DOE/RL--89-13

DE90 001126

Hanford Federal Facility Agreement and Consent Order Quarterly Progress Report for the Period Ending June 30, 1989

Date published
August 1989

United States
Department of Energy
P.O. Box 550
Richland, Washington 99352

PREFACE

This is the first quarterly report for the Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) that was signed by the U.S. Department of Energy (DOE), the U.S. Environmental Protection Agency (EPA), and the Washington State Department of Ecology (Ecology). The Tri-Party Agreement sets the plan and schedule for cleanup of nuclear weapons wastes at Hanford. This report covers progress for the quarter ending June 30, 1989. Progress reports will be issued every 3 months.

Conclusion

The Hanford Site cleanup is proceeding on schedule. All key initial tasks were completed, and progress toward later milestones is on schedule. Some tasks were completed ahead of schedule, but some other tasks are behind the original schedule because of unforeseen technical and regulatory problems, or because the original schedule was inappropriate. However, none of the delayed tasks jeopardize reaching key milestones.

The Hanford Site and Its Wastes

The 1,377 waste units that have been identified at the Hanford Site are located within 74 operable units. To protect the public and the environment, some of these waste units will need to be cleaned up and the wastes disposed of in an acceptable and permanent manner. Some of that disposal will be on the Hanford Site. Other wastes will be retrieved, stabilized, and transported to other disposal sites that are being developed by the Federal Government.

Tri-Party Agreement

The Tri-Party Agreement is historic for the Hanford Site. For the first time, DOE, EPA, and Ecology have agreed to a comprehensive plan and schedule to clean up the Hanford Site. The Tri-Party Agreement identifies the Federal and State laws, regulations, and requirements that must be met. It lays out a process for complying with those laws, regulations, and requirements and commits the three parties to work as a team to get the job done safely within 30 years.

A public announcement regarding the intent to sign the Tri-Party Agreement was made February 27, 1989. Six public workshops and hearings were held in Richland (2), Seattle, Olympia, Spokane, and Vancouver. About 200 people or organizations commented and the DOE, EPA, and Ecology responded to some of these comments by making changes in the Tri-Party Agreement. A response summary is being finalized by DOE, EPA, and Ecology which addresses all the comments. The Tri-Party Agreement was signed by the three parties on May 15, 1989. Note: the response summary was completed in July, 1989.)

Community Relations Plan Status

The first quarterly meetings called for in the Tri-Party Agreement Community Relations Plan were held June 28 in Richland and June 29 in Seattle. The meetings were timed to coincide with the Tri-Party Agreement's first public comment period on an operable unit work plan. The comment period on the Draft Remedial Investigation/Feasibility Study Work Plan for the 1100-EM-1 Operable Unit Hanford Site, Richland, Washington (DOE 1989a) began June 15 and was to conclude July 14. Several suggestions received during public meetings and hearings on the Tri-Party Agreement in March and April will be incorporated into the final Community Relations Plan, including a schedule of activities to be conducted during the first year, and a commitment by the three parties to include the Washington Nuclear Waste Advisory Council in annual reviews of the Tri-Party Agreement and the Community Relations Plan.

DOE's Commitment to the Hanford Site Cleanup

The DOE has reaffirmed its commitment to the Hanford Site cleanup. President Bush's budget request to Congress for fiscal year 1990 includes unprecedented levels of funding for cleanup at the Hanford Site and other sites. On June 27, 1989, Secretary of Energy Watkins announced major initiatives to support cleanup of DOE facilities, including a request for additional cleanup funds in fiscal year 1990. Secretary Watkins also announced that protection of the environment, safety, and health will take priority over all other activities.

Of major significance in support of the Tri-Party Agreement is the five year budget plan being developed by the Department Of Energy, Richland Operations Office (DOE-RL). In addition to other waste management and environmental activities, the Hanford Site portion of this plan identifies the budget needs to support all Tri-Party Agreement activities through 1995. Both Ecology and EPA have been involved in the review of this plan, which will be issued in August, 1989, to form the basis for the upcoming fiscal year budget.

Technical Progress

Significant technical progress has been made in these first months. Cleanup is on schedule to reach all major milestones. The following will serve as progress examples.

- The first batch of liquid low-level nonhazardous wastes was solidified into a cement-like form called grout. The grout was placed in a large underground concrete vault for permanent and safe disposal. This is the first step to dispose of low-level mixed wastes contained in underground storage tanks.

- The first step was taken to prepare for disposal of the highly radioactive residue in the old, large, underground storage tanks. A plan for determining the characteristics of the wastes in two of the 149 tanks was developed and the EPA and Ecology are reviewing the plan.

- The first study plan for an old waste disposal site has been issued for public comment. This plan addresses chemical wastes close to Richland.

- Assessments of compliance with the Resource Conservation and Recovery Act of 1976 (RCRA) interim status requirements [all references in this document to the RCRA also refer to the requirements of the State of Washington Hazardous Waste Management Act (1976)] were completed and sent to EPA and Ecology. The RCRA applies to recent and current waste streams on the Hanford Site. The assessments contain corrective actions and a schedule to achieve the required level of protection.

- The characteristics of a crib with contaminated soil were determined and preparations are in progress to demonstrate the ability to stabilize the waste in place. This will be accomplished by 'in situ vitrification', meaning that the waste and soil will be turned into a block of glass by running an electric current through the waste site.

Details on these and other accomplishments, and discussion of problems, solutions, and plans for the next three months are contained in the body of this report.

CONTENTS

HIGHLIGHTS

The following are highlights of the significant accomplishments achieved during the second quarter of calendar year 1989. A more detailed discussion of technical progress during the quarter is provided in the Technical Progress section.

SINGLE-SHELL TANK WASTE CHARACTERIZATION PLAN SUBMITTED

The Waste Characterization Plan for the Hanford Site Single-Shell Tanks [waste charaterization plan(Winters et al. 1989)] was submitted to Ecology for review and approval on May 31, 1989. This completes, on schedule, Tri-Party Agreement Milestone 10-02.

The single-shell tanks were used to store highly radioactive liquid wastes through the 1970's. The tanks are made of reinforced concrete with a single carbon steel liner. Eventually they were taken out of service and replaced with double-shell tanks, which were built in part to store liquid removed from the single-shell tanks. The free liquid in the single-shell tanks was concentrated by evaporation and pumped out, leaving (1) liquid coating the salt cake, (2) the sludges contained within the tanks as part of operations, and (3) small isolated pockets of free-standing liquid. An interim stabilization program is currently implementing processes for the removal of the pumpable liquid still contained within the salt cake and sludges.

The waste characterization plan (Winters et al. 1989) describes the initial phase of a two-phase plan to characterize the mixed wastes stored in single-shell tanks on the Hanford Site. The waste characterization plan is based on the requirements of the RCRA and the State of Washington Hazardous Waste Management Act, (1976), and for characterizing radioactive waste under the Atomic Energy Act of 1954. The waste characterization plan (Winters et al. 1989) represents an all-purpose plan to identify analysis requirements for performance assessment, technology, process development, and regulatory purposes. The first phase of the two-phase characterization program will provide data to aid (1) the development of technologies for waste retrieval, pretreatment, and treatment; (2) the preparation of a supplemental environmental impact statement; (3) the preparation of single-shell tank closure plans; and (4) the development of proposed criteria governing the preliminary sorting of tanks based on their hazard to human health and the environment.

Ecology, as the lead regulatory agency, is now conducting a review of the waste characterization plan (Winters et al. 1989).

INITIAL GROUT OPERATION COMPLETED

Processing of the first half-campaign (500,000 gallons) of phosphate/sulfate waste through the Grout Treatment Facility was completed on April 27, 1989.

The Grout Treatment Facility consists of several process steps as depicted in Figure 1. A Dry Materials Facility blends commercially produced cement-based materials. The liquid waste is piped from the waste feed tank into the transportable grout equipment. The dry blend is hauled in trucks to the transportable grout equipment, where it is mixed with the liquid waste. The resulting slurry is then pumped to large underground concrete vaults, where it will harden. The grout vaults are designed to meet the requirements established by Ecology and the EPA for hazardous waste disposal, including a double liner/leachate collection system. Initial operation with nonhazardous low-level waste represents a significant step in the performance verification of the grout treatment and disposal facilities, leading toward the final disposal of selected low-level and mixed waste at the Hanford Site. The second half-campaign of similar volume began on June 19 and will complete the first campaign.

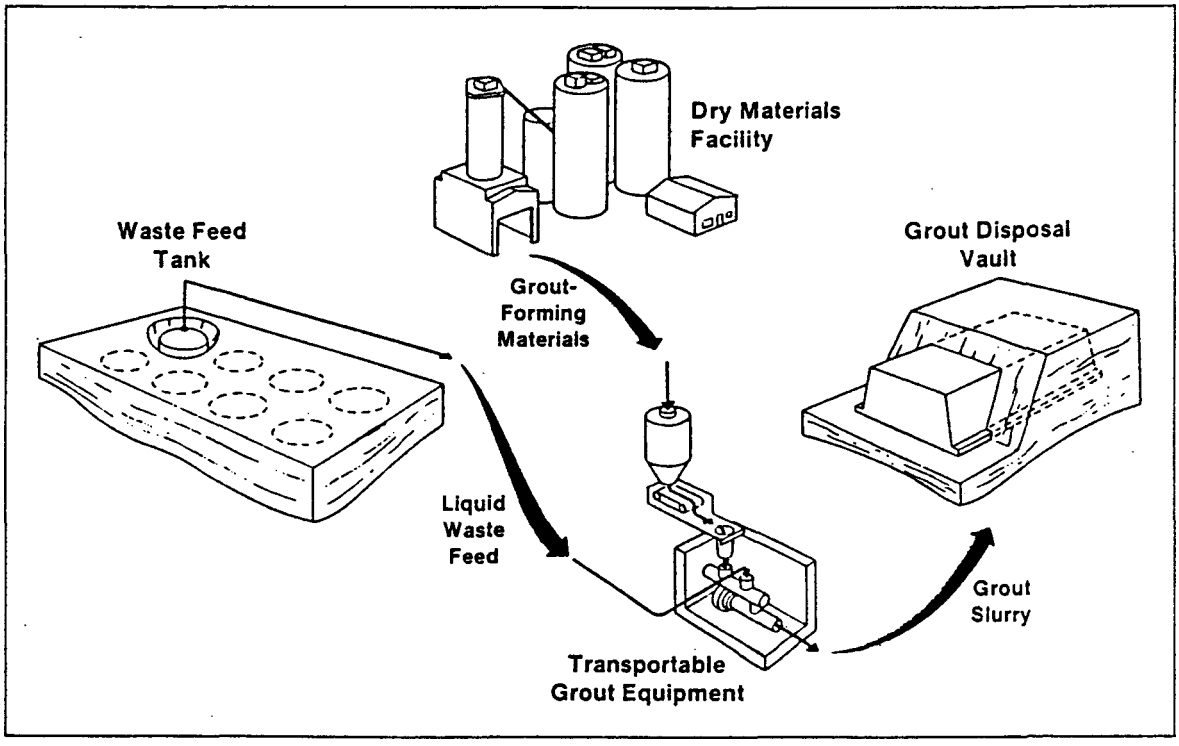


Figure 1. The Grout Treatment Facility consists of the Dry Materials Facility, processing equipment and disposal vaults. It solidifies low-level liquid waste in cement-based grout for permanent disposal in buried vaults.

FIRST OPERABLE UNIT INVESTIGATION WORK PLAN ISSUED FOR PUBLIC COMMENT

The Draft Remedial Investigation/Feasibility Study Work Plan for the 1100-EM-1 Operable Unit Hanford Site, Richland, Washington (DOE 1989a) was issued for public comment on June 15, 1989. This accomplishment meets a target date in the Tri-Party Agreement Milestone 12-01. The 1100-EM-1 operable unit is the first of 78 operable units identified in the Tri-Party Agreement. It includes 7 waste units in the southeastern corner of the Hanford Site in close proximity to the city of Richland, as shown in Figure 2. It has been used as a maintenance area, warehouse facility, and equipment storage yard in support of operations at the Hanford Site. The 1100-EM-1 operable unit includes an abandoned battery acid pit (dry well), two abandoned gravel pits used for waste disposal, the site of a leaking antifreeze tank (since removed), the site of a minor radiation contamination incident, and the Horn Rapids Landfill. For purposes of the investigation, the use of the disposal sites is assumed to have been continuous for approximately 30 years. The types of potentially hazardous waste disposed of at these sites include battery acid, paint, paint thinner, solvents, hydraulic oils, degreasers, and antifreeze.

The Draft Remedial Investigation/Feasibility Study Work Plan for the 1100-EM-1 Operable Unit Hanford Site, Richland, Washington (DOE 1989a) was initially submitted to EPA and Ecology for review on January 31, 1989. Field survey and screening activities have been ongoing during the past few months pending approval of the work plan. Approval is scheduled for mid-August 1989. At that time major field work will be initiated.

INTERIM STATUS COMPLIANCE ASSESSMENTS SUBMITTED AS PLANNED

Assessments of compliance with RCRA interim status requirements for treatment, storage, and/or disposal (TSD) units at the Hanford Site (see Appendix B) were completed on schedule and were transmitted to EPA and Ecology by the end of April, 1989, meeting the Milestone 21-00 requirement of the Tri-Party Agreement. These reports assessed all RCRA TSD units (with the exception of those units which are yet to be constructed or whose part A applications are to be withdrawn) for compliance with applicable RCRA and state dangerous waste requirements. Appendix B (Interim Status Action Target Dates), which is part of the work schedule contained within the Tri-Party Agreement Action Plan, reflects the actions required as a result of these compliance assessments.

116-B-6A CRIB CHARACTERIZED FOR IN SITU VITRIFICATION DEMONSTRATION

Preliminary characterization of the 116-B-6A crib using sampling and ground penetrating radar was completed in preparation for testing of the in situ vitrification process (Figure 3). The process was developed by the Pacific Northwest Laboratory to provide significantly lower leach properties

