements based on their Title I designs.

FY95 Budget: Spending profile (\$K, CENRTC)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
11/95 Plan	6	6	5	6	8	10	9	10	10	6	7	6	89

Total Project Cost to Date: \$26K

Actual liens into FY95 (included in FY95 budget): None

Estimated Liens into FY96: None

Significant FY95 Procurements: None

Milestones and Markers:

*See "Milestone/Marker Log" for original dates and reconciliation.

	Item	Scheduled Date*
L161-1.1	Select standard transport container designs	May 95
L161-1.2	Floor plan layout complete	Jun 95
L161-1.3	LI&C Functional Requirements Document complete	Jun 95
L161-1.4	PTS LI&C System Preliminary Design review	Jul 95
L161-1	PTS System Preliminary Design Review	Jul 95

WBS Element: 1.6.2. Analytical Laboratory.

Task Description: The principal objective of the Analytical Laboratory is to provide chemical analysis support for process control and characterization, material control, and regulatory requirements. Analytical Laboratory provides the management, system analysis and support, design (Title I, II, III) engineering, procurement, installation of Analytical Laboratory equipment, Title III inspection, and acceptance test procedures (ATP). Analytical Laboratory includes Analytical Laboratory Equipment, Local Process I&C, and Process Off-Gas.

FY95 Plan: During FY95, the Analytical Laboratory will define the chemical analysis measurements required for process control, process development, process characterization, and regulatory compliance for the primary processes (MEO (1.5.1) and MSO (1.5.2)) scheduled for placement in the MWMF. Off-gas monitoring requirements for the primary processes and the facility will be defined. Preliminary definition of off-line analysis requirements for MEO and MSO will be completed. Description of the treatment processes associated with DWTF, and the chemical analysis capabilities required in support of DWTF will be determined. Functional requirements for the Analytical Laboratory information management system will be developed, and design of the LIMS (laboratory information management system) will be initiated.

FY95 Budget: Spending profile (\$K, CENRTC)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
11/95 Plan	10	9	9	9	9	11	10	10	10	9	27	18	141

Total Project Costs to Date: \$36K

Actual liens into FY95 (included in FY95 budget): \$29K

Estimated Liens into FY96: \$10K

Significant FY95 Procurements: None

Milestones and Markers:

*See "Milestone/Marker Log" for original dates and reconciliation.

ID no.	Milestone/Marker	Scheduled Date*
L162-2	Define analysis tests based on process acceptance criteria	Jan 95
L162-5	Define MSO on-line analysis requirements	Jan 95
L162-3	Define facility off-gas monitoring requirements	Feb 95
L162-6	Define DWTF analysis requirements	Feb 95
L162-7.1	LI&C Functional Requirements Document complete	Jul 95
L162-7.2	LI&C System Preliminary Design review	Aug 95
L162-7	Analytical Lab System Preliminary Design review	Aug 95
L162-4	Define MEO on-line analysis requirements	Nov 95

WBS Element: 1.6.3. Water Treatment

Task Description: Water Treatment is an integral part of treatment train demonstrations, continuing treatment of aqueous byproducts as part of demonstration tests to produce solid residuals suitable for Final Forms and fully treated water that meets treatment standards and sewer limits. The Water Treatment element provides the management, system analysis and support, design and engineering (Title I, II, III), procurement, and installation of the Water Treatment equipment necessary to demonstrate treatment trains, Title III inspection, and acceptance test procedures (ATP) covering both equipment and system integration activities.

FY95 Plan: Complete the Trade-off study examining how best to integrate MWMF water treatment needs with HWM capabilities in the context of a co-located MWMF and DWTF facility. Secure DOE concurrence with the recommendations of the Trade-off Study. Perform Title I design of Water Treatment in accordance with those recommendations, hold a Preliminary Design Review, and begin Final Design.

FY95 Budget: Spending profile (\$K, CENRTC)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
11/95 Plan	0	14	13	14	13	16	13	15	5	5	10	8	125

Total Project Costs to Date: \$32K

Actual liens into FY95 (included in FY95 budget): None

Estimated Liens into FY96: None

Significant FY95 Procurements: None

Milestones and Markers:

*See "Milestone/Marker Log" for original dates and reconciliation.

ID no.	Milestone/Marker	Scheduled Date*
L163-1.1	Water Treatment Trade-off Study Revision	Dec 94
L163-2	Memorandum of Understanding with HWM	Jan 95
L163-3.1	LI&C Functional Requirements Document complete	Jun 95
L163-3.2	LI&C System Preliminary Design review	Jul 95
L163-3	Water Treatment System Preliminary Design Review	Jul 95
L163-4	Begin Final Design	Jul 95

WBS Element: 1.6.4. Final Forms

Task Description: The Final Forms task is to immobilize the residues from the treatment of the mixed waste input streams by the primary processes, and wastes resulting from secondary support processes that are integral to the primary treatment processes. The waste form types are (1) ceramics for ash residues, (2) polymer microencapsulation for salt, and (3) sulfur-polymer microencapsulation for volatile inorganic solids.

FY95 Plan: During FY95, the designs of the Final Forms facility, of the final form materials themselves, and of the processes used to fabricate them will be continued. For the three ceramic forms (for low-ash, high-ash and overpack waste input streams), the RCRA metal loading levels achievable will be determined, and the process parameters (e.g., sintering temperature) for various residue compositions will be developed. Leach resistances will be assessed. The polymer microencapsulation subsystem choice will be finalized (tentatively polyethylene extrusion), and the waste form designed. No sulfur-polymer work is planned. Regulatory questions concerning testing of microencapsulation waste forms will be addressed.

FY95 Budget: Spending profile (\$K, CENRTC)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
11/95 Plan	34	33	33	33	33	34	33	33	33	33	33	34	399

Total Project Costs to Date: \$367K

Actual liens into FY95 (included in FY95 budget): None

Estimated Liens into FY96: None

Significant FY95 Procurements: None

Milestones and Markers:

*See "Milestone/Marker Log" for original dates and reconciliation.

ID no.	Milestone/Marker	Scheduled Date*
L164-1.3	Report status of immobilization evaluations	Dec 94
L164-2.1	Final Forms subsystem design status peer review	Feb 95
L164-1	Evaluations of immobilization technologies complete	May 95
L164-2.2	LI&C Functional Requirements Document complete	May 95
L164-2.3	LI&C System Preliminary Design review	Jun 95
L164-2	Final Forms System Preliminary Design review	Jun 95
L164-3	Report: Design of polymer microencapsulation system.	Jun 95
L164-4.1	Report: Volatile residue components and the design of ceramic waste form system.	Jul 95
L164-4.2	Report: Interim status of ceramic waste form compositions and process parameters.	Aug 95

WBS Element: 1.6.5. Supervisory Instrumentation and Control (SI&C)

Task Description: Supervisory Instrumentation and Control (I&C) systems will be provided and integrated to demonstrate, test, and evaluate mixed-waste destruction technologies in a safe, environmentally acceptable, reliable, and cost-effective manner. I&C systems provide the management, system analysis and support, design (Title I, II, III) engineering, procurement, equipment installation, Title III inspection, and acceptance test procedures (ATP) covering equipment and system integration activities for: Facility database management, safety control, process I&C standards, supervisory control, and ancillary systems and equipment including the instrumentation and equipment database, intercom communication, process and surveillance CCTV, cable and power distribution and grounding, and control room facilities.