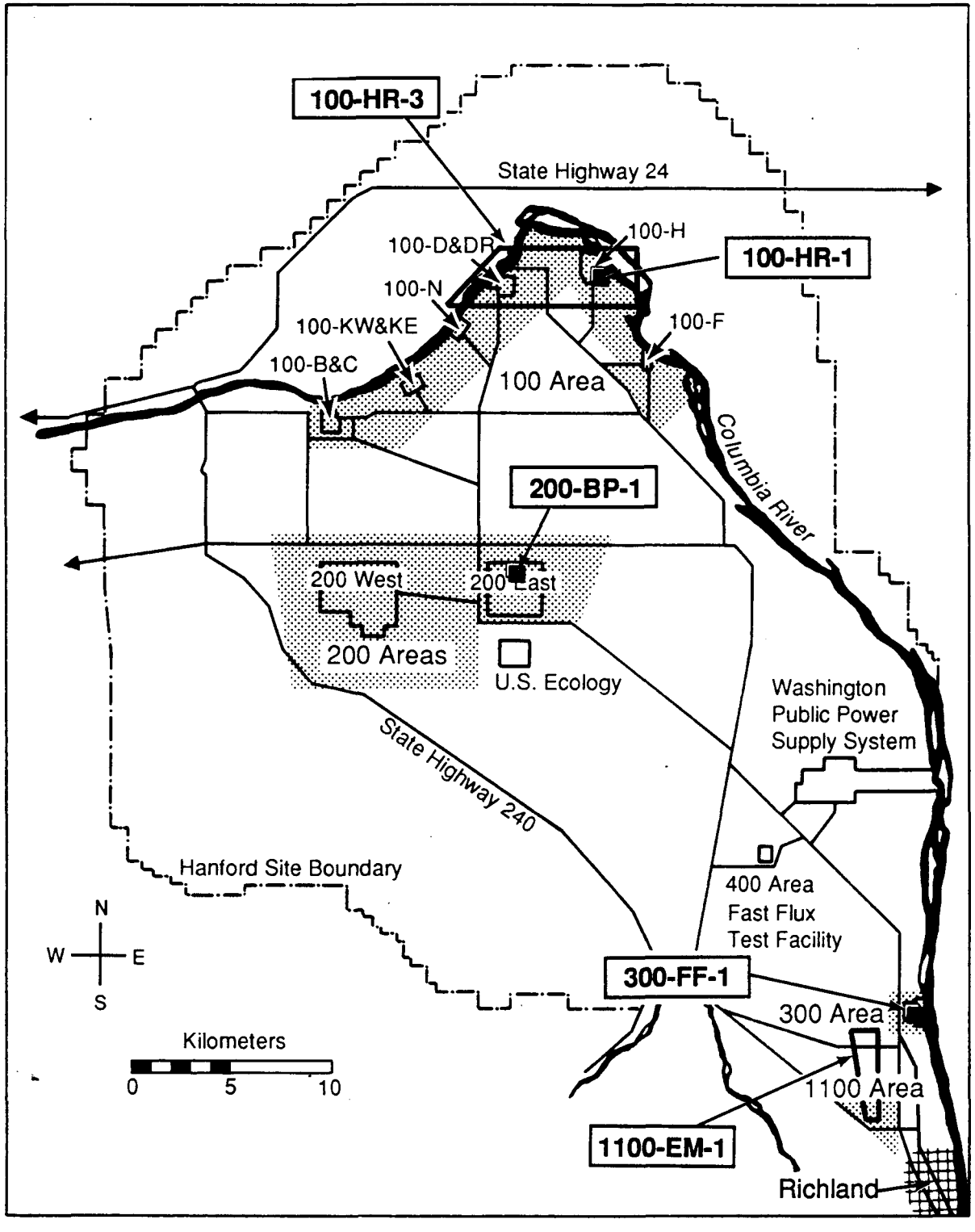
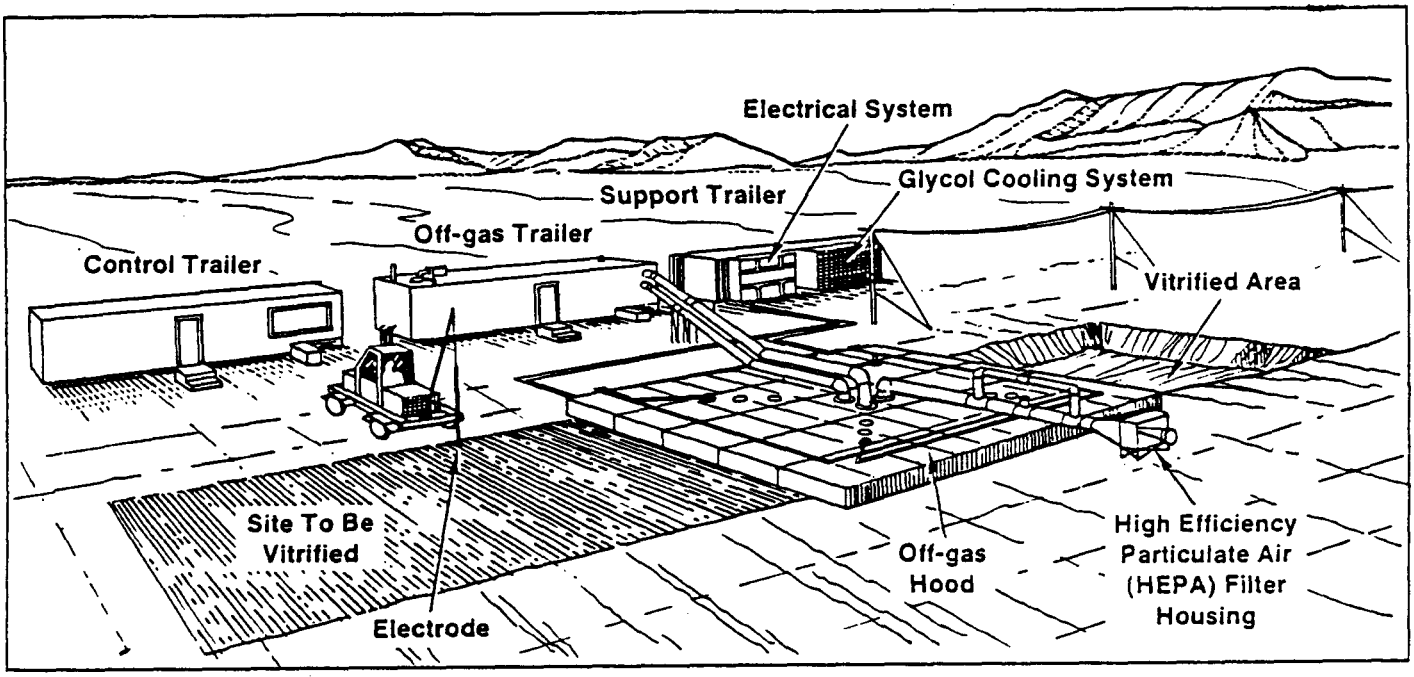


Figure 2. Map of the Hanford Site Showing the four proposed National Priorities List Areas (1100, 300, 200, and 100 Areas) and the first operable units (1100-EM-1, 300-FF-1, 200-BP-1, 100-HR-1, and 100-HR-3).



Operating Sequence

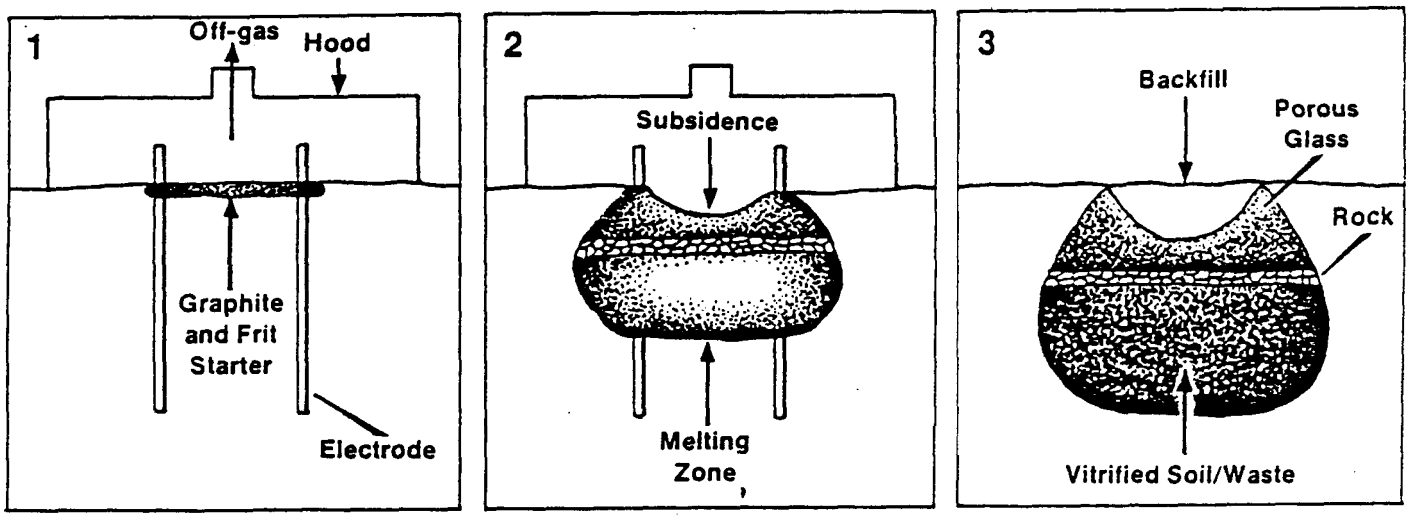


Figure 3. In situ vitrification is a process being developed by Pacific Northwest Laboratory for the Department of Energy to stabilize in-place radioactive and/or hazardous wastes.

of metal ions and to degrade organic materials to reduce the hazard of contaminated soils without exhumation. An array of four electrodes is inserted into the ground and a "starter path" of electrically conductive material is placed between the electrodes. An electric current is passed between the electrodes and through the starter path, creating temperatures high enough to melt the starter path and the soil beneath it. As the molten zone grows downward and outward to a depth of approximately 20 feet, it encompasses the contaminated soil and incorporates the radionuclides and hazardous elements into a glass-like form while destroying organic components by pyrolysis. A hood placed over the area being treated directs the gaseous effluents to an off-gas treatment system. Upon cooling, the product of in situ vitrification is a glass-like mass of high strength and enhanced chemical integrity. This test of the in situ vitrification process is an important step in the development of technology for immobilizing waste sites at the Hanford Site, and is the first such test at the Hanford Site on a mixed-waste unit.

The 116-B-6A crib was selected for its size and the presence of chromium, wood, and fission products in the crib. The preliminary results from the recent characterization of the crib show that the chromium present is near background levels and thus at a lower level than anticipated for performing the demonstration. However, the crib contains a high enough concentration of another hazardous waste (lead) to allow use of the crib for the demonstration.

LIQUID EFFLUENT STUDY PROJECT PLAN DRAFT ISSUED

The public has shown a great deal of interest in the Tri-Party Agreement with more than 300 people attending public workshops, meetings and hearings held in March and April, 1989. Many submitted written comments in the process. In response to those comments and at the request of Ecology and the EPA, the DOE has conceived and developed the draft Liquid Effluent Study Project Plan [project plan draft (Sommer et al. 1989)]. This plan will result in a study that will be completed in August 1990, and will investigate the content and effects of liquid waste streams from the pertinent Hanford Site operating facilities. The project plan draft consists of three primary sections: a waste stream characterization section, a waste disposal site and groundwater assessment, and a flow and transport analysis. Bimonthly reports will be sent to the three agencies that will status the progress of the study. The project plan draft has been sent to Ecology and the EPA for review. These agencies will use the study results to determine if changes should be negotiated in the Tri-Party Agreement.

TECHNICAL PROGRESS

DISPOSAL OF TANK WASTES

HANFORD WASTE VITRIFICATION PLANT ACTIVITIES

The high-level waste from the Hanford Site was stored in single-shell tanks until their use was discontinued by 1981. The DOE now uses double-shell tanks for storage of currently generated waste. The Hanford Waste Vitrification Plant will immobilize pretreated high-level and transuranic waste that is currently stored in underground double-shell tanks at the Hanford Site. The facility will process the waste into a borosilicate glass waste form in stainless steel canisters for temporary storage in the facility until shipment to a federal repository. The facility is being designed such that pretreated single-shell tank waste can also be accommodated with minimal impact. Preliminary design of the facility is in progress (Figure 4), with a planned start of construction by July 1991.

SINGLE-SHELL STORAGE TANK INTERIM STABILIZATION CONTINUING

Interim stabilization is the moving of pumpable supernatant (free-standing) and interstitial liquid from the single-shell into the double-shell storage tanks. Fifty-one single-shell storage tanks remain to be interim stabilized as part of the Tri-Party Agreement. Currently, supernatant liquid is being pumped from tank 241-SX-104. For the quarter ending June 30, 1989, 2,140 gallons were removed from tank 241-SX-104. Preparations for saltwell-pumping of liquid from tank 241-A-102 is in progress.

SINGLE-SHELL STORAGE TANK CHARACTERIZATION AND TECHNOLOGY ACTIVITIES

The Waste Characterization Plan for the Hanford Site Single-Shell Tanks (Winters et al. 1989) was submitted to Ecology and EPA for review on May 31, 1989, as scheduled. Fifteen core samples will be taken from two tanks by the end of December 1989 to establish a sampling strategy baseline for the remaining 147 single-shell storage tanks. Work has been initiated on (1) an engineering study for single-shell tank waste retrieval and (2) writing specifications for a second core sampling truck.

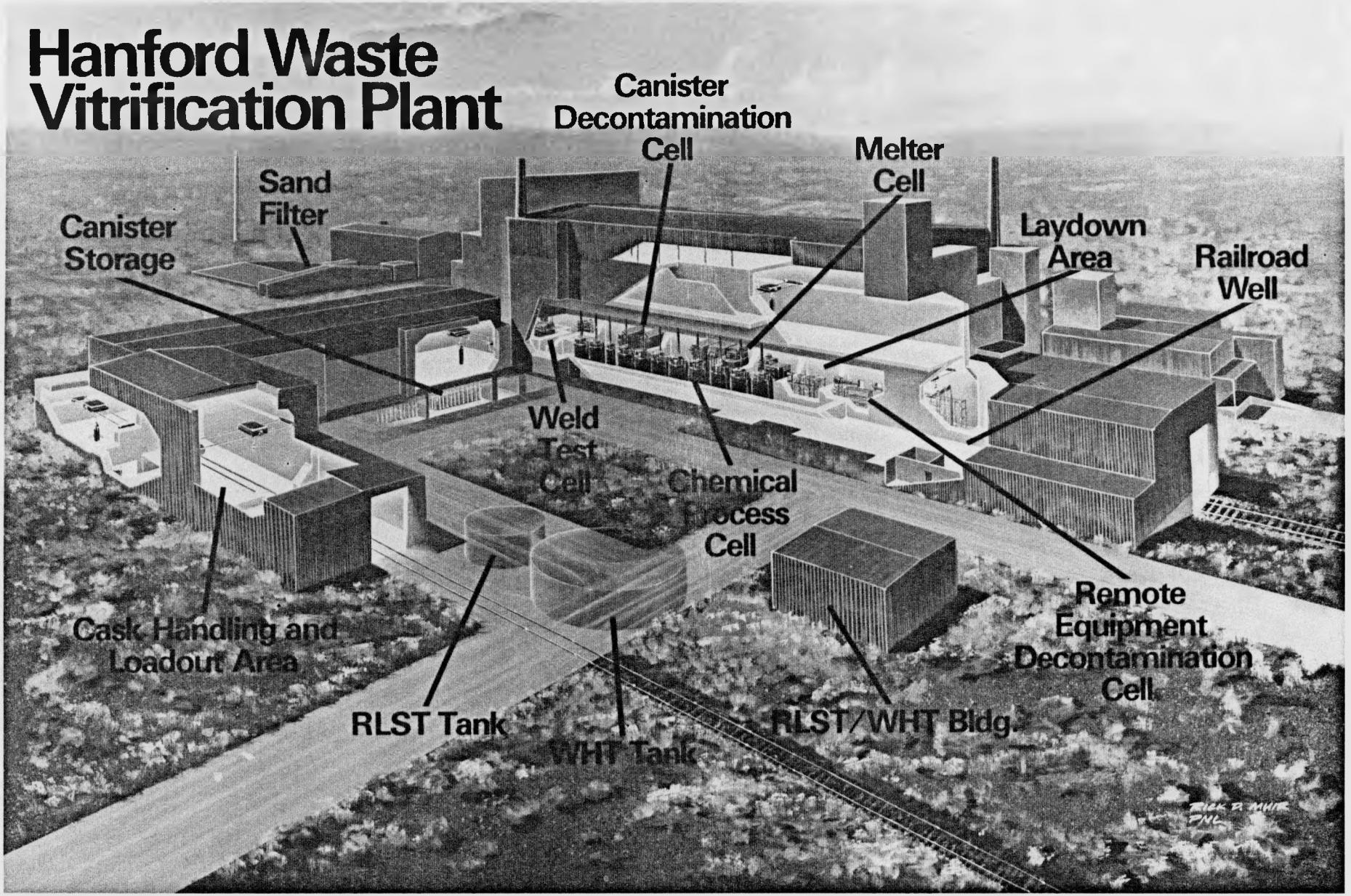


Figure 4. Conceptual view of the Hanford Waste Vitrification Plant, which will vitrify high-level waste for geologic repository disposal.

GROUT OPERATIONS ACTIVITIES

Grout Operations provide for the treatment and disposal of low-level wastes contained in underground storage tanks at the Hanford Site. The tank waste is combined with a grout-forming material and is permanently disposed of as a solid cement-like material in an underground vault. A more definitive description of this process is discussed in the Highlights section of this report, which also addresses the recent completion of the processing of the first half-campaign (500,000 gallons) of non-hazardous phosphate/ sulfate waste through the facility. A contract will be awarded for construction of four additional vaults for disposal of mixed waste.