FY95 Plan: Following completion of the Preliminary Design, Final Design will be initiated. Preliminary design activities focus on completing system requirements in conjunction with evaluation, selection, and procurement of hardware and software platforms, and validation of preliminary system designs through rapid prototyping. Final design activities will first focus on providing Process I&C Standards and the Instrumentation and Equipment database required for Local Process I&C design. Other thrust areas include Facility Database Management, Safety Control, and Supervisory Control. Secondary focus will be given to ancillary systems design.

FY95 Budget: Spending profile (\$K, CENRTC)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
11/95 Plan	50	94	60	43	40	38	48	38	38	40	37	45	571

Total Project Costs to Date: \$489.4K

Actual liens into FY95 (included in FY95 budget): \$48.2K

Estimated Liens into FY96: \$10K, miscellaneous liens only

Significant (≥\$25K) FY95 Procurements: None

Key Milestones and Markers:

*See "Milestone/Marker Log" for original dates and reconciliation.

ID no.	Milestone/Marker	Scheduled Date*
L165-1.9	Engineering Development System operational	Dec 94
L165-1.10	Rapid prototype Engineering Development testing complete, report written	Jan 95
L165-1.11	Integrated control system design peer review	Feb 95
L165-2.1	Instrumentation and Equipment Database operational	Mar 95
L165-1.12	SI&C Functional Requirements Document complete	Apr 95
L165-1	SI&C System Preliminary Design Review	May 95
L165-1.13	Engineering Development Tasks Document complete	Jun 95
L165-1.14	Preliminary Design Activities Document complete	Jun 95
L165-2.2	Process I&C Standards established	Sep 95

Appendix A

Guidance Letters

Department of Energy
San Francisco Operations Office
1301 Clay Street
Oakland, California 94612-5208

SEP 27 1994

SEP 26 1994

SEP 27 1994

CC: A. Throop
PES
GA file
proj file

Mr. William H. Huddleston
Project Manager
Decontamination and Waste Treatment Facility (DWTF) Project
Lawrence Livermore National Laboratory
P.O. Box 808, L-621
Livermore, CA 94550

Received
SEP 27 1994
by Alan L. Throop

Mr. Ronald D. Streit
Project Manager
Mixed Waste Management Facility
Lawrence Livermore National Laboratory
P.O. Box 808, L-590
Livermore, CA 94550

RE: Incorporation of the MWMF into the DWTF Site Plan and Option B

Dear Mr. Huddleston and Mr. Streit:

This letter authorizes LLNL to initiate the planning and design activities associated with the incorporation of the facility to house the MWMF into the DWTF site plan. In addition, all planning and design activities associated with the B-494 Upgrade should be abandoned.

It is of highest priority to maximize the cost savings associated with these projects. A detailed MWMF/DWTF commonality assessment should be conducted and all potential cost savings should be identified to DOE, including the common areas considered unfavorable by LLNL. The MWMF should be an austere facility capable of housing two primary technologies for demonstration with expansion capability for one additional technology to potentially be constructed at a later date.

LLNL should proceed with the Alternative Design Review (ADR) Phase 5 and produce a revised baseline for DWTF utilizing Option B and integrating the facility to house the MWMF. A final scope for Option B should be agreed upon by DOE after LLNL completes the MWMF/DWTF commonality assessment, prior to September 30, 1994. The revised baselines for DWTF and MWMF should be submitted to DOE/OAK by COB, November 4, 1994 in preparation for EM-30 validation (DWTF Baseline only) during the week of December 5, 1994.

Finally, we are all working against an ambitious schedule which will require diligent work by LLNL and DOE. If there are any questions or concerns regarding the above, please contact us as soon as possible.

Sincerely,

Vern L. Anderson
DWTF Project Manager

Karin L. King
MWMF Project Manager

cc: H. Joma, DOE/OAK
B. Pankhurst, DOE/OAK
R. Scott, DOE/OAK

94W-373/5480.b.8

If there are any questions I may be contacted at (510)423-8394.

Hannibal Joma
Defense Group Leader
Waste Management Division

cc:

R. Corey, DAMEMS
K. Gilbert, HWM, L-621
B. Huddleston, HWM, L-654
K. King, WMD
V. Anderson, EFM
J. Solis, BUD

94-W 381/5100.c.7

Department of Energy

Oakland Operations Office

1301 Clay Street

Oakland, California 94612-5208

SEP - 6 1994

SEP 29 1994

Mr. Ron Streit
Project Manager
Mixed Waste Management Facility
Lawrence Livermore National Laboratory
7000 East Avenue, L-590
Livermore, California 94550

Received
SEP 30 1994
by Alan L. Throop

Subject: Mixed Waste Management Facility FY95 Budget Authority

Dear Mr. Streit:

This is to transmit the MWMF FY95 Budget Authority (BA) of \$7,656K (\$2,800K OE; \$4,856K CE). This BA reflects the Congressional reduction of \$844K of CE funds. As you are aware, in addition to Congressional reductions, EM has pre-collected a certain percentage of the DOE OAK Waste Management budget as "Productivity Savings". DOE OAK Waste Management Division, considering the recent development surrounding MWMF and DWTF integration, is not deducting any "Productivity Savings" from MWMF FY95 BA nor the FY94 uncoded at this time. We believe that once projects are integrated (either partially or fully) definite cost savings and/or avoidance will be realized consistent with EM's direction and requirements.

We have requested EPD to develop the "FY95 Cost Savings Plans" addressing programs and construction projects, including DWTF, where certain productivity savings must be realized in FY95. The DWTF Cost Savings Plan may address certain savings which could be realized as a result of partial or complete integration of these two projects in FY95.

Appendix B

Schedule

FY95												FY96												FY97												FY98												FY99														
DOCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	DOCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	DOCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	DOCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	DOCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	DOCT	NOV	DEC
1.4.2 SOLIDS FEED PREPARATION (SFP)																																																														
Preliminary Design - In-Process Storage																																																														
Preliminary Design - Ancillary Systems & Equip																																																														
Preliminary Design - SFP Local Process IEC																																																														
Preliminary Design - Decontamination																																																														
◇ Prelim Design Review (PDR)																																																														
Detailed Design - Container Receiving																																																														
Detailed Design - Definitive Sorting																																																														
Detailed Design - Processing																																																														
Detailed Design - Container Management																																																														
Detailed Design - In-Process Storage																																																														
Detailed Design - Ancillary Systems & Equip																																																														
Final Design - SFP Local Process IEC																																																														
Detailed Design - Decontamination																																																														
◇ Final Design Review (FDR)																																																														
Engineering Support - Container Receiving																																																														
Engineering Support - Definitive Sorting																																																														
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Engineering Support - Ancillary Systems & Equip																																																														
Engineering Support - SFP Local Process IEC																																																														
Engineering Support - Decontamination																																																														
Procurements																																																														
Assembly & Checkout																																																														
Equipment Installation & ATP																																																														
1.4.3 LIQUIDS FEED PREPARATION (LFP)																																																														
Preliminary Design - Container Receiving																																																														
Preliminary Design - Container Emptying																																																														
Preliminary Design - Liquid / Solid Separation																																																														
Preliminary Design - Liquid / Liquid Separation																																																														
Preliminary Design - In-Process Storage																																																														
Preliminary Design - Ancillary Equipment																																																														
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Detailed Design - Liquid / Solid Separation																																																														
Detailed Design - Liquid / Liquid Separation																																																														
Detailed Design - In-Process Storage																																																														
Detailed Design - Ancillary Equipment

FY95			FY96			FY97			FY98			FY99																	
OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR
1.5.1.4 MED ANCILLARY SYSTEMS & EQUIPMENT																													
															Title II - Ancillary Sys / Equipmt Final Design														
															Assemble & Check Ancillary Equipment														
1.5.1.5 MED LOCAL PROCESS IGC																													
															MED Local Process IGC Title I Design														
															Title II - MED Local Process IGC														
															IGC Procurements														
1.5.1.6 MED PROCESS OFF-GAS																													
															MED Process Off-Gas Title I Design														
															Title II - Process Off-Gas Final Design														
															Assemble & Check Off-Gas Assembly														
1.5.2.1 MSO PRIMARY UNIT																													
															Title I - Preliminary Design														
															Preliminary Vessel Header Design														
															Preliminary Vessel Cooling System Design														
															Preliminary Vessel Design														
															Design & Develop Injectors & Feed Systems														
															Preliminary Vessel Support Design														
															Design Structure														
															Decision on Vessel Material (PRELIM)														
															Title II - Detailed Design														
															Design Liquid Waste Feed System														
															Detailed Vessel Design														
															Reactor Heating/Cooling Detail Design														
															Prelim Design Review (PDR)														
															Design Solid Waste Feed System														
															Complete Structure Design														
															Title III - Engineering Support														
															Procure Reactor Vessel & Internals														
															Procure Reactor Cooling Components														
															Final Design Review (FDR)														
															Procure Structure														
															Stacking & Assembly														
															Proof Testing														
															Disassembly & Shipping														
															Installation														
															ALP														
1.5.2.2 MSO SALT RECYCLE SUPPORT SYSTEM																													
															Concepts Identification - Salt Composition - "D"														
															Concepts Identif - Crystallizer Process - "D"														
															Concepts Identification - Salt Splitter - "D"

Appendix C

Milestone Control Logs

(By Number, By Date)

MWMF Milestones and Markers			Sorted by number			
Number	Item	PTS	Orig. Date	Date	Status	Comments
Doc. Resp. Person: M. De Micco, A. Throop (alt.); Rev. date: 12/13/94						
C113-1	RD&D permit issued by DTSC	X		Jul-96		
C113-2	Authorization to construct issued by BAAQMD	X	Oct-94	Jul-95		permit submission delayed pending rebaseline
D112-1	PSAR Approved by DOE	X	Jun-94	Nov-94	deleted	facility categorized Low Hazard; DOE approval not req'd
D113-1	EA determination by DOE	X	Aug-94	Mar-95		EA draft submitted. Rev. due to MWMF/DWTF merge req'd.
D115-1	DOE issue Project Plan	X		Jan-95		
D121-1	Preliminary approval and funding for Preliminary Design	X	Apr-94	Jun-94	complete	delayed decision by DOE
D121-2	KD 1/2 Approval by DOE	X		Jun-94	complete	received KD-1 only
D131-2	DOE issues KD-2	X	Jun-94	Jul-95		Delayed due to reduce funding guidance by DOE
L111-1	Develop and issue Quality Assurance Plan			Oct-93	complete	
L111-2	Develop and issue Document Control Plan			Jan-94	complete	
L111-3	Issue Design Review Procedure			Sep-94	complete	
L112-1	PSAR to DOE for Review	X	Mar-94	Dec-94		delayed to include CDR information and due to DOE decision to merge MWMF & DWTF
L112-1.1	Issue PSAR Contract			Oct-93	complete	
L112-1.2	Preliminary PSAR Review			Feb-94	complete	
L113-1	Environmental Assessment (EA) submitted to DOE	X	Mar-94	Jun-94	complete	delayed to include CDR information, draft submitted
L113-2	Submit air permit to BAAQMD	X	May-94	Mar-95		date changed to agree with extended project schedule
L113-3	Submit RD&D permit application to DTSC	X	Jul-94	Jan-95	in progress	date changed to agree with extended project schedule
L113-4	Submit revised EA to DOE (for MWMF/DWTF merge)	X		Dec-94	in progress	
L114-1.1	ES&H review of 30% CDR			Dec-93	complete	
L114-1.2	ES&H review of 90% CDR			Mar-94	complete	
L114-1.3	ES&H review of 90% PDR		Sep-94	Jan-95	deleted	changed to reflect level of effort work
L114-2	Complete review of PSAR			Aug-94	complete	
L115-1	Project Management Plan (Final)	X		Jan-95		1 month after DOE Project Plan (D115-1)
L115-1.1	Project Management Plan (Draft)			Oct-93	complete	
L115-10	Submit FY96 Plan	X		Oct-95		
L115-2	Select Project Engineers and Project Control Manager			Dec-93	complete	
L115-3	Submit FY94 Plan	X		Jan-94	complete	
L115-4	Initiate PTS and Monthly reporting			Jan-94	complete	
L115-5	Technology Selection and Implementation Plan	X		Feb-94	complete	
L115-6	Develop Design Basis Operations Plan			Mar-94	complete	
L115-7	Submit FY95 Plan	X	Sep-94	Nov-94	in progress	revised FY95 funding guidance rec'd 9/30/94
L115-8	Technology Selection and Implementation Plan, Part II			Mar-95		
L115-9	FY97 Project Validation			Apr-95		
L116-1	First meeting of NAC	X	Mar-94	Feb-95		delayed pending DOE confirmation of project scope/schedule
L116-1.1	National Advisory Council (NAC) formed			Dec-94		
L116-2	Second meeting of NAC			Aug-95		
L116-2.1	Issue first public newsletter			Mar-95		
L116-2.2	Receive comments from NAC			Apr-95		
L116-3.1	Issue second newsletter			Sep-95		
L121-1	30% CDR Review			Dec-93	complete	