PREPARATION OF B-PLANT FOR WASTE PRETREATMENT

The existing B-Plant at the Hanford Site is being upgraded to provide a facility for pretreatment of selected double-shell tank wastes before grouting or treatment through the Hanford Waste Vitrification Plant. Actions completed during the past quarter include a study that assesses B-Plant's viability as a pretreatment facility and the development of a plan to upgrade the safety analysis report for B-Plant by September 1991.

LABORATORY HOT CELLS CONCEPTUAL DESIGN ACTIVITIES

The purposes of the hot cell expansion are to provide additional laboratory capacity to support (1) characterization of the single-shell storage tank wastes, (2) regulatory compliance activities involving waste characterization, (3) sampling and site characterization, and (4) waste analysis for the Hanford Waste Vitrification Plant and Grout Treatment Facility. The project involves the construction of an additional hot cell facility adjacent to the 222-S Laboratory. The addition will be divided into an operating area which will house the hot cell, and a service corridor. The total size of this area, including the hot cell, will be approximately 3,600 square feet. The hot cell will have eight compartments: five analytical compartments; and one each load-in/load-out, sample preparation, and filtration compartments. The new hot cell will be sized to accommodate the anticipated increase of 700 samples or 14,000 analyses over the existing hot cell capability of 1,100 samples or 22,000 analyses annually by 1992. The conceptual design for the expansion of the hot cell capability at 222-S Laboratory at the Hanford Site has been completed. This line item project was validated by the DOE Headquarters. The additional hot cell capacity is scheduled to be operational in June, 1994.

CLEANUP OF PAST-PRACTICE UNITS

DRAFT 1100-EM-1 OPERABLE UNIT WORK PLAN ISSUED FOR PUBLIC COMMENT

As defined by the Tri-Party Agreement, the 1100-EM-1 operable unit is the highest priority operable unit for investigation, because of its close proximity to the city of Richland (see Figure 2). It includes 7 waste units in the southeastern corner of the Hanford Site. It has been used as a maintenance area, warehouse facility, and equipment storage yard in support of operations at the Hanford Site. The 1100-EM-1 operable unit includes an abandoned battery acid pit (dry well), two abandoned gravel pits used for waste disposal, the site of a leaking antifreeze tank (since removed), the site of a minor radiation contamination incident, and the Horn Rapids Landfill. The Draft Remedial Investigation/Feasibility Study Work Plan for the 1100-EM-1 Operable Unit Hanford Site, Richland, Washington (DOE 1989a) has been reviewed by EPA (the lead regulatory agency) and Ecology, and was issued for public comment on June 15, 1989. Site screening and survey activities were conducted parallel with the regulatory review to support the review process. These screening and survey activities had no unexpected results. Vadose zone sampling activities were also initiated.

DRAFT 200-BP-1 OPERABLE UNIT WORK PLAN REVIEWED BY EPA AND ECOLOGY

The 200-BP-1 operable unit is the first operable unit involving an investigation of a radioactive substance. It is located approximately in the center of the Hanford Site, along the northern boundary of the 200 East Area (see Figure 2). The 200-BP-1 operable unit includes nine inactive cribs, as well as three unplanned releases designated as waste units. The cribs received low-level liquid waste from U-Plant uranium reclamation operations and waste storage tank condensate from the adjacent 241-BY Tank Farm. The 200-BP-1 operable unit is a high priority operable unit because of its contribution to groundwater contamination observed in the vicinity and because of its proximity to single-shell tanks. The Draft Remedial Investigation/Feasibility Study Work Plan for the 200-BP-1, Operable Unit Hanford Site, Richland, Washington (DOE 1989b) has been reviewed by EPA (the lead regulatory agency), and Ecology. The DOE is incorporating and/or resolving the comments received. Site screening and survey activities are ongoing at the 200-BP-1 operable unit. The Draft Remedial Investigation/ Feasibility Study Work Plan for the 200-BP-1, Operable Unit Hanford Site, Richland, Washington (DOE 1989b) is expected to be issued for public comment in September 1989.

DRAFT 300-FF-1 OPERABLE UNIT WORK PLAN REVIEWED BY EPA AND ECOLOGY

Adjacent to the Columbia River, the 300-FF-1 operable unit is located in the northeastern corner of the 300 Area of the Hanford Site (see Figure 2), and is comprised of 19 waste units. These waste units include process trenches, retention basins, and process ponds, and received wastes from reactor fuel fabrication, laboratory operations, filter backwash from the

water treatment plant, power house operation (flyash slurry), and sanitary sewers. The 300 Area process trenches will be closed in conjunction with the Remedial Investigation/ Feasibility Study (RI/FS) work plan and subsequent remedial actions associated with the 300-FF-1 operable unit.

The Draft Remedial Investigation/Feasibility Study Work Plan for the 300-FF-1 Operable Unit Hanford Site, Richland, Washington (DOE 1989c) has been reviewed by EPA (the lead regulatory agency) and Ecology. The DOE is incorporating and/or resolving the comments received. Site screening and survey activities are taking place at the 300-FF-1 operable unit. The target date for the Draft Remedial Investigation/Feasibility Study Work Plan for the 300-FF-1 Operable Unit Hanford Site, Richland, Washington (DOE 1989c) approval is December 1989.

DRAFT 100-HR-1 AND 100-HR-3 OPERABLE UNITS WORK PLANS ISSUED FOR REVIEW

The 100-HR-1 and 100-HR-3 operable units are located in the 100 Area of the Hanford Site (see Figure 2), adjacent to the Columbia River. The 100-HR-1 operable unit is situated within the 100-H Area of the Hanford Site and is comprised of 10 waste units which include percolation cribs and trenches, burial grounds and evaporation basins. Present in these waste units are process liquid wastes, reactor exhaust stack emissions, radioactive solid wastes, sanitary liquid wastes, and reactor fuel fabrication wastes.

The 100-HR-3 unit is a 'groundwater only' operable unit (a geographic area which represents the potential extent of groundwater contamination and addresses only the groundwater contaminants) that addresses the groundwater plume(s) associated with 100-HR-1, 100-HR-2, 100-DR-1, 100-DR-2, and 100-DR-3 operable units.

Both the 100-HR-1 and 100-HR-3 operable units are being addressed under RCRA corrective action authority. The Draft Resource Conservation and Recovery Act Facility Investigation/Corrective Measures Study Work Plan for the 100-HR-1 Operable Unit Hanford Site, Richland, Washington (DOE 1989d) and the Draft Resource Conservation and Recovery Act Facility Investigation/ Corrective Measures Study Work Plan for the 100-HR-3 Operable Unit Hanford Site, Richland, Washington (DOE 1989e) were submitted to EPA and Ecology for review on June 30, 1989 as scheduled. Ecology will lead the regulatory review process.

ENVIRONMENTAL INVESTIGATION INSTRUCTIONS ISSUED FOR REVIEW

Because multiple work plans govern the Hanford Site, a separate set of key procedures has been developed [referred to as the Environmental Investigations and Site Characterization Manual, (WHC 1988)] in support of the RI/FS or RCRA Facility Investigation/ Corrective Measures (RFI/CMS) processes. These procedures have been prepared and issued to EPA and Ecology for review. A draft of the procedures has been placed in the Public Information Repositories to support the public comment phase of the

Draft Remedial Investigation/Feasibility Study Work Plan for the 1100-EM-1 Operable Unit Hanford Site, Richland, Washington (DOE 1989a). These procedures give detailed instructions guiding the collection of samples and data during the preliminary field activities and Phase 1 Remedial Investigations and generally apply to these activities in all operable units. This document will be revised to reflect comments by EPA and Ecology, and the addition of new procedures.

116-B-6A IN SITU VITRIFICATION DEMONSTRATION

Preliminary characterization of the 116-B-6A crib in support of the upcoming in situ vitrification demonstration was completed. (The in situ vitrification process is discussed in the Highlights section of this report.) Of interest in this demonstration is the ability of the process to immobilize hazardous waste. Preliminary results show that chromium is present only in near background levels, raising concern whether this would be a valid demonstration of the ability of in situ vitrification to contain hazardous wastes within a mixed-waste site. However, other hazardous constituents, (including lead) are present in concentrations high enough to allow use of the crib for the demonstration.

PERMITTING AND CLOSURE OF TREATMENT, STORAGE AND DISPOSAL UNITS

NONRADIOACTIVE DANGEROUS WASTE STORAGE FACILITY PERMITTING

Operation of the 616 Nonradioactive Dangerous Waste Storage Facility began in September 1986 as a RCRA interim status unit. It is located in the 600 Area of the Hanford Site between the 200 East and 200 West areas. This facility was designed and constructed in accordance with the requirements for hazardous waste container storage units.

The 616 Nonradioactive Dangerous Waste Storage Facility Dangerous Waste Permit Application (DOE 1989f) has been completed and is being reviewed by DOE-RL in preparation for submittal to Ecology and EPA by July 31, 1989 (Milestone 20-02) [Note: the permit application was submitted as planned on July 31, 1989].

2101-M POND CLOSURE ACTIVITIES

The 2101-M Pond is a U-shaped earthen pond located in the 200 East Area of the Hanford Site. It was constructed in 1953 to receive nondangerous waste water from the 2101-M building. Sampling has verified that no dangerous waste inventory remains at the 2101-M Pond that would require removal, transportation, treatment, storage, or disposal.

The 2101-M Pond Interim Status Closure Plan Rev.2 (DOE 1989g) was submitted to EPA and Ecology on June 2, 1989, well before the Tri-Party Agreement milestone M-20-04 date (September 30, 1989). Ecology has required a resubmittal of the closure plan, incorporating final status standards in accordance with the Tri-Party Agreement Action Plan.

300 AREA SOLVENT EVAPORATOR CLOSURE ACTIVITIES

The 300 Area Solvent Evaporator facility had been operated as a treatment tank with steam heating coils which evaporated volatile spent solvents received from the N Reactor Fuel Manufacturing Facility from 1975 to November 1985. During this time period the treatment facility is estimated to have handled approximately 6000 gallons of spent solvents. The 300 Area Solvent Evaporator was demolished in 1985-1986.

The revised 300 Area Solvent Evaporator Interim Status Closure Plan (DOE 1989h) was transmitted to Ecology on February 10, 1989, and included the following:

- a table of specific responses to a Notice Of Deficiency (NOD) from Ecology, dated September 15, 1988
- an updated State Environmental Policy Act Checklist
- a revised Part A Form 3

A second NOD dated April 27, 1989 was received, and a table of responses to the NOD was forwarded to Ecology for consideration.

SIMULATED HIGH-LEVEL WASTE SLURRY TREATMENT AND STORAGE UNIT CLOSURE ACTIVITIES

The Simulated High-Level Waste Slurry Treatment/Storage Unit in the 1100 Area of the Hanford Site is an area used to store containerized simulated commercial power reactor metal nitrate slurries representing two plutonium uranium extraction (PUREX) waste streams. The unit was also used to treat the stored slurry using in-place grouting techniques in November 1988. The facility is now undergoing closure.

To address questions from Ecology concerning the grouted slurry, samples collected during the operation were tested for unconfined compressive strength, EP toxicity, corrosivity, and acute fish toxicity. The grouted slurry satisfactorily met the control criteria in all areas and is considered nonhazardous material.

A closure plan has been completed and is undergoing internal reviews in preparation for submittal to Ecology and EPA to meet the Tri-Party Agreement Milestone 20-19.

WASTE RECEIVING AND PROCESSING FACILITY MODULE 1 ACTIVITIES

The Waste Receiving and Processing Facility Module 1 was conceptually designed as a central facility to provide examination and repackaging capabilities for wastes that are planned to be retrieved from retrievable storage units. Much of the waste currently stored in the retrievable storage units is anticipated to be radioactive mixed waste.

The conceptual design was completed and approved, along with the preliminary safety evaluation. The project was approved for budget planning purposes by the DOE Headquarters in April.

183-H SOLAR EVAPORATION BASINS CLOSURE ACTIVITIES

The 183-H Solar Evaporation Basins are located at the 100-H Area, which is near the northern end of the Hanford Site. Four of the 100-H Area deactivated concrete basins, formerly used for water treatment, were designated for use as solar evaporation basins in 1973. The basins were used for storage/ treatment of radioactive mixed wastes generated at the N Reactor Fuel Fabrication Facilities. The last shipment of wastes to the 183-H Basins took place in November 1985.

Sandblasting to achieve decontamination was completed in Basin 1 on June 9, 1989. Procurement of equipment and materials for liquid solidification in Basins 2 and 3 was completed and work was initiated for solidification of the solution (Figure 5). This liquid waste is mixed with a cement forming grout material and placed in 55-gallon drums, where it solidifies. The drums are then stored at the Radioactive Mixed Waste Storage Facility, pending disposal.

HANFORD WASTE VITRIFICATION PLANT PERMITTING ACTIVITIES

The Hanford Waste Vitrification Plant will immobilize pretreated high-level and transuranic waste currently stored in underground double-shell tanks at the Hanford Site. The facility will process the waste into a borosilicate glass waste form in stainless steel canisters for temporary storage in the facility until shipment to an off-site federal geologic repository.

The Hanford Waste Vitrification Plant Dangerous Waste Permit Application (DOE 1989i) is undergoing final review by the DOE in support of the July 1989 Milestone 20-01 for submittal to Ecology and EPA.

Figure 5. Solidification of Liquid Waste in 183-H Solar Evaporation Basins.

RCRA GROUND WATER MONITORING ACTIVITIES

Six RCRA groundwater monitoring wells were installed and equipped for sampling at the B Pond.

The one year of data obtained from a RCRA groundwater quality monitoring program at the 1324-N/NA Surface Impoundment/Percolation Pond and the 1301-N Liquid Waste Disposal Facility shows statistical differences in conductivity between up-gradient and down-gradient wells. This has been used to determine the scope of the next phase of monitoring, as described in a groundwater quality assessment plan transmitted to Ecology in April.

The 2101-M Pond fourth quarterly interim status groundwater sampling was completed on June 1, 1989.

1324-N/NA SURFACE IMPOUNDMENT/PERCOLATION POND (CLOSURE)

The 1324-N/NA surface impoundment, located at the southern edge of the 100-N Area, was removed from operation on November 8, 1988 and was replaced by an elementary neutralization system.

The EPA was provided with a notice of intent to route the neutralized demineralizer waste stream to the river, pursuant to the Hanford Site's National Pollutant Discharge Elimination System Permit. The waste resulting from the demineralization of Columbia River water is composed primarily of water but contains slightly elevated levels of river contaminants. The effluent has been treated under a permit in accordance with regulations of RCRA [WAC 173-303-802 (5)] for elementary neutralization units. The discharge of the effluent to the river is a standard practice.

PETITIONS SUBMITTED

Petitions for withdrawal of Part A permit applications for the following facilities were completed on schedule and transmitted to Ecology on June 30, 1989. These actions satisfy Milestone 20-45.

- The 332 storage facility is a prefabricated metal building used as a short-term (less than 90 days) waste storage facility. The building was never purposely operated as a long-term (more than 90 days) waste storage facility and will not be needed for long-term (more than 90 days) storage.

- The 1706-KE waste treatment facility is a laboratory used to conduct water quality, filtration, and corrosion studies in support of N Reactor systems. The facility was not used for treatment of dangerous or mixed waste and there are no plans to do so.

- The 2727-WA sodium storage facility is a prefabricated metal building used to store metallic sodium in 55-gallon drums. Analysis of the regulations has determined that the stored sodium is not waste. There are no plans to store dangerous waste in this facility.

- The 221-T alkali metal treatment and storage facility is a research laboratory where experiments were performed using alkali metal compounds. The waste generated by the tests and experiments is shipped off the premises for disposal. There are no plans for waste treatment at the facility.

- The 324 sodium treatment pilot plant was originally built to develop and demonstrate processes for sodium removal. Analysis of the regulations showed that sodium removal is not a waste management activity.

Petitions for management as "treatment by generator" for the following facilities were completed on schedule and submitted to Ecology on June 30, 1989, satisfying Milestone 20-46.