MWMF Milestones and Markers				Sorted by number			
Number	Item	PTS	Orig. Date	Date	Status	Comments	
L121-1.1	Initiate Point Design Reviews			Oct-93	complete		
L121-1.2	Complete Point Design Reviews			Nov-93	complete		
L121-2	90% CDR Review			Mar-94	complete		
L121-3	CD Report issued	X		Apr-94	complete		
L122-1	Issue MWMF Start-Up and Activation Plan			Sep-95			
L131-1	Preliminary Design Review (Overall Project) completed	X	Sep-94	Jul-95		delayed due to funding limitations per DOE guidance	
L131-2	Input to FY95 Plan (see 115-7)	X	Sep-94	Nov-94		revised FY95 funding guidance rec'd 9/30/94	
L131-3	Submit MWMF Rebaseline (KD-1)	X		Sep-94	complete		
L131-4	Submit MWMF Rebaseline (MWMF/DWTF Merge)	X		Mar-95	in progress		
L131-5	Submit Post-PDR Project Baseline	X		Sep-95			
L132-1	Implement Cost planning/tracking systems (document)		Sep-94	Dec-94		activity stretched-out due to reduced funding guidance	
L132-10.1	Input to FY96 Plan (see L115-10)			Oct-95			
L132-2	Implement Technical baseline control system		May-94	Nov-94		see 132-7	
L132-3	Implement Schedule control/tracking system			Aug-94		see 132-7	
L132-4	Input to FY95 Plan (see L115-7)			Nov-94			
L132-5	Issue Configuration Control System Document			Jan-95			
L132-6.1	Input to MWMF Project Management Plan (see L115-1)			Feb-95			
L132-7	Performance Management System documented			Apr-95			
L132-8.1	Complete support of Project PDR (see L131-1)			Jun-95			
L132-9	Complete QA Self Assessment			Aug-95			
L132-9.1	Records Control Procedure issued			Apr-95			
L132-9.2	Assessment/Surveillance Procedure issued			Jul-95			
L133-1.1	Draft System Engineering Management Plan			Sep-94	deleted	information in other documents	
L133-1.2	Issue MWMF development plan			Jul-94	complete		
L133-1.3	Complete MWMF floor plan			Jul-94	complete		
L133-1.4	Input to FY95 Plan (see 115-7)			Nov-94			
L133-2	Issue Integrated Operations Plan			Jan-95			
L133-3	Issue Title I System Design Requirements			Feb-95			
L133-4	Issue Metrication Plan			Feb-95			
L133-5	Input to FY96 Plan (see 115-10)			Oct-95			
L141-1	RAS System Preliminary Design Review		Sep-94	Jul-95		PDR delayed due to funding limitations per DOE guidance	
L141-1.1	Complete pilot characterization studies		Jun-94	Dec-94	in progress	activity stretched-out due to reduced funding guidance	
L141-1.2	Identify equipment and define floor plan		Sep-94	Mar-95		activity stretched-out due to reduced funding guidance	
L141-1.3	RAS LI&C System Functional Requirements Document complete			Jun-95			
L141-1.4	RAS LI&C Preliminary Design Review			Jul-95			
L142-1	SFP System Preliminary Design Review			Jul-95			
L142-1.1	SFP surrogate feeds defined			May-94	complete		
L142-1.2	Identify initial suite of characterization equipment		Jun-94	Dec-94	in progress	activity stretched-out due to reduced funding guidance	
L142-1.3	Complete validation of characterization, isolation, and segregation methods		Sep-94	Jan-95		date changed to agree with extended project schedule	
L142-1.4	Complete preliminary operator control station design			Mar-95			
L142-1.5	Process Vision/Robline bilateral communication link demonstrated			Feb-95			
L142-1.6	Process Vision/Robline bilateral message handling demonstrated			Mar-95			
L142-1.7	SFP workcell control architecture designed			May-95			

FY95 Plan

MWMF Milestones and Markers			Sorted by number			
Number	Item	PTS	Orig. Date	Date	Status	Comments
L142-1.8	LI&C Functional Requirements Document complete			Jun-95		
L142-1.9	LI&C Preliminary Design complete			Jul-95		
L143-1	LFP System Preliminary Design Review			Jul-95		
L143-1.1	Define surrogate feeds		May-94	Nov-94	in progress	date changed to agree with extended project schedule
L143-1.2	LFP general arrangement plan finalized		Jul-94	Dec-94		date changed to agree with extended project schedule
L143-1.3	Complete validation of characterization and segregation methods		Sep-94	Mar-95		date changed to agree with extended project schedule
L143-1.4	LI&C Functional Requirements Document complete			Jun-95		
L143-1.5	LI&C Preliminary Design complete			Jul-95		
L151-1.1	Complete tests on turbo-aerator for nitrous acid conversion (document issued)		Mar-94	Dec-94	writing report	activity stretched-out due to reduced funding guidance
L151-1.10	P&ID drawings (document)			Sep-95		
L151-1.11	Layout drawings of major equipment items (document)			Sep-95		
L151-1.12	LI&C Functional Requirements Document complete			Aug-95		
L151-1.13	LI&C Preliminary Design Review			Sep-95		
L151-1.2	Initiate steady-state flow and chemistry balance tests			Apr-94	complete	
L151-1.3	Initiate instrumentation and control system tests for MEO			Aug-94	complete	
L151-1.4	Summarize silver recovery chemistry results to date (document)		Sep-94	Dec-94	writing report	activity stretched-out due to reduced funding guidance
L151-1.5	Fabricate and set-up cellulose Feeder		Sep-94	Dec-94	complete	activity stretched-out due to reduced funding guidance
L151-1.6	Report on NaOH-AgCl recovery (document)			Feb-95		
L151-1.7	Computer simulation of the combined MEO and Acid Recovery control systems (document)			Feb-95		
L151-1.8	Final Report on steady-state flow and chemistry balance tests (document issued)			Apr-95		
L151-1.9	Demonstrate prototype cellulose feeder (document)			Jun-95		
L151-2	MEO System Preliminary Design Review			Sep-95		
L151-2.1	Preliminary Process Flow Diagram for MEO			Jun-94	complete	
L151-2.2	Preliminary equipment layout for MEO			Sep-94	complete	
L152-1	Complete MSO bench scale rubber destruction tests			Dec-93	complete	
L152-2	Select Industrial Participation method			Jun-95		
L152-2.1	MSO advertise in the CBD		Apr-94	Jun-94	complete	delayed due to funding limitations per DOE guidance
L152-2.2	Complete Design Specification		May-94	Dec-94	In progress	activity stretched-out due to reduced funding guidance
L152-2.3	Conduct Industrial Partner meeting		Jul-94	Dec-94		delayed due to funding limitations per DOE guidance
L152-3	MSO System MWMF PDR			Jun-95		
L152-3.1	Preliminary Process Flow Diagram complete for MSO		Jun-94	Sep-94	complete	
L152-3.2	Initiate MSO Preliminary Design			Jul-94	complete	
L152-3.3	Initiate vessel material study			Oct-94		
L152-3.4	Install development unit			Jun-95		
L152-3.5	LI&C Functional Requirements Document complete			May-95		
L152-3.6	LI&C Preliminary Design Review			Jun-95		
L152-4	Start Development Activities			Aug-94	complete	
L152-5	Start Title II design			Jul-95		
L153-1	Award WOX contract			Sep-94	deleted	WBS element deleted per DOE guidance
L153-1.1	Complete and document work to date			Jul-94	complete	
L153-1.2	Issue RFQ for WOX treatment unit w/ completed specification			Jun-94	deleted	WBS element deleted per DOE guidance

MWMF Milestones and Markers			Sorted by number			
Number	Item	PTS	Orig. Date	Date	Status	Comments
L153-2	30% Preliminary Design Review for WOX			Sep-94	deleted	WBS element deleted per DOE guidance
L153-2.1	WOX dispersion system test and design recommendation complete			May-94	deleted	WBS element deleted per DOE guidance
L153-2.2	Preliminary WOX treatability tests complete			Jun-94	deleted	WBS element deleted per DOE guidance
L153-2.3	Preliminary WOX Process Flow Diagram complete			Jun-94	deleted	WBS element deleted per DOE guidance
L153-2.4	Preliminary P&ID for WOX Support System complete			Jul-94	deleted	WBS element deleted per DOE guidance
L154-1	Complete and document UVP work to date			Jul-94	complete	
L154-2	UVP System Preliminary Design Review			Sep-94	deleted	WBS element deleted per DOE guidance
L154-2.1	UVP Process Flow Diagram			Jul-94	deleted	WBS element deleted per DOE guidance
L154-2.2	P&ID for UVP Support System			Jul-94	deleted	WBS element deleted per DOE guidance
L154-2.2	EOG preliminary Equipment Layout			Sep-94	deleted	WBS element deleted per DOE guidance
L154-2.3	UVP Equipment Layout			Aug-94	deleted	WBS element deleted per DOE guidance
L155-1	Summarize Gas Liquid Contactor Tests (document)			Jun-95		
L155-1.1	Fab prototype gas-liquid contactor for acidic urea NOx destruction		Jun-94	Jan-95	in progress	delayed due to DOE stretchout & peer review action item(s)
L155-1.2	Complete XOG tests on urea and SCR DeNOx			Jul-94	deleted	break up into other markers
L155-2	Urea DeNOx: peer review			Aug-94	complete	
L155-2.1	Initiate instrumentation and control system test		Aug-94	Feb-95		delayed due to DOE stretchout & peer review action item(s)
L155-3	XOG System Preliminary Design Review		Sep-94	Jun-95		PDR delayed due to funding limitations per DOE guidance
L155-3.1	Summarize NOx-urea chemistry to date (document)			Sep-95		
L155-3.2	Initiate systematic catalysts testing			Jan-95		
L155-3.3	LI&C Functional Requirements Document complete			May-95		
L155-3.4	LI&C Preliminary Design complete			Jun-95		
L161-1	Process Transport & Storage System Preliminary Design Review		Sep-94	Jul-95		PDR delayed due to funding limitations per DOE guidance
L161-1.1	Select standard transport container designs		Jun-94	May-95		activity stretched-out due to reduced funding guidance
L161-1.2	Floor plan layout complete		Jul-94	Jun-95		activity stretched-out due to reduced funding guidance
L161-1.3	LI&C Functional Requirements Document complete			Jun-95		
L161-1.4	PTS LI&C System Preliminary Design review			Jul-95		
L162-1	Complete preliminary floor plan layout			Jun-94	complete	
L162-1.1	Select ATS standard transport container designs			Jun-94	deleted	WBS content revised to "Analytical Lab"
L162-1.2	Finalize ATS transport handling capacity			Jun-94	deleted	WBS content revised to "Analytical Lab"
L162-1.3	Finalize ATS transport equipment selection			Aug-94	deleted	WBS content revised to "Analytical Lab"
L162-2	Define analysis tests based on process acceptance criteria		Sep-94	Jan-95	partial	date changed to agree with extended project schedule
L162-3	Define facility off-gas monitoring requirements		Sep-94	Feb-95	partial	date changed to agree with extended project schedule
L162-4	Define MEO on-line analysis requirements			Nov-95		
L162-5	Define MSO on-line analysis requirements			Jan-95		
L162-6	Define DWTF analysis requirements			Feb-95		
L162-7	Analytical Lab System Preliminary Design review			Aug-95		
L162-7.1	LI&C Functional Requirements Document complete			Jul-95		
L162-7.2	LI&C Preliminary Design Review			Aug-95		
L163-1	Water Treatment trade-off study		Jun-94	Sep-94	complete	
L163-1.1	Water Treatment trade-off study revision			Dec-94		
L163-2	Memorandum of Understanding with HWM			Jan-95		
L163-3	WTR System Preliminary Design Review			Jul-95		was L163-2.1
L163-3.1	LI&C Functional Requirements Document complete			Jun-95		was L163-2

FY95 Plan

MWMF Milestones and Markers			Sorted by number			Comments
Number	Item	PTS	Orig. Date	Date	Status	
L163-3.2	LI&C Preliminary Design Review			Jul-95		was L163-2.2
L163-4	Begin Final Design			Jul-95		was L163-2.3
L164-1	Evaluations of immobilization technologies complete			May-95		
L164-1.1	Preliminary process flow diagram complete for FF			Jul-94	complete	
L164-1.2	Preliminary equipment layout complete for FF			Aug-94	complete	
L164-1.3	Report status of immobilization evaluations		Sep-94	Dec-94		date changed to agree with extended project schedule
L164-2	Final Forms System Preliminary Design Review			Jun-95		
L164-2.1	Final Forms subsystem design status peer review			Feb-95		
L164-2.2	LI&C Functional Requirements Document complete			May-95		
L164-2.3	LI&C Preliminary Design complete			Jun-95		
L164-3	Report: Design of polymer microencapsulation system			Jun-95		
	Report issued: Volatile residue components and the design of ceramic			Jul-95		
L164-4.1	waste form system					
	Report issued: Interim status of ceramic waste form compositions and			Aug-95		
L164-4.2	process parameters					
L165-1	SI&C System Preliminary Design Review			May-95		
L165-1.1	I/C general arrangement plan complete			Mar-94	complete	
	Rapid prototype Engineering Development testing complete and report					
L165-1.10	written			Jan-95		
L165-1.11	Integrated control system design peer review			Feb-95		
L165-1.12	SI&C Functional Requirements Document complete			Apr-95		
L165-1.13	Engineering Development tasks complete, documented			Jun-95		
L165-1.14	Preliminary Design activities complete, documented			Jun-95		
L165-1.2	Process Control System FEP hardware/software selected			Apr-94	complete	
L165-1.3	Supervisory Control System hardware/software selected			Apr-94	complete	
L165-1.4	Handling Systems open architecture controller selected			Jul-94	deleted	to WBS 1.4.2
L165-1.5	Analytical laboratory LIMS selected			Jul-94	deleted	LIMS may not be used in system design
L165-1.6	Telerobotics platform selected			Aug-94	deleted	to WBS 1.4.2
L165-1.7	Teleoperator controller selected			Sep-94	deleted	to WBS 1.4.2
L165-1.8	Database Management System hardware/software selected			Jul-94	complete	
L165-1.9	Engineering Development System operational			Dec-94	in progress	
L165-2.1	Instrumentation and Equipment Database operational			Mar-95		
L165-2.2	Process I&C Standards established			Sep-95		
end						