- The T Plant treatment tank 15-1 receives mixed wastes generated during equipment decontamination activities at building 221-T and the adjacent building 2706-T.

- The 222-S treatment tanks receive mixed waste generated by (1) disposal of process and environmental samples and (2) decontamination operations.

- The PUREX treatment tanks receive mixed waste from fuel element decladding operations at the PUREX facility.

- The 204-AR waste unloading facility receives and treats wastes that are generated from operations in the 100-N Area, 300 Area, and 400 Area.

- The 241-Z treatment tank facilities receive liquid mixed waste from the Plutonium Finishing Plant process operations, and development and analytical laboratories.

PROGRESS ON LIQUID EFFLUENT TREATMENT AND DISPOSAL ITEMS

The current status of liquid effluent treatment and disposal activities as compared to the plan included in the Tri-Party Agreement (Milestone 17-00) is discussed in the section entitled Work Schedule Status. The following describes technical progress which has been achieved over the last quarter in liquid effluent and disposal activities.

- A single treatment system will be installed for the PUREX plant ammonia scrubber distillate stream and process condensate stream. This system is anticipated to destroy approximately 90 percent of the ammonia. Conceptual design for the treatment system was completed in April 1989 and the project was reviewed by the DOE Headquarters in support of a January 1991 start of definitive design.

- Construction continues on the PUREX chemical sewer demineralizer regeneration neutralization system upgrade. This upgrade automates the current system, and provides control of the pH of flows to the chemical sewer. These flows result from the regeneration of the demineralizer ion exchange resins, thereby providing better assurance against an unplanned release. The automated system will be operational by the end of September 1989.

- The B Pond by-pass system is proceeding significantly ahead of schedule. The definitive design is in progress and will be completed in July 1989. All construction activities are expected to be finished by December 1989, nine months ahead of schedule. This will allow for an earlier start of the decommissioning of the main B Pond and the rerouting of the liquids directly to the B Pond lobes.

- Design of the UO_3 Plant process condensate treatment system is proceeding on schedule. The modification will provide condensate collection and sampling capabilities. However, the best available technology for this waste stream is being reassessed, which could affect the designing of the modification.

- Construction of the Plutonium Finishing Plant aqueous makeup unit upgrade and spill containment is six months behind schedule. The construction estimate was delayed because of the implementation of a Productivity Improvement and Cost Effectiveness Program proposal, causing a delay in the construction startup as well as project completion date. The project will provide additional controls against unplanned releases from the Plutonium Finishing Plant. The revised schedule will be reflected in the next annual update to the work schedule.

- The B Plant Process Condensate Treatment System will provide "best available treatment" methods for this waste stream. The treatment system is anticipated to remove the majority of the radionuclides present. The definitive design for the B Plant Condensate Treatment Facility is approximately two months behind schedule, but no effect is anticipated on the planned date for completion of construction and startup in 1993.

- The B Plant chemical sewer neutralization system upgrades will provide retention and treatment capability for pH control. The construction of the B Plant chemical sewer neutralization system was on hold because the estimate of completion exceeded funding

limits. The upgrade was brought within the limits of the authorized funding through a modification in scope and design. Any resulting impacts to the schedule are being assessed.

- Conceptual design for the B Plant aqueous makeup unit area upgrade was completed. Selection of an architect engineer for definitive design is in progress.

- The T Plant waste water drain header rerouting and chemical sewer neutralization system upgrade have been combined into a single project in lieu of separate systems. The upgrade will reroute floor drains that have a potential for receiving corrosive material to a sump which will have neutralization capability installed. Definitive design for this modified approach has been initiated. A revised schedule will be reflected in the next annual update to the work schedule. Definitive design of the T Plant 211-T chemical storage area modifications is on schedule.

- The best available technology evaluation is on schedule for eliminating liquid discharges to the 300 Area Process Trenches. The only option may be the 300 Area treated effluent disposal system, which is not scheduled to be operational until 1995. Consideration is being given to accelerating work on the 300 Area treatment system to minimize the delay to Milestone 17-06 (ceasing discharge to the process trenches) if an interim option is not found. A report will be issued in March 1990 (milestone M-17-05), based on the ongoing evaluation.

- The 242-A Evaporator Process Condensate Treatment System has been re-evaluated. Plans are being made to combine it with the 200 Area Treated Effluent System.

- Functional design criteria and conceptual design for the 222-S laboratory and chemical sewer upgrades were not initiated as planned. An engineering study to establish best available technology is in progress, with a planned completion date of September 1989. The schedule will be revised based on the selected technology, as part of the annual update.

- The definitive design of the 2724-W laundry wastewater treatment system was completed. Efforts are underway to award a contract for procurement and construction. The system is primarily being constructed to eliminate the problem of plugging the crib with the liquid discharges. It will also result in the reduction of radioactive and chemical wastes discharged. A new laundry facility, scheduled to be operational in early 1993, will utilize the best available technology.

- A secondary waste treatment system was planned to handle the residues resulting from treatment of liquid effluent streams from Hanford facilities. The engineering study was recently completed for this system. The study recommends that treatment for the

residues be incorporated into the Waste Receiving and Processing Module II instead of a separate treatment facility.

- The engineering studies were completed for both the 200 and 300 treated effluent disposal systems. The functional design criteria for the 200 Area system is being developed. The functional design criteria for the 300 Area system is in the final stages of development. The facilities will provide the required treatment of Phase II streams and any final treatment of Phase I streams before disposal. (Effluent streams have been assigned priorities for treatment and disposal system implementation. Phase I streams have a higher priority than Phase II streams).

PROBLEM AREAS AND STATUS

POTENTIAL OF LISTED WASTE IN THE 242-A EVAPORATOR FACILITY

Process waste stored in Hanford Site underground tanks has been routinely evaporated to allow for more storage volume in the double-shell tanks and to reduce the volume of waste that must be disposed of eventually. The 242-A evaporator-crystallizer located in the 200 East Area of the Hanford Site is currently used for this task.

The evaporator was shut down on April 12, 1989, when it was determined that the evaporator waste feed may contain low levels of RCRA hazardous constituents. A possibility exists that these constituents were derived from a RCRA listed waste. Since the evaporator and the associated crib used for disposal of condensate do not have interim status under RCRA, the evaporator has been shut down until this issue is resolved. Operation of the evaporator is critical to several Tri-Party Agreement milestones, including 1) completion of 14 grout campaigns by September 1994 (Milestone 01-00), 2) completion of single-shell tank interim stabilization by September 1995, and 3) initiation of B Plant waste pretreatment by October 1993. Other Tri-Party Agreement milestones which may be affected are the initiation of the Hanford Waste Vitrification Plant operations by December 1999 and the initiation of a full-scale demonstration of single-shell tank waste retrieval by October 1997. These milestones are all dependent upon the availability of double-shell tank space.

The importance of the 242-A Evaporator issue was recognized before the Tri-Party Agreement was signed and DOE, EPA and Ecology agreed to give high priority to resolution of this issue. The DOE and Ecology are working toward agreement on the proper management of this issue. Interim storage and accelerated treatment options for the evaporator effluent are among options being evaluated.

DISPOSITION OF DEVELOPMENT AND PURGE WATER FROM GROUNDWATER MONITORING ACTIVITIES

Groundwater monitoring wells have been installed and are being constructed to meet groundwater monitoring requirements at RCRA and Comprehensive Environmental Response, Compensation and Liability Act regulated waste sites. After the drilling process is complete, a certain amount of development water must be removed to eliminate any foreign material that was introduced during the drilling process, allowing collection of a sample that is representative of the groundwater. The wells are pumped for a sufficient time to allow temperature, pH and specific conductivity to equilibrate before each sampling. This purging ensures that stagnant water in the well is removed, allowing collection of a representative sample. In some locations at the Hanford Site the groundwater may be contaminated to levels that prevent the disposal of untreated well development water and purge water. The Hanford Site has no facilities to treat the well development water or purge water at

this time, but storage and treatment methods are being developed. Negotiations between the DOE, EPA, and Ecology are ongoing, since installation of groundwater monitoring wells and related milestones are dependent upon resolution of this issue.

ACTIVITIES PLANNED FOR THE QUARTER ENDING SEPTEMBER 30,1989

DISPOSAL OF TANK WASTES

GROUT OPERATIONS

The first grout campaign using nonhazardous phosphate/sulfate waste was completed in July. Vault design and engineering reports will be submitted to Ecology and EPA in support of the grout RCRA Permit.

SINGLE-SHELL TANKS

Three additional single-shell storage tanks have to be interim stabilized as discussed in single-shell tank topics in the Highlights and Technical Progress Sections. Characterization of two single-shell tanks will be continued as progress continues toward the milestone of characterizing 15 core samples by December.

PREPARATION OF B PLANT FOR WASTE PRETREATMENT

A structural analysis of the B Plant Canyon facility (221-B Building) will be completed to verify the adequacy of the structure to withstand earthquakes. Construction of a spare ventilation exhaust system filter will be completed. An engineering study to upgrade the B Plant ventilation exhaust system to meet safety class requirements will be completed.

CLEANUP OF PAST-PRACTICE UNITS

116-B-6A IN SITU VITRIFICATION DEMONSTRATION

The in situ vitrification treatment equipment will be moved to the 116-B-6A crib site in preparation for the treatability test scheduled for fiscal year 1990. The setup will require the installation of electrical power and other necessary services at the site during the next quarter.

A work plan for conducting the demonstration will be submitted to EPA and Ecology for review in August.

1100-EM-1 OPERABLE UNIT FIELD WORK

The Draft Remedial Investigation/Feasibility Study Work Plan for the 1100-EM-1 Operable Unit Hanford Site, Richland, Washington (DOE 1989a) that is undergoing public comment is expected to be approved by EPA on August 14, 1989. Following this approval, major field work will be initiated to include installation of groundwater monitoring wells and vadose zone sampling and analysis.

OTHER OPERABLE UNITS

The Draft Remedial Investigation/Feasibility Study Work Plan for the 300-FF-1 Operable Unit Hanford Site, Richland, Washington (DOE 1989c) will be issued for public comment in October. Site screening and survey activities including 1) radar scanning, 2) topographical mapping, and 3) a biotic survey will continue.

The Draft Remedial Investigation/Feasibility Study Work Plan for the 200-BP-1, Operable Unit Hanford Site, Richland, Washington (DOE 1989b) will be issued for public comment in September. Site screening and survey activities including 1) radar scanning, 2) topographical mapping, and 3) a biotic survey will continue.

Ecology and EPA review will proceed on the Draft Resource Conservation and Recovery Act Facility Investigation/Corrective Measures Study Work Plan for the 100-HR-3 Operable Unit Hanford Site, Richland, Washington (DOE 1989e).

Ecology and EPA review will proceed on the Draft Resource Conservation and Recovery Act Facility Investigation/Corrective Measures Study Work Plan for the 100-HR-1 Operable Unit Hanford Site, Richland, Washington (DOE 1989d). Site screening and survey activities will be initiated at 100-HR-1.

A RI/FS work plan will be submitted to EPA and Ecology for the 300-FF-5 groundwater operable unit by September 30, 1989.

PERMITTING AND CLOSURE OF TREATMENT, STORAGE AND DISPOSAL UNITS

183-H SOLAR EVAPORATION BASIN CLOSURE

Solidification of the liquid contained in Basin 3 will be completed. Basins 1 and 4 will be decontaminated.

SINGLE-SHELL TANK SYSTEM CLOSURE/ CORRECTIVE ACTION WORK PLAN

This system includes the tanks and any tank leaks, ancillary units such as catch tanks and diversions boxes that form the tank farm systems, and any other waste units (including spills) within the boundary of the tank farms. The system was subdivided into six operable units within the Tri-Party Agreement (see Appendix C of the Action Plan). A work plan is being developed that provides the overall strategy and initial planning for selecting closure options for the tanks and corrective action within the tank farms. This plan will be submitted to Ecology and EPA by September 30 for review and comment.

RCRA GROUNDWATER MONITORING WELLS

Installation of 29 RCRA groundwater monitoring wells (Milestone 24-00) will continue toward a December 1989 completion. See Problem Areas And Status sections for details on the development and purge water situation.

PART B PERMIT APPLICATIONS

The Hanford Waste Vitrification Plant Dangerous Waste Permit Application (DOE 1989i) and the 616 Nonradioactive Dangerous Waste Storage Facility Dangerous Waste Permit Application (DOE 1989f) will be submitted to Ecology and EPA for review by July 31.

Effort will continue on the development of Part B permit applications for submittal to EPA and Ecology for the following:

- the Low Level Burial Grounds in December 1989
- the 305-B storage facility in January 1990
- the PUREX Tunnels in September 1990

A significant effort will be made toward the development of responses to the NOD on the Grout Treatment Facility Dangerous Waste Permit Application (DOE 1988).

CLOSURE PLANS

The 2101-M Pond Interim Status Closure Plan Rev.2 (DOE 1989g) may be resubmitted on, September 30, 1989 based on direction from Ecology.

A closure plan for the Simulated High-Level Waste Slurry Treatment/ Storage Facility will also be submitted to Ecology and EPA on September 30, 1989.

Work will continue on development of closure plans for submittal to EPA and Ecology for the following:

- the Nonradioactive Dangerous Waste Landfill in August 1990
- the 216-B-3 pond system in March 1990
- the 303-K storage area in April 1990
- the 304 concretion facility in April 1990

Resolution of deficiencies will continue on the following:

- the 183-H Solar Evaporation Basins
- the 300 Area solvent evaporator closure plan

INTERIM STATUS COMPLIANCE

Efforts will continue to complete interim status compliance actions as shown on Table D-4 of the Tri-Party Agreement Action Plan Work Schedule (see Appendix B). For those areas where strict compliance with regulations is not feasible, requests for variance or petitions will be sent to Ecology and EPA by September 30, 1989.

LIQUID EFFLUENT TREATMENT AND DISPOSAL ACTIVITIES

Conceptual designs will be initiated for two major liquid treatment systems. These are the 200 Area Treated Effluent System (combined with the 242-A Evaporator Process Condensate Treatment System) and the 300 Area Treated Effluent System. A study of best available technology will continue toward a March 1990 recommendation of options for ceasing discharge to the 300 Area Process Trenches.

WORK SCHEDULE STATUS THROUGH JUNE 30, 1989

The status of many of the Tri-Party Agreement activities was discussed in the Highlights and Technical Progress sections of this report. As of June 30, 1989 all major and interim milestones were completed on or ahead of schedule. The remaining major and interim milestones in calendar year 1989 are expected to be completed as planned. Appendix 1 contains the Tri-Party Agreement Work Schedule which was statused with a vertical dashed line indicating progress on milestones.

Of particular note are the schedule deviations reflected for milestone M-17-00, "Complete Liquid Effluent Treatment Facilities/Upgrades For All Phase I Streams." Much of the effort on liquid effluent treatment over the last few months was directed toward performance of engineering studies. These studies evaluate the viable treatment alternatives and support decisions on how to proceed. As a result of these studies, some of the plans shown in the 1988 Annual Status Report of the Plan and Schedule to Discontinue Disposal of Contaminated Liquids into the Soil Column at the Hanford Site (Stordeur et al. 1988), have changed. The parties will work together during the next annual update to the work schedule to better reflect the revised plan. This will include possible changes to schedule dates. The 1995 major milestone is not expected to be affected. The annual update to the work schedule will occur from October through December 1989, and will be subject to public comment.

Notes are provided on the work schedule to explain the significant deviations. Also included as part of the work schedule (see Appendix B) is Table D-4 of the Tri-Party Agreement Action Plan reflecting the status of interim status compliance actions.

REFERENCES

Atomic Energy Act of 1954, as amended, Public Law 83-703, 66 Stat. 919 42 USC 2011.

DOE, 1989a, Draft Remedial Investigation/Feasibility Study Work Plan for the 1100-EM-1 Operable Unit Hanford Site, Richland, Washington, DOE/RL 88-23, U. S. Department of Energy-Richland Operations Office, Richland, Washington.

DOE, 1989b, Draft Remedial Investigation/Feasibility Study Work Plan for the 200-BP-1, Operable Unit Hanford Site, Richland, Washington, DOE/RL 88-32, U. S. Department of Energy-Richland Operations Office, Richland, Washington.

DOE, 1989c, Draft Remedial Investigation/Feasibility Study Work Plan for the 300-FF-1 Operable Unit Hanford Site, Richland, Washington, DOE/RL 88-31, U. S. Department of Energy-Richland Operations Office, Richland, Washington.

DOE, 1989d, Draft Resource Conservation and Recovery Act Facility Investigation/Corrective Measures Study Work Plan for the 100-HR-1 Operable Unit Hanford Site, Richland, Washington, DOE/RL 88-35, U. S. Department of Energy-Richland Operations Office, Richland, Washington.

DOE, 1989e, Draft Resource Conservation and Recovery Act Facility Investigation/Corrective Measures Study Work Plan for the 100-HR-3 Operable Unit Hanford Site, Richland, Washington, DOE/RL 88-36, U. S. Department of Energy-Richland Operations Office, Richland, Washington.

DOE, 1989f, 616 Nonradioactive Dangerous Waste Storage Facility Dangerous Waste Permit Application, DOE/RL 89-03, U. S. Department of Energy-Richland Operations Office, Richland, Washington.

DOE, 1989g, 2101-M Pond Interim Status Closure Plan Rev.2, DOE/RL 88-41, U. S. Department of Energy-Richland Operations Office, Richland, Washington.

DOE, 1989h, 300 Area Solvent Evaporator Interim Status Closure Plan, DOE/RL 88-08, U. S. Department of Energy-Richland Operations Office, Richland, Washington.

DOE, 1989i, Hanford Waste Vitrification Plant Dangerous Waste Permit Application, DOE/RL, 89-02, U. S. Department of Energy-Richland Operations Office, Richland, Washington.

DOE, 1988, Grout Treatment Facility Dangerous Waste Permit Application, DOE/RL 88-27, U. S. Department of Energy-Richland Operations Office, Richland, Washington.

Ecology, EPA, and DOE, 1989, Hanford Federal Facility Agreement and Consent Order, Washington State Department of Ecology, U. S. Environmental Protection Agency, and U. S. Department of Energy, Olympia, Washington.

Resource Conservation and Recovery Act of 1976, Public Law 94-580, 90 Stat. 2795, 42 USC G 901 et seq.

State of Washington Hazardous Waste Management Act, 1976, as amended, Revised Code of Washington 70.105, Olympia, Washington.

Sommer, D.J., D.L. Flyckt, V.G. Johnson, A.G. Law and J.C. Sonnichsen, 1989, Liquid Effluent Study Project Plan, WHC-EP-0275, Westinghouse Hanford Company, Richland, Washington.

Stordeur, R.T. and D.L. Flyckt, 1988, Annual Status Report of the Plan and Schedule to Discontinue Disposal of Contaminated Liquids into the Soil Column at the Hanford Site, WHC-EP-0196-1, Westinghouse Hanford Company, Richland, Washington.

WHC, 1988, Environmental Investigations and Site Characterization Manual, WHC-CM-7-7, Westinghouse Hanford Company, Richland, Washington.

Winters, W.I., L. Jensen, L. M. Sasaki, R. L. Weiss, J. F. Keller, A. J. Schmidt, M. G. Woodruff, 1989, Waste Characterization Plan for the Hanford Site Single-Shell Tanks, WHC-EP-0210, Westinghouse Hanford Company, Richland, Washington.

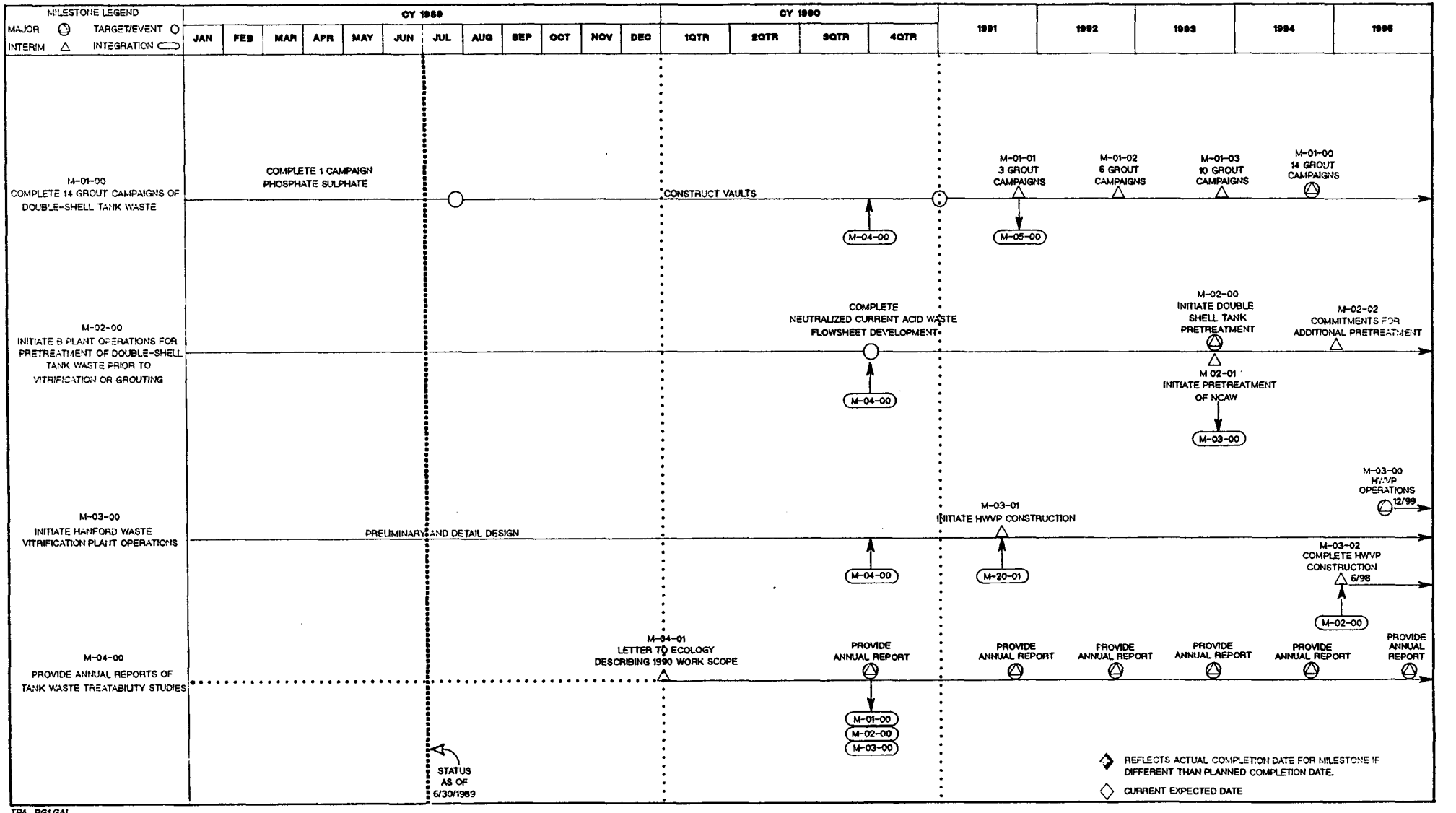
APPENDIX A

THE HANFORD FEDERAL FACILITY AGREEMENT AND CONSENT ORDER ACTION PLAN WORK SCHEDULES

The following schedules are statused to show the progress of activities toward the respective milestone or target date. Vertical dashed lines show actual progress as of June 30, 1989. Movement of the dashed line to the left indicates work behind schedule and movement to the right indicates work ahead of schedule. Notes have been included in some cases to explain a particular status.