MWMF Milestones and Markers			Sorted by date			
Number	Item	PTS	Orig. Date	Date	Status	Comments
Doc. Resp. Person: M. De Micco, A. Throop (alt.); Rev. date: 12/13/94						
L111-1	Develop and issue Quality Assurance Plan			Oct-93	complete	
L112-1.1	Issue PSAR Contract			Oct-93	complete	
L115-1.1	Project Management Plan (Draft)			Oct-93	complete	
L121-1.1	Initiate Point Design Reviews			Oct-93	complete	
L121-1.2	Complete Point Design Reviews			Nov-93	complete	
L114-1.1	ES&H review of 30% CDR			Dec-93	complete	
L115-2	Select Project Engineers and Project Control Manager			Dec-93	complete	
L121-1	30% CDR Review			Dec-93	complete	
L152-1	Complete MSO bench scale rubber destruction tests			Dec-93	complete	
L111-2	Develop and issue Document Control Plan			Jan-94	complete	
L115-3	Submit FY94 Plan	X		Jan-94	complete	
L115-4	Initiate PTS and Monthly reporting			Jan-94	complete	
L112-1.2	Preliminary PSAR Review			Feb-94	complete	
L115-5	Technology Selection and Implementation Plan	X		Feb-94	complete	
L114-1.2	ES&H review of 90% CDR			Mar-94	complete	
L115-6	Develop Design Basis Operations Plan			Mar-94	complete	
L121-2	90% CDR Review			Mar-94	complete	
L165-1.1	I/C general arrangement plan complete			Mar-94	complete	
L121-3	CD Report issued	X		Apr-94	complete	
L151-1.2	Initiate steady-state flow and chemistry balance tests			Apr-94	complete	
L165-1.2	Process Control System FEP hardware/software selected			Apr-94	complete	
L165-1.3	Supervisory Control System hardware/software selected			Apr-94	complete	
L142-1.1	SFP surrogate feeds defined			May-94	complete	
L153-2.1	WOX dispersion system test and design recommendation complete			May-94	deleted	WBS element deleted per DOE guidance
D121-1	Preliminary approval and funding for Preliminary Design	X	Apr-94	Jun-94	complete	delayed decision by DOE
D121-2	KD 1/2 Approval by DOE	X		Jun-94	complete	received KD-1 only
L113-1	Environmental Assessment (EA) submitted to DOE	X	Mar-94	Jun-94	complete	delayed to include CDR information, draft submitted
L151-2.1	Preliminary Process Flow Diagram for MEO			Jun-94	complete	
L152-2.1	MSO advertise in the CBD		Apr-94	Jun-94	complete	delayed due to funding limitations per DOE guidance
L153-1.2	Issue RFQ for WOX treatment unit w/ completed specification			Jun-94	deleted	WBS element deleted per DOE guidance
L153-2.2	Preliminary WOX treatability tests complete			Jun-94	deleted	WBS element deleted per DOE guidance
L153-2.3	Preliminary WOX Process Flow Diagram complete			Jun-94	deleted	WBS element deleted per DOE guidance
L162-1	Complete preliminary floor plan layout			Jun-94	complete	
L162-1.1	Select ATS standard transport container designs			Jun-94	deleted	WBS content revised to "Analytical Lab"
L162-1.2	Finalize ATS transport handling capacity			Jun-94	deleted	WBS content revised to "Analytical Lab"
L133-1.2	Issue MWMF development plan			Jul-94	complete	
L133-1.3	Complete MWMF floor plan			Jul-94	complete	
L152-3.2	Initiate MSO Preliminary Design			Jul-94	complete	
L153-1.1	Complete and document work to date			Jul-94	complete	
L153-2.4	Preliminary P&ID for WOX Support System complete			Jul-94	deleted	WBS element deleted per DOE guidance

FY95 Plan

MWMF Milestones and Markers			Sorted by date			
Number	Item	PTS	Orig. Date	Date	Status	Comments
L154-1	Complete and document UVP work to date			Jul-94	complete	
L154-2.1	UVP Process Flow Diagram			Jul-94	deleted	WBS element deleted per DOE guidance
L154-2.2	P&ID for UVP Support System			Jul-94	deleted	WBS element deleted per DOE guidance
L155-1.2	Complete XOG tests on urea and SCR DeNOx			Jul-94	deleted	break up into other markers
L164-1.1	Preliminary process flow diagram complete for FF			Jul-94	complete	
L165-1.4	Handling Systems open architecture controller selected			Jul-94	deleted	to WBS 1.4.2
L165-1.5	Analytical laboratory LIMS selected			Jul-94	deleted	LIMS may not be used in system design
L165-1.8	Database Management System hardware/software selected			Jul-94	complete	
L114-2	Complete review of PSAR			Aug-94	complete	
L132-3	Implement Schedule control/tracking system			Aug-94		see 132-7
L151-1.3	Initiate instrumentation and control system tests for MEO			Aug-94	complete	
L152-4	Start Development Activities			Aug-94	complete	
L154-2.3	UVP Equipment Layout			Aug-94	deleted	WBS element deleted per DOE guidance
L155-2	Urea DeNOx: peer review			Aug-94	complete	
L162-1.3	Finalize ATS transport equipment selection			Aug-94	deleted	WBS content revised to "Analytical Lab"
L164-1.2	Preliminary equipment layout complete for FF			Aug-94	complete	
L165-1.6	Telerobotics platform selected			Aug-94	deleted	to WBS 1.4.2
L111-3	Issue Design Review Procedure			Sep-94	complete	
L133-1.1	Draft System Engineering Management Plan			Sep-94	deleted	information in other documents
L151-2.2	Preliminary equipment layout for MEO			Sep-94	complete	
L152-3.1	Preliminary Process Flow Diagram complete for MSO		Jun-94	Sep-94	complete	
L153-1	Award WOX contract			Sep-94	deleted	WBS element deleted per DOE guidance
L153-2	30% Preliminary Design Review for WOX			Sep-94	deleted	WBS element deleted per DOE guidance
L154-2	UVP System Preliminary Design Review			Sep-94	deleted	WBS element deleted per DOE guidance
L154-2.2	EOG preliminary Equipment Layout			Sep-94	deleted	WBS element deleted per DOE guidance
L163-1	Water Treatment trade-off study		Jun-94	Sep-94	complete	
L165-1.7	Teleoperator controller selected			Sep-94	deleted	to WBS 1.4.2
L131-3	Submit MWMF Rebaseline (KD-1)	X		Sep-94	complete	
L152-3.3	Initiate vessel material study			Oct-94		
D112-1	PSAR Approved by DOE	X	Jun-94	Nov-94	deleted	facility categorized Low Hazard; DOE approval not req'd
L115-7	Submit FY95 Plan	X	Sep-94	Nov-94	in progress	revised FY95 funding guidance rec'd 9/30/94
L131-2	Input to FY95 Plan (see 115-7)	X	Sep-94	Nov-94		revised FY95 funding guidance rec'd 9/30/94
L132-2	Implement Technical baseline control system		May-94	Nov-94		see 132-7
L132-4	Input to FY95 Plan (see L115-7)			Nov-94		
L133-1.4	Input to FY95 Plan (see 115-7)			Nov-94		
L143-1.1	Define surrogate feeds		May-94	Nov-94	in progress	date changed to agree with extended project schedule
L112-1	PSAR to DOE for Review	X	Mar-94	Dec-94		MWMF & DWTF
L116-1.1	National Advisory Council (NAC) formed			Dec-94		
L132-1	Implement Cost planning/tracking systems (document)		Sep-94	Dec-94		activity stretched-out due to reduced funding guidance
L141-1.1	Complete pilot characterization studies		Jun-94	Dec-94	in progress	activity stretched-out due to reduced funding guidance
L142-1.2	Identify initial suite of characterization equipment		Jun-94	Dec-94	in progress	activity stretched-out due to reduced funding guidance
L143-1.2	LFP general arrangement plan finalized		Jul-94	Dec-94		date changed to agree with extended project schedule
L151-1.1	(document issued)		Mar-94	Dec-94	writing report	activity stretched-out due to reduced funding guidance

MWMF Milestones and Markers			Sorted by date			
Number	Item	PTS	Orig. Date	Date	Status	Comments
L151-1.4	Summarize silver recovery chemistry results to date (document)		Sep-94	Dec-94	writing report	activity stretched-out due to reduced funding guidance
L151-1.5	Fabricate and set-up cellulose Feeder		Sep-94	Dec-94	complete	activity stretched-out due to reduced funding guidance
L152-2.2	Complete Design Specification		May-94	Dec-94	In progress	activity stretched-out due to reduced funding guidance
L152-2.3	Conduct Industrial Partner meeting		Jul-94	Dec-94		delayed due to funding limitations per DOE guidance
L163-1.1	Water Treatment trade-off study revision			Dec-94		
L164-1.3	Report status of immobilization evaluations		Sep-94	Dec-94		date changed to agree with extended project schedule
L165-1.9	Engineering Development System operational			Dec-94	in progress	
L113-4	Submit revised EA to DOE (for MWMF/DWTF merge)	X		Dec-94	in progress	
D115-1	DOE issue Project Plan	X		Jan-95		
L113-3	Submit RD&D permit application to DTSC	X	Jul-94	Jan-95	in progress	date changed to agree with extended project schedule
L114-1.3	ES&H review of 90% PDR		Sep-94	Jan-95	deleted	changed to reflect level of effort work
L115-1	Project Management Plan (Final)	X		Jan-95		1 month after DOE Project Plan (D115-1)
L132-5	Issue Configuration Control System Document			Jan-95		
L133-2	Issue Integrated Operations Plan			Jan-95		
L142-1.3	methods		Sep-94	Jan-95		date changed to agree with extended project schedule
L155-1.1	Fab prototype gas-liquid contactor for acidic urea NOx destruction		Jun-94	Jan-95	in progress	delayed due to DOE stretchout & peer review action item(s)
L155-3.2	Initiate systematic catalysts testing			Jan-95		
L162-2	Define analysis tests based on process acceptance criteria		Sep-94	Jan-95	partial	date changed to agree with extended project schedule
L162-5	Define MSO on-line analysis requirements			Jan-95		
L163-2	Memorandum of Understanding with HWM			Jan-95		
L165-1.10	written			Jan-95		
L116-1	First meeting of NAC	X	Mar-94	Feb-95		delayed pending DOE confirmation of project scope/schedule
L132-6.1	Input to MWMF Project Management Plan (see L115-1)			Feb-95		
L133-3	Issue Title I System Design Requirements			Feb-95		
L133-4	Issue Metrication Plan			Feb-95		
L142-1.5	Process Vision/Robline bilateral communication link demonstrated			Feb-95		
L151-1.6	Report on NaOH-AgCl recovery (document)			Feb-95		
L151-1.7	systems (document)			Feb-95		
L155-2.1	Initiate instrumentation and control system test		Aug-94	Feb-95		delayed due to DOE stretchout & peer review action item(s)
L162-3	Define facility off-gas monitoring requirements		Sep-94	Feb-95	partial	date changed to agree with extended project schedule
L162-6	Define DWTF analysis requirements			Feb-95		
L164-2.1	Final Forms subsystem design status peer review			Feb-95		
L165-1.11	Integrated control system design peer review			Feb-95		
D113-1	EA determination by DOE	X	Aug-94	Mar-95		EA draft submitted. Rev. due to MWMF/DWTF merge req'd.
L113-2	Submit air permit to BAAQMD	X	May-94	Mar-95		date changed to agree with extended project schedule
L115-8	Technology Selection and Implementation Plan, Part II			Mar-95		
L116-2.1	Issue first public newsletter			Mar-95		
L131-4	Submit MWMF Rebaseline (MWMF/DWTF Merge)	X		Mar-95	in progress	
L141-1.2	Identify equipment and define floor plan		Sep-94	Mar-95		activity stretched-out due to reduced funding guidance
L142-1.4	Complete preliminary operator control station design			Mar-95		
L142-1.6	Process Vision/Robline bilateral message handling demonstrated			Mar-95		