FEDERAL FACILITY AGREEMENT AND CONSENT ORDER

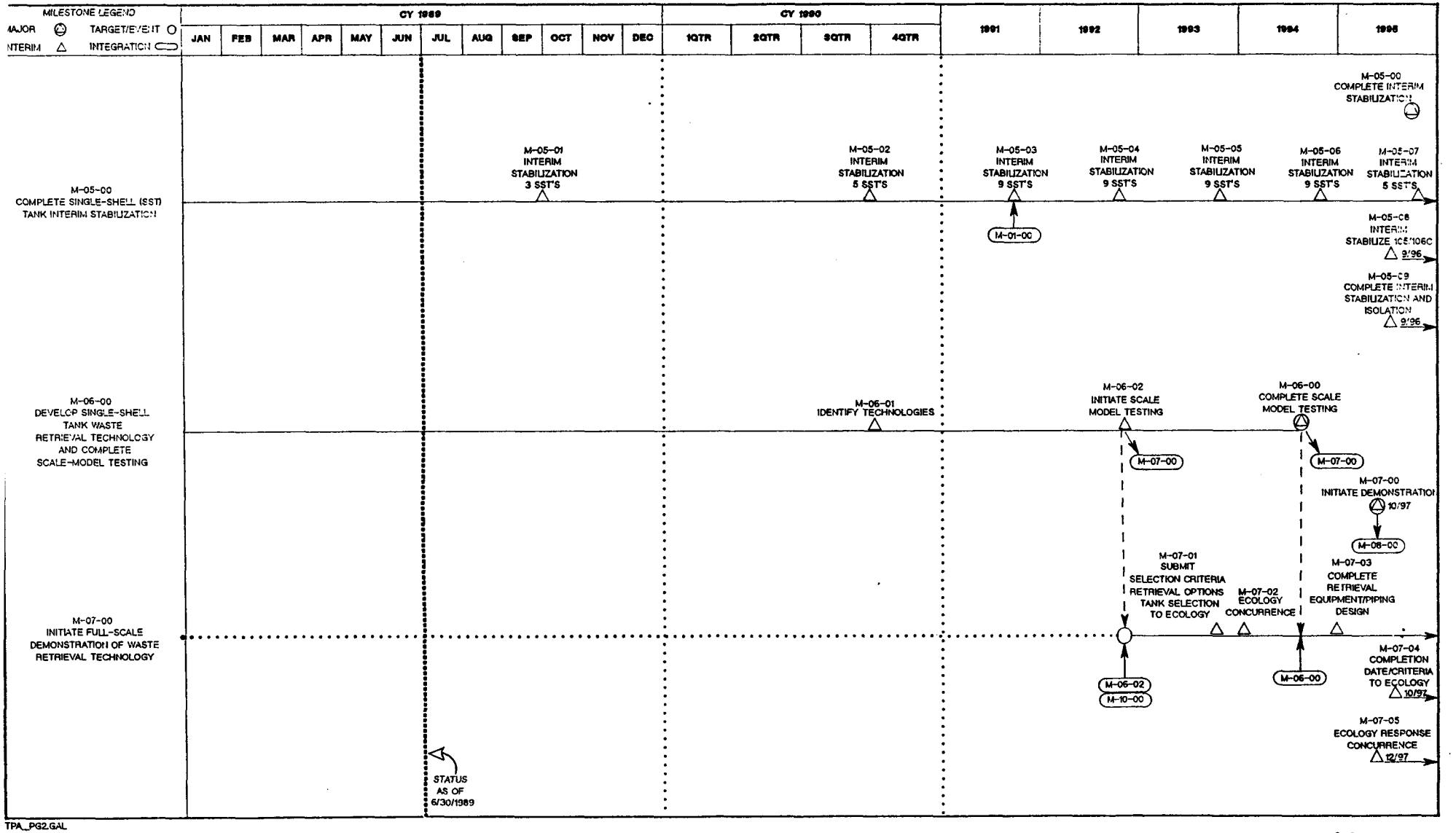
ACTION PLAN WORK SCHEDULE



TPA_PG1.GAL

FEDERAL FACILITY AGREEMENT AND CONSENT ORDER

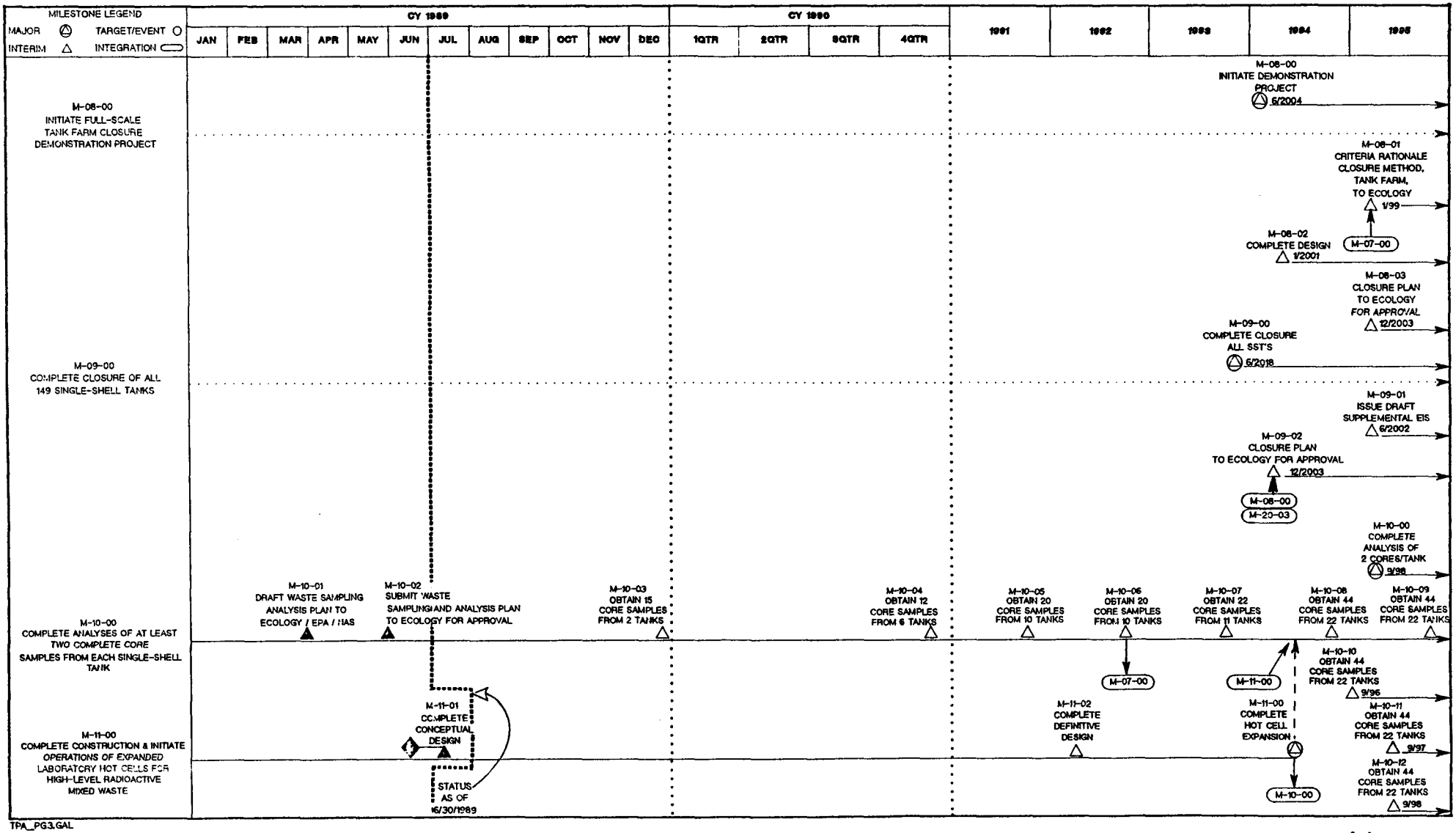
ACTION PLAN WORK SCHEDULE



TPA_PG2.GAL

FEDERAL FACILITY AGREEMENT AND CONSENT ORDER

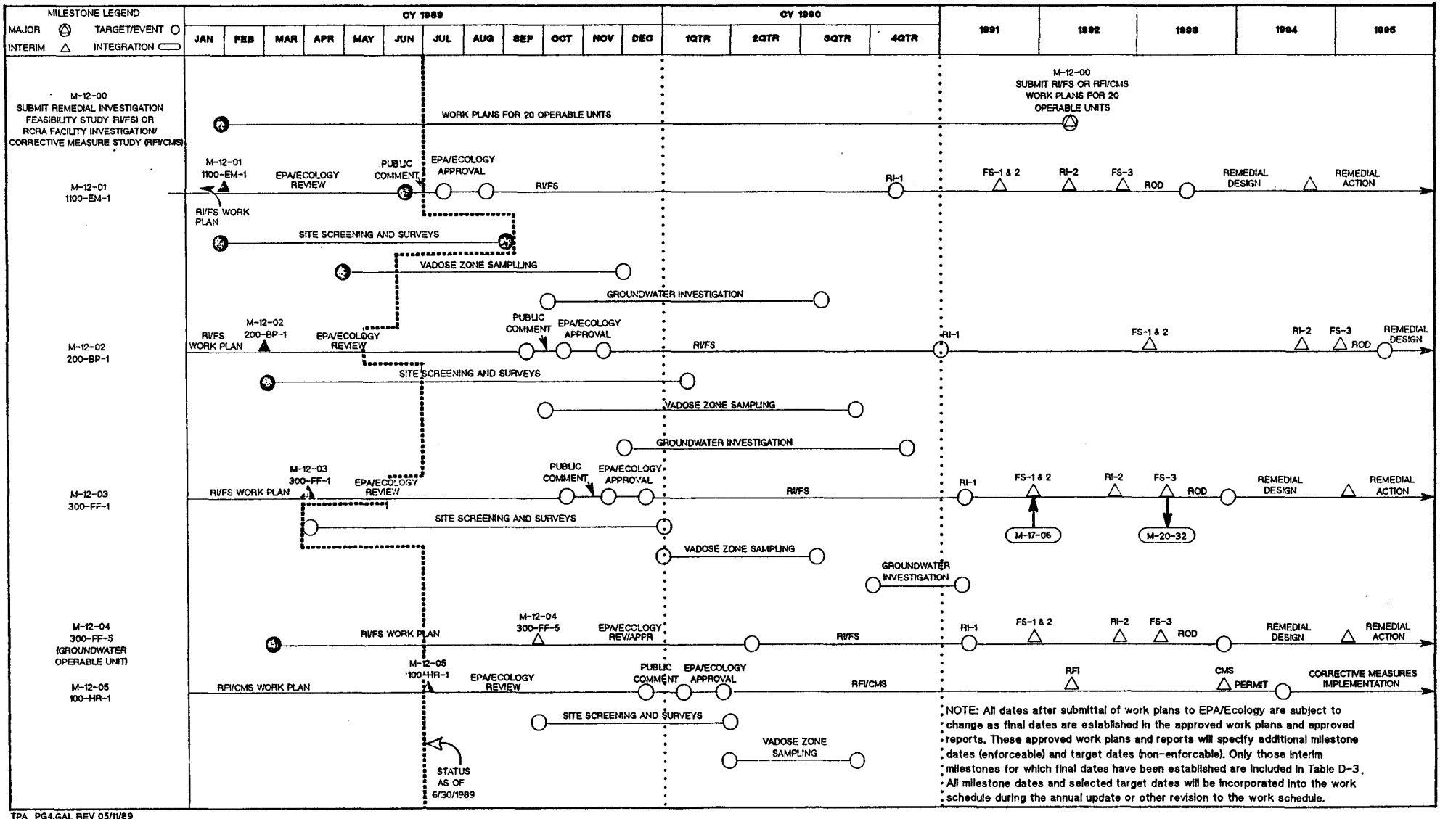
ACTION PLAN WORK SCHEDULE



TPA_PG3.GAL

FEDERAL FACILITY AGREEMENT AND CONSENT ORDER

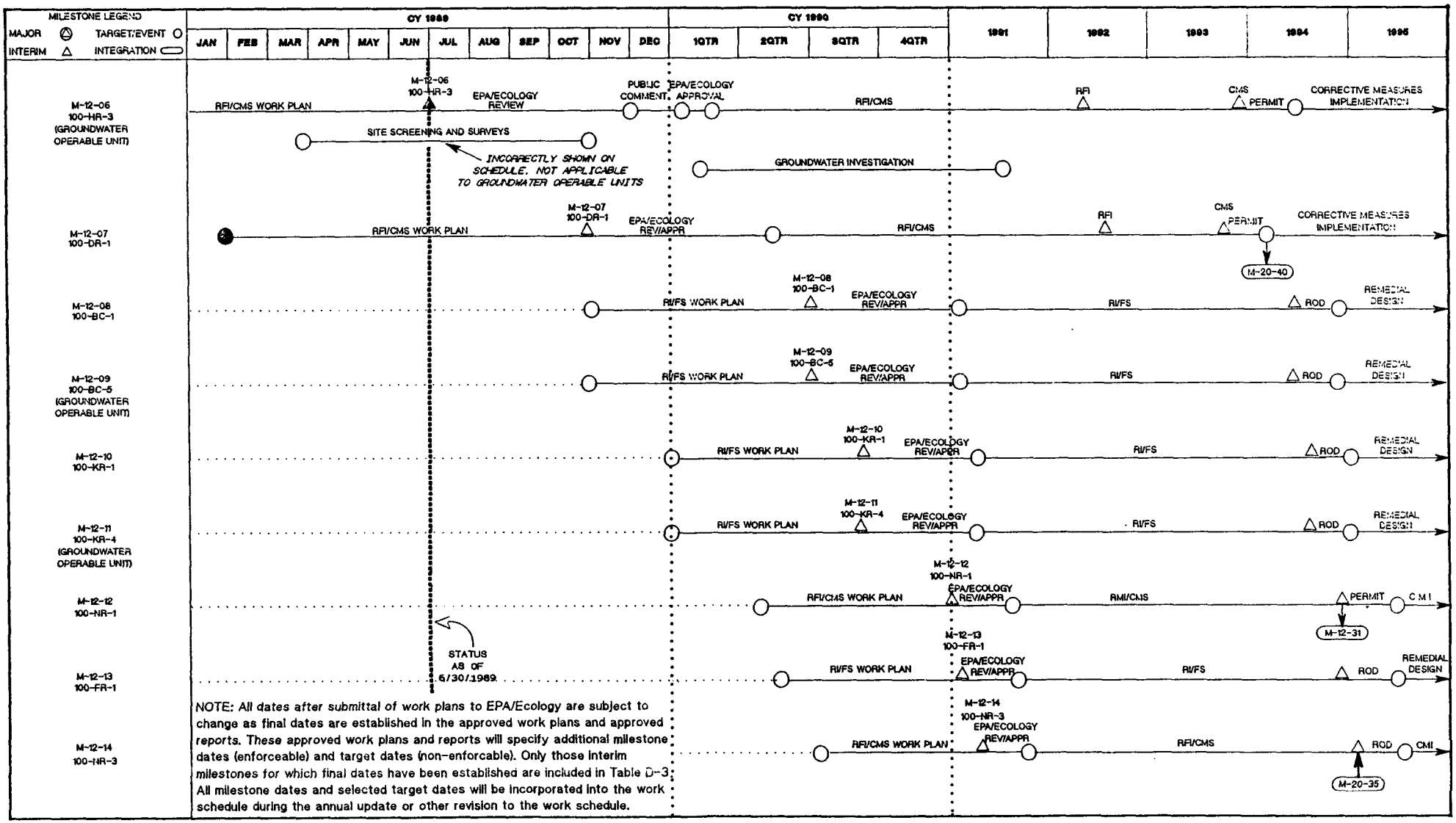
ACTION PLAN WORK SCHEDULE



TPA_PG4.GAL REV 05/11/89

FEDERAL FACILITY AGREEMENT AND CONSENT ORDER

ACTION PLAN WORK SCHEDULE

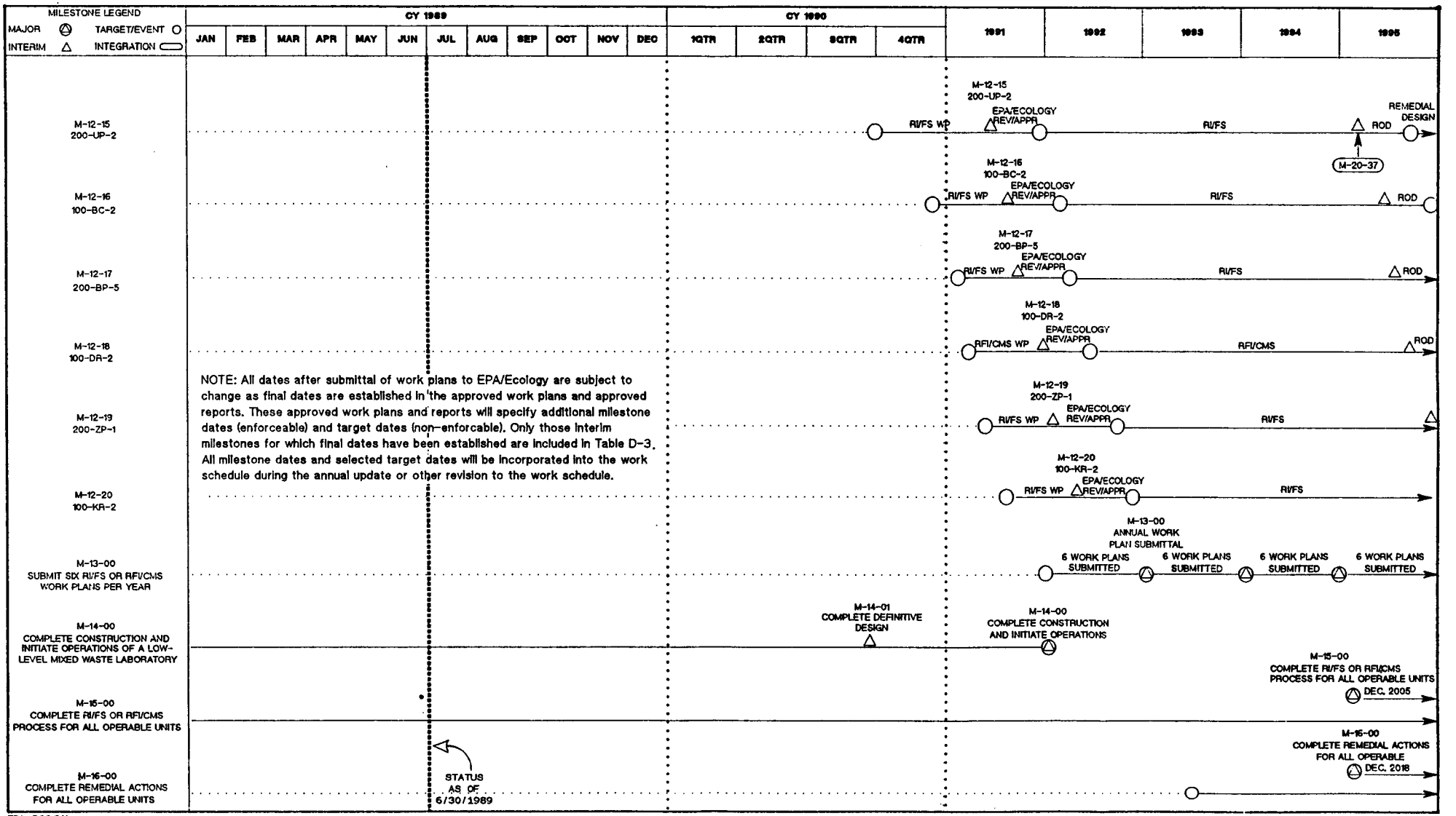


NOTE: All dates after submittal of work plans to EPA/Ecology are subject to change as final dates are established in the approved work plans and approved reports. These approved work plans and reports will specify additional milestone dates (enforceable) and target dates (non-enforcable). Only those interim milestones for which final dates have been established are included in Table D-3. All milestone dates and selected target dates will be incorporated into the work schedule during the annual update or other revision to the work schedule.

TPA_PG5.GAL REV 05/11/89

FEDERAL FACILITY AGREEMENT AND CONSENT ORDER

ACTION PLAN WORK SCHEDULE

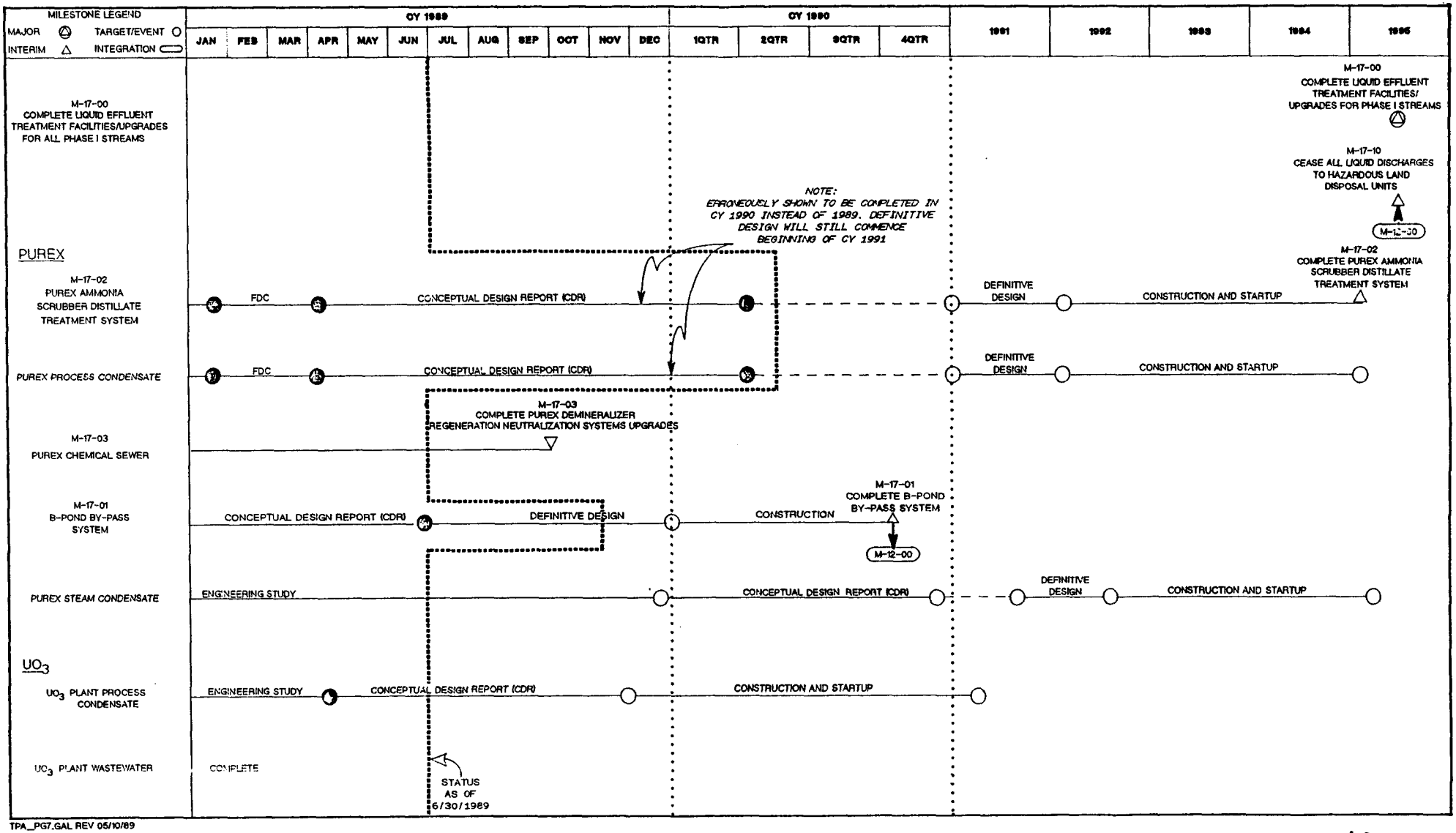


NOTE: All dates after submittal of work plans to EPA/Ecology are subject to change as final dates are established in the approved work plans and approved reports. These approved work plans and reports will specify additional milestone dates (enforceable) and target dates (non-enforcable). Only those interim milestones for which final dates have been established are included in Table D-3. All milestone dates and selected target dates will be incorporated into the work schedule during the annual update or other revision to the work schedule.

TPA_PG6.GAL

FEDERAL FACILITY AGREEMENT AND CONSENT ORDER

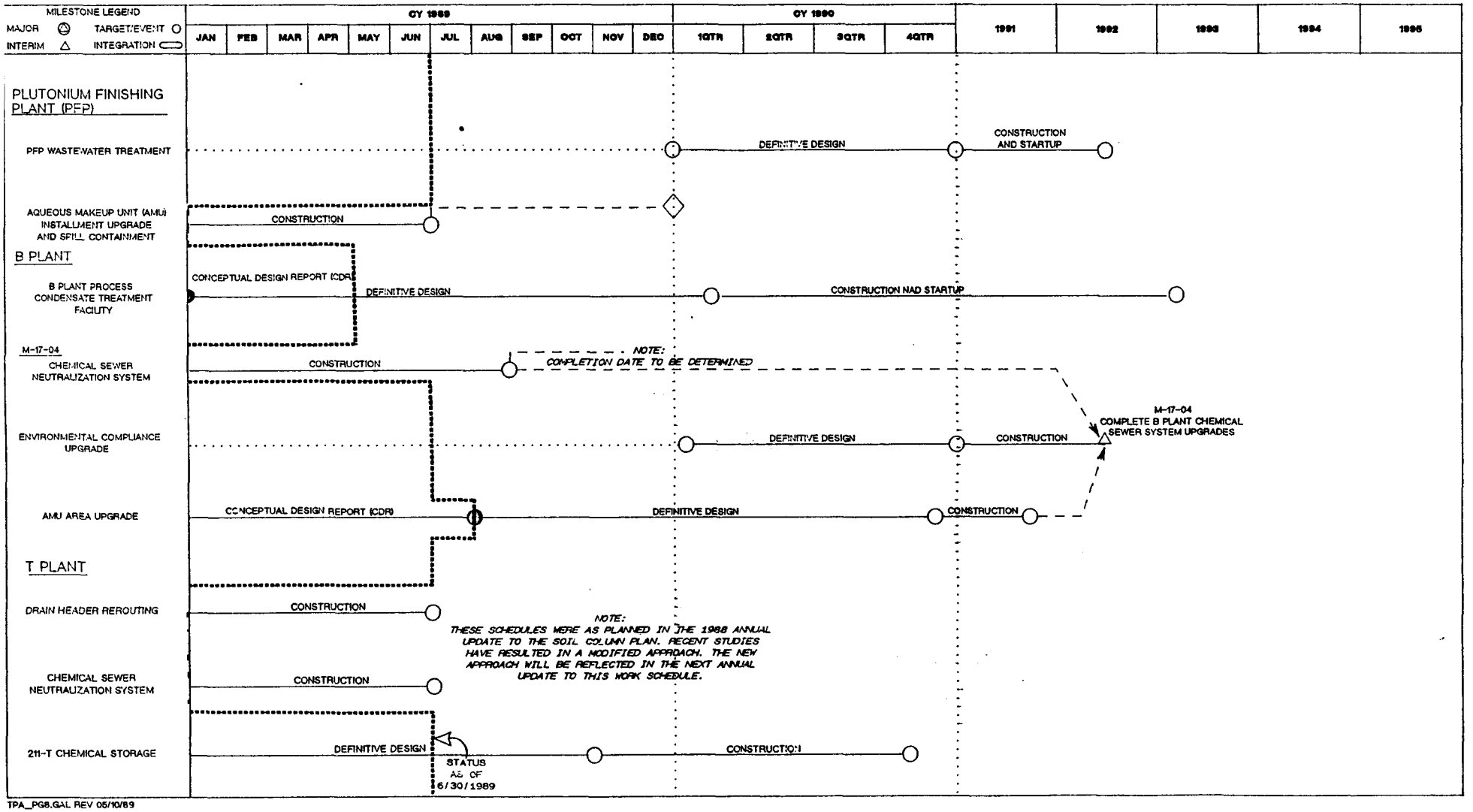
ACTION PLAN WORK SCHEDULE



TPA_PG7.GAL REV 05/10/89

FEDERAL FACILITY AGREEMENT AND CONSENT ORDER

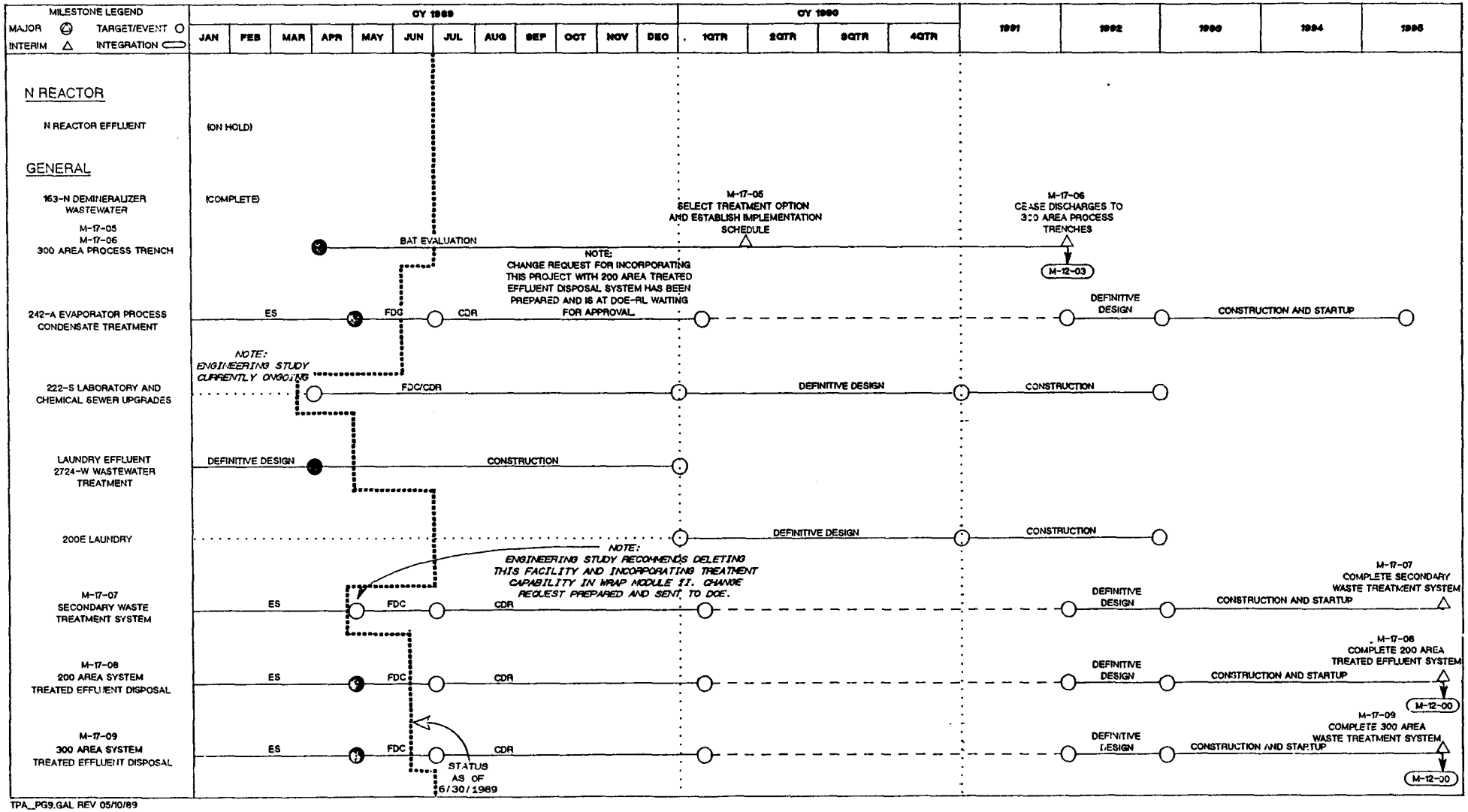
ACTION PLAN WORK SCHEDULE



TPA_PG8.GAL REV 05/10/89

FEDERAL FACILITY AGREEMENT AND CONSENT ORDER

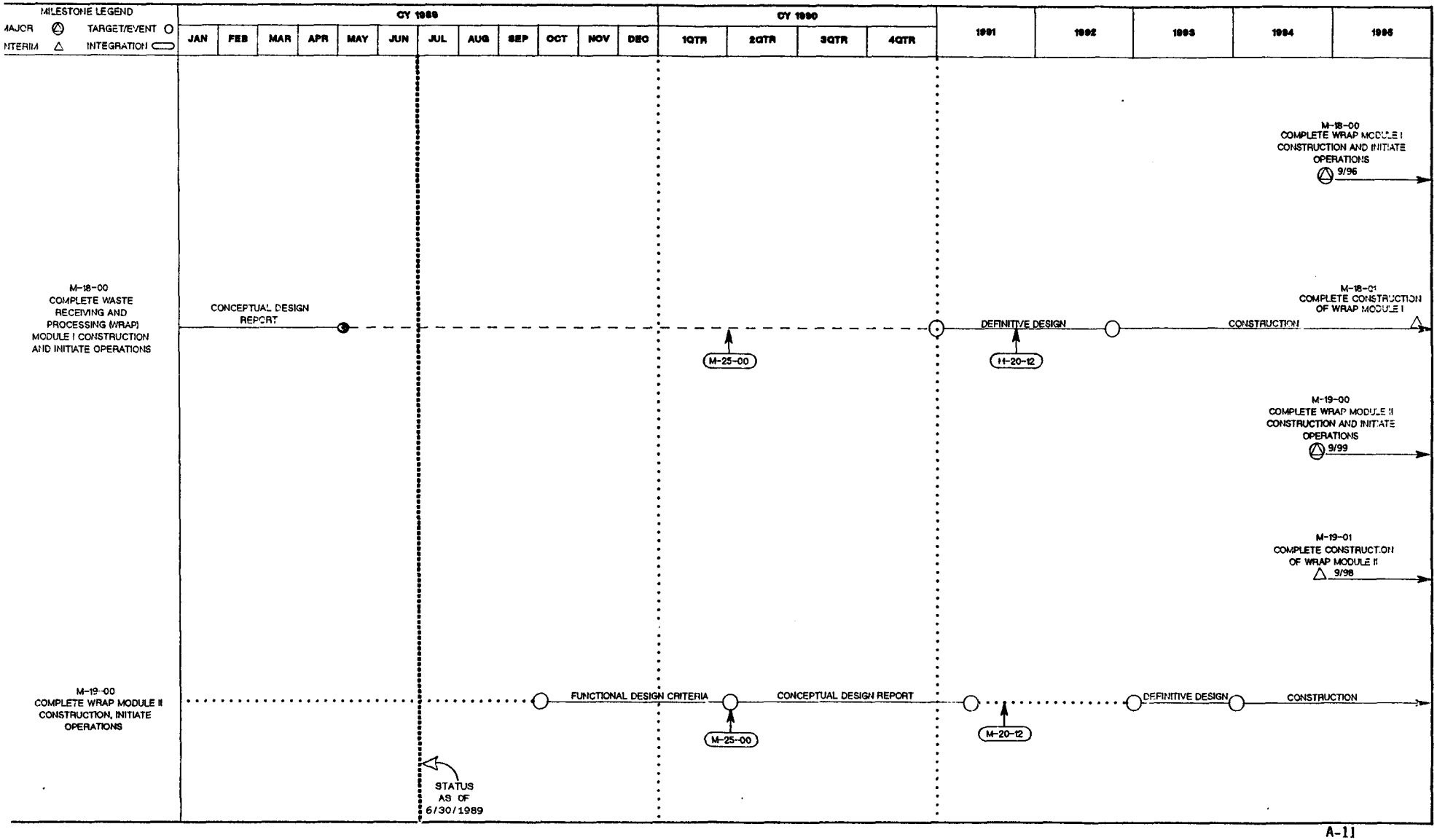
ACTION PLAN WORK SCHEDULE



TPA_PG9.GAL REV 05/10/89

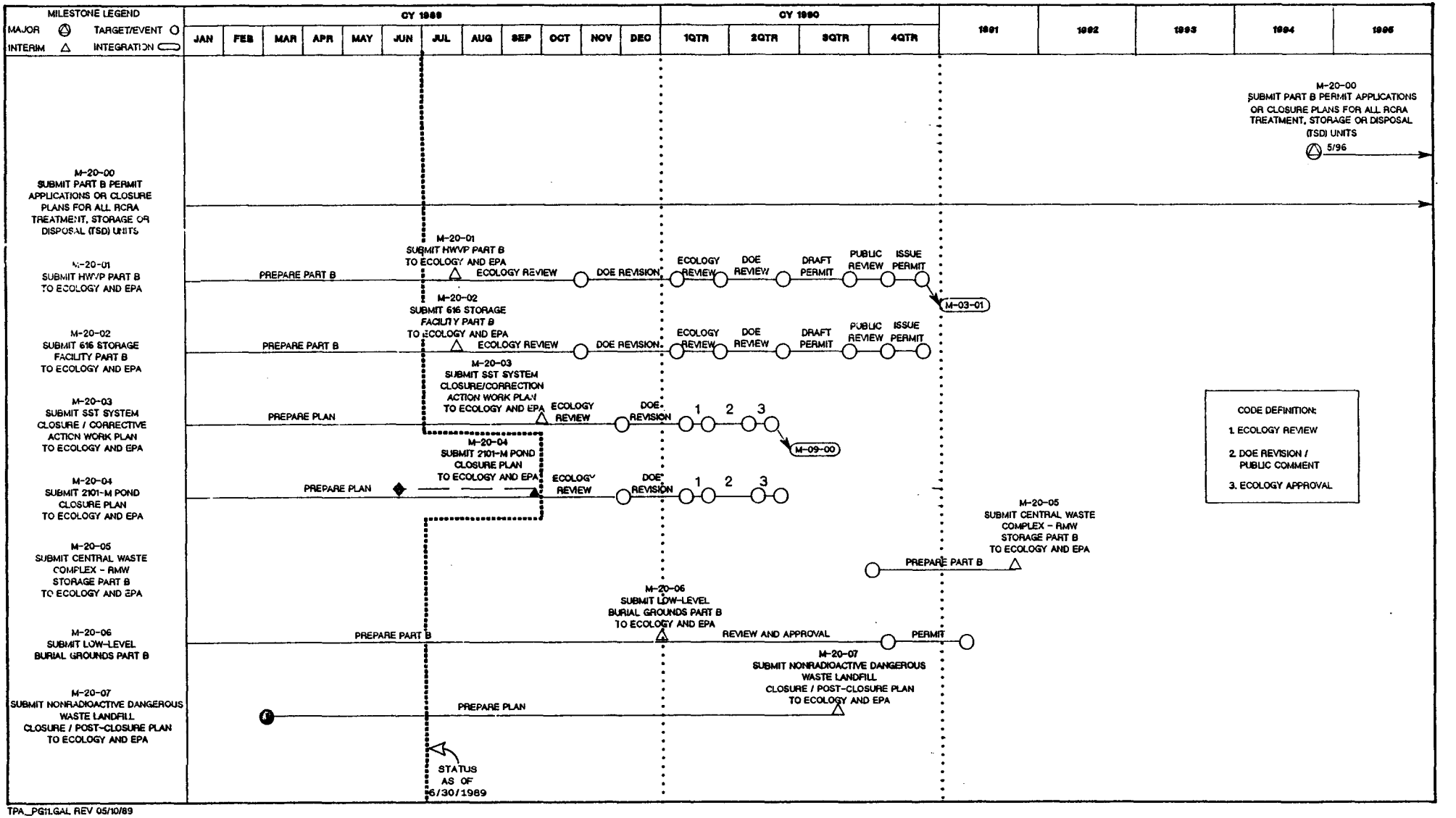
FEDERAL FACILITY AGREEMENT AND CONSENT ORDER