FY95 Plan

MWMF Milestones and Markers			Sorted by date			
Number	Item	PTS	Orig. Date	Date	Status	Comments
L143-1.3	Complete validation of characterization and segregation methods		Sep-94	Mar-95		date changed to agree with extended project schedule
L165-2.1	Instrumentation and Equipment Database operational			Mar-95		
L115-9	FY97 Project Validation			Apr-95		
L116-2.2	Receive comments from NAC			Apr-95		
L132-7	Performance Management System documented			Apr-95		
L132-9.1	Records Control Procedure issued			Apr-95		
L151-1.8	(document issued)			Apr-95		
L165-1.12	SI&C Functional Requirements Document complete			Apr-95		
L142-1.7	SFP workcell control architecture designed			May-95		
L152-3.5	LI&C Functional Requirements Document complete			May-95		
L155-3.3	LI&C Functional Requirements Document complete			May-95		
L161-1.1	Select standard transport container designs		Jun-94	May-95		activity stretched-out due to reduced funding guidance
L164-1	Evaluations of immobilization technologies complete			May-95		
L164-2.2	LI&C Functional Requirements Document complete			May-95		
L165-1	SI&C System Preliminary Design Review			May-95		
L132-8.1	Complete support of Project PDR (see L131-1)			Jun-95		
L141-1.3	RAS LI&C System Functional Requirements Document complete			Jun-95		
L142-1.8	LI&C Functional Requirements Document complete			Jun-95		
L143-1.4	LI&C Functional Requirements Document complete			Jun-95		
L151-1.9	Demonstrate prototype cellulose feeder (document)			Jun-95		
L152-2	Select Industrial Participation method			Jun-95		
L152-3	MSO System MWMF PDR			Jun-95		
L152-3.4	Install development unit			Jun-95		
L152-3.6	LI&C Preliminary Design Review			Jun-95		
L155-1	Summarize Gas Liquid Contactor Tests (document)			Jun-95		
L155-3	XOG System Preliminary Design Review		Sep-94	Jun-95		PDR delayed due to funding limitations per DOE guidance
L155-3.4	LI&C Preliminary Design complete			Jun-95		
L161-1.2	Floor plan layout complete		Jul-94	Jun-95		activity stretched-out due to reduced funding guidance
L161-1.3	LI&C Functional Requirements Document complete			Jun-95		
L163-3.1	LI&C Functional Requirements Document complete			Jun-95		was L163-2
L164-2	Final Forms System Preliminary Design Review			Jun-95		
L164-2.3	LI&C Preliminary Design complete			Jun-95		
L164-3	Report: Design of polymer microencapsulation system			Jun-95		
L165-1.13	Engineering Development tasks complete, documented			Jun-95		
L165-1.14	Preliminary Design activities complete, documented			Jun-95		
C113-2	Authorization to construct issued by BAAQMD	X	Oct-94	Jul-95		permit submission delayed pending rebaseline
L132-9.2	Assessment/Surveillance Procedure issued			Jul-95		
L141-1	RAS System Preliminary Design Review		Sep-94	Jul-95		PDR delayed due to funding limitations per DOE guidance
L141-1.4	RAS LI&C Preliminary Design Review			Jul-95		
L142-1	SFP System Preliminary Design Review			Jul-95		
L142-1.9	LI&C Preliminary Design complete			Jul-95		
L143-1	LFP System Preliminary Design Review			Jul-95		
L143-1.5	LI&C Preliminary Design complete			Jul-95		

MWMF Milestones and Markers			Sorted by date			
Number	Item	PTS	Orig. Date	Date	Status	Comments
L152-5	Start Title II design			Jul-95		
L161-1	Process Transport & Storage System Preliminary Design Review		Sep-94	Jul-95		PDR delayed due to funding limitations per DOE guidance
L161-1.4	PTS LI&C System Preliminary Design review			Jul-95		
L162-7.1	LI&C Functional Requirements Document complete			Jul-95		
L163-3	WTR System Preliminary Design Review			Jul-95		was L163-2.1
L163-3.2	LI&C Preliminary Design Review			Jul-95		was L163-2.2
L163-4	Begin Final Design			Jul-95		was L163-2.3
L164-4.1	waste form system			Jul-95		
L131-1	Preliminary Design Review (Overall Project) completed	X	Sep-94	Jul-95		delayed due to funding limitations per DOE guidance
D131-2	DOE issues KD-2	X	Jun-94	Jul-95		Delayed due to reduce funding guidance by DOE
L116-2	Second meeting of NAC			Aug-95		
L132-9	Complete QA Self Assessment			Aug-95		
L151-1.12	LI&C Functional Requirements Document complete			Aug-95		
L162-7	Analytical Lab System Preliminary Design review			Aug-95		
L162-7.2	LI&C Preliminary Design Review			Aug-95		
L164-4.2	Report issued: Interim status of ceramic waste form compositions and process parameters			Aug-95		
L116-3.1	Issue second newsletter			Sep-95		
L122-1	Issue MWMF Start-Up and Activation Plan			Sep-95		
L131-5	Submit Post-PDR Project Baseline	X		Sep-95		
L151-1.10	P&ID drawings (document)			Sep-95		
L151-1.11	Layout drawings of major equipment items (document)			Sep-95		
L151-1.13	LI&C Preliminary Design Review			Sep-95		
L151-2	MEO System Preliminary Design Review			Sep-95		
L155-3.1	Summarize NOx-urea chemistry to date (document)			Sep-95		
L165-2.2	Process I&C Standards established			Sep-95		
L115-10	Submit FY96 Plan	X		Oct-95		
L132-10.1	Input to FY96 Plan (see L115-10)			Oct-95		
L133-5	Input to FY96 Plan (see 115-10)			Oct-95		
L162-4	Define MEO on-line analysis requirements			Nov-95		
C113-1	RD&D permit issued by DTSC	X		Jul-96		
end						

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Appendix D

Responsibility Assignment Matrix

Mixed Waste Management Project Responsibility Assignment Matrix

DOC: Throop 11/21/94

Organizational Elements

Work Elements		Cost Account Managers																
WBS	Title	Status	Judy Steenhoven			Ronald Streit			Scott Couture			Joel Bowers						Robert Nyholm
1.1	Program Support & Assurances																	
1.1.1	Quality Assurance																	
1.1.2	PSAR	X																
1.1.3	NEPA/CEQA	X																
1.1.4	ES&H	X																
1.1.5	Program Support																	
1.1.6	Public Participation																	
1.2	Operations Support																	
1.2.1	Conceptual Design																	
1.2.2	Start-Up Management																	
1.2.3	Activation																	
1.3	Project Integration																	
1.3.1	Project Mgmt																	
1.3.2	Project Control																	
1.3.3	System Integration																	
1.4	Feed Preparation Systems																	
1.4.1	Receiving & Shipping																	
1.4.2	Solid Feed Prep.																	
1.4.3	Liquid Feed Prep.																	
1.5	Waste Processing Systems																	
1.5.1	Mediated Electro. Oxid.																	
1.5.2	Molten Salt Oxidation																	
1.5.3	Wet Oxidation																	
1.5.4	UV Photolysis																	
1.5.5	Experimental Off Gas																	
1.6	Process Support Systems																	
1.6.1	Transport & Storage																	
1.6.2	Analytical Laboratory																	
1.6.3	Water Treatment																	
1.6.4	Final Forms																	
1.6.5	Supervisory I&C																	

Work Elements
Cost Account Managers