ACTION PLAN WORK SCHEDULE



FEDERAL FACILITY AGREEMENT AND CONSENT ORDER

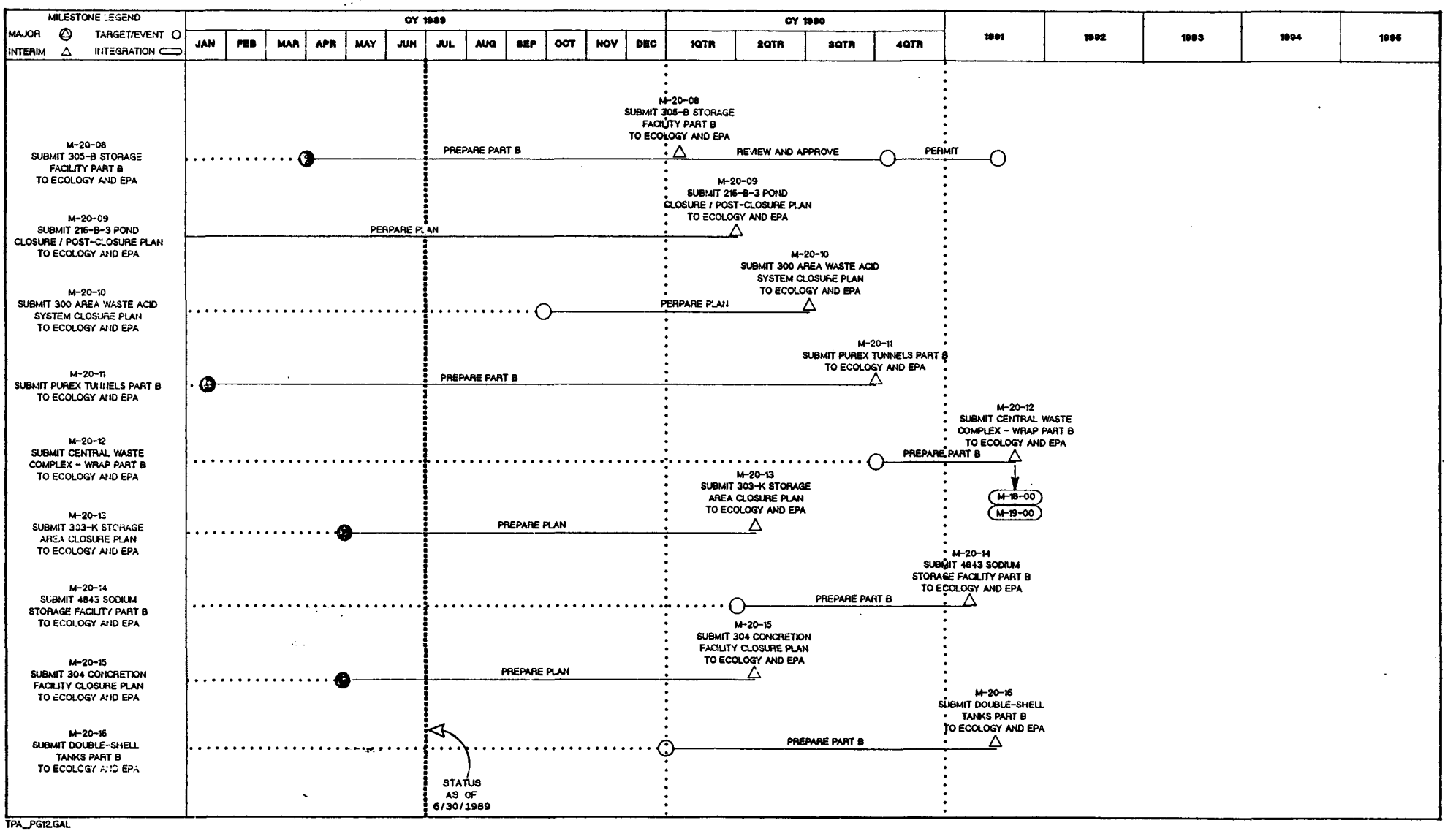
ACTION PLAN WORK SCHEDULE



TPA_PG11.GAL REV 05/10/89

FEDERAL FACILITY AGREEMENT AND CONSENT ORDER

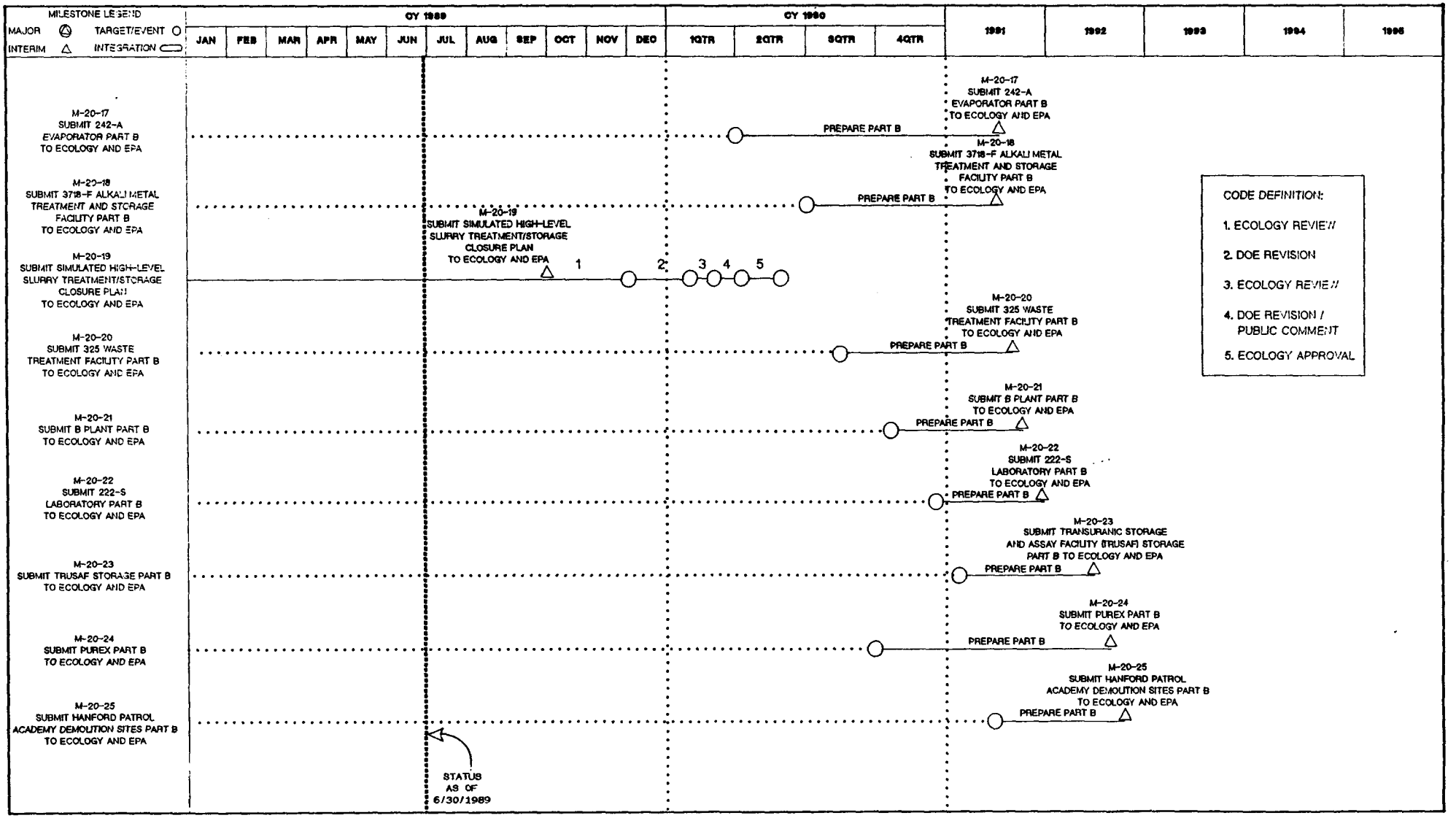
ACTION PLAN WORK SCHEDULE



TPA_PG12.GAL

FEDERAL FACILITY AGREEMENT AND CONSENT ORDER

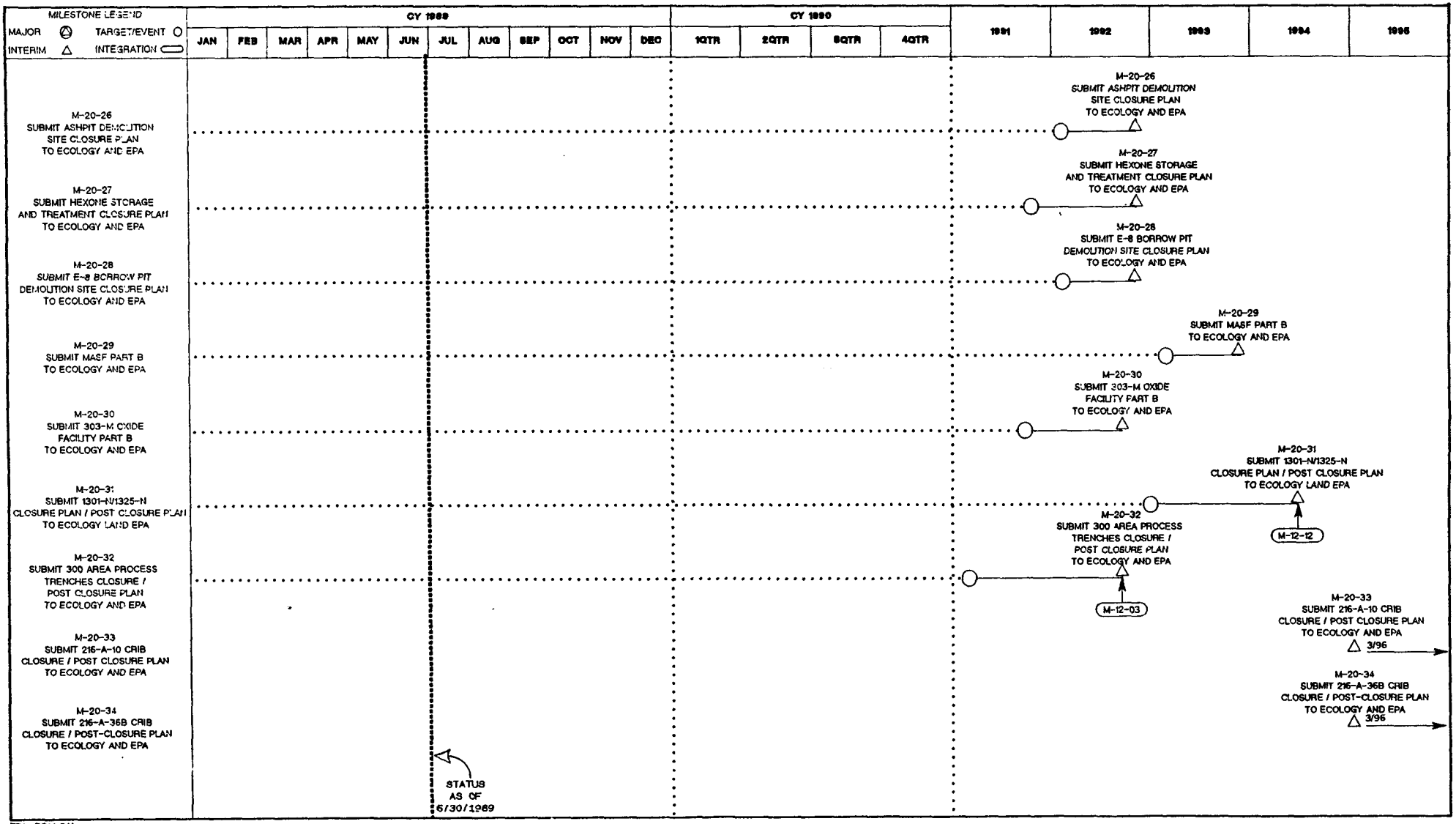
ACTION PLAN WORK SCHEDULE



TPA_PG13.GAL REV 05/10/89

FEDERAL FACILITY AGREEMENT AND CONSENT ORDER

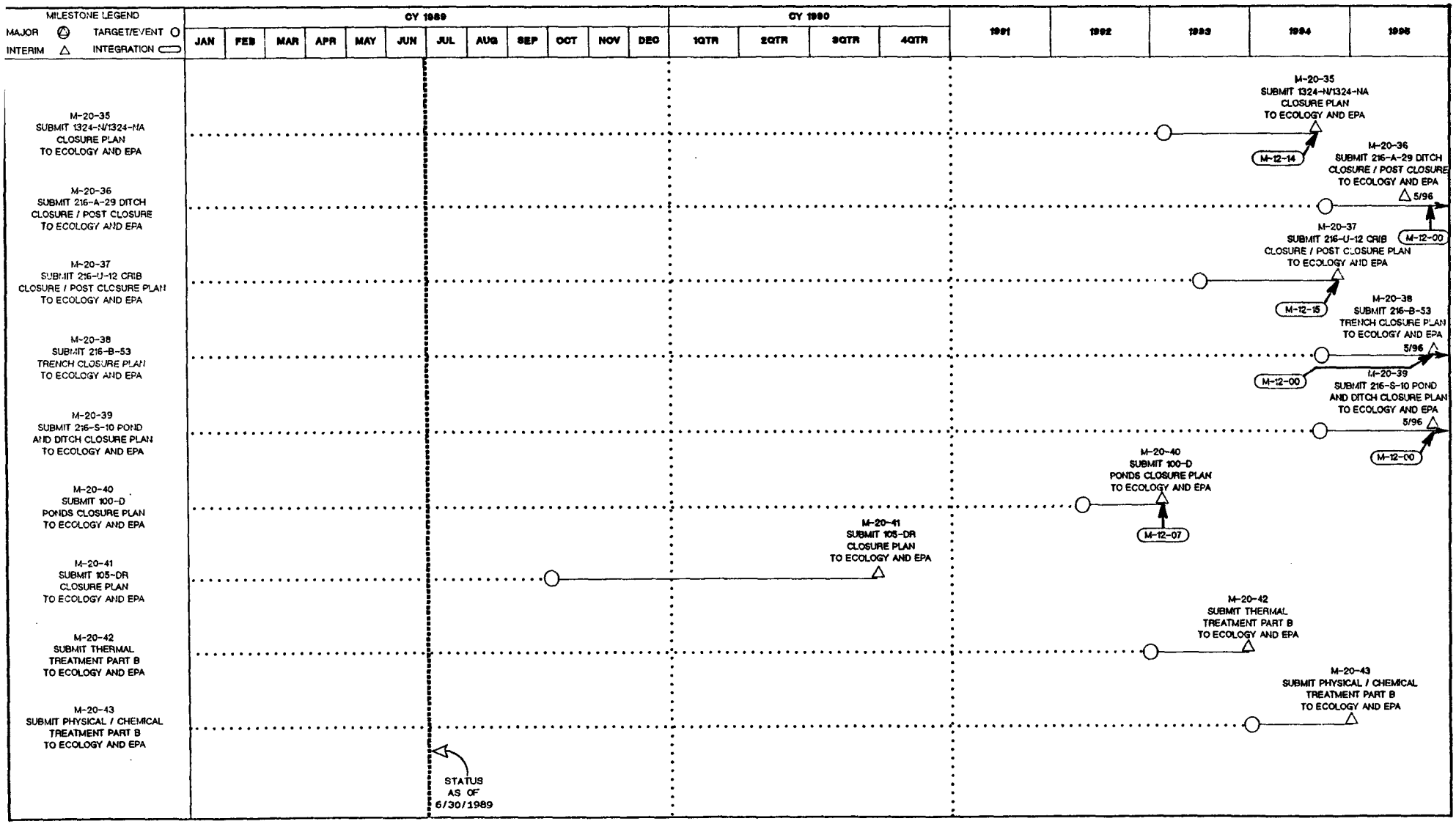
ACTION PLAN WORK SCHEDULE



TPA_PG14.GAL

FEDERAL FACILITY AGREEMENT AND CONSENT ORDER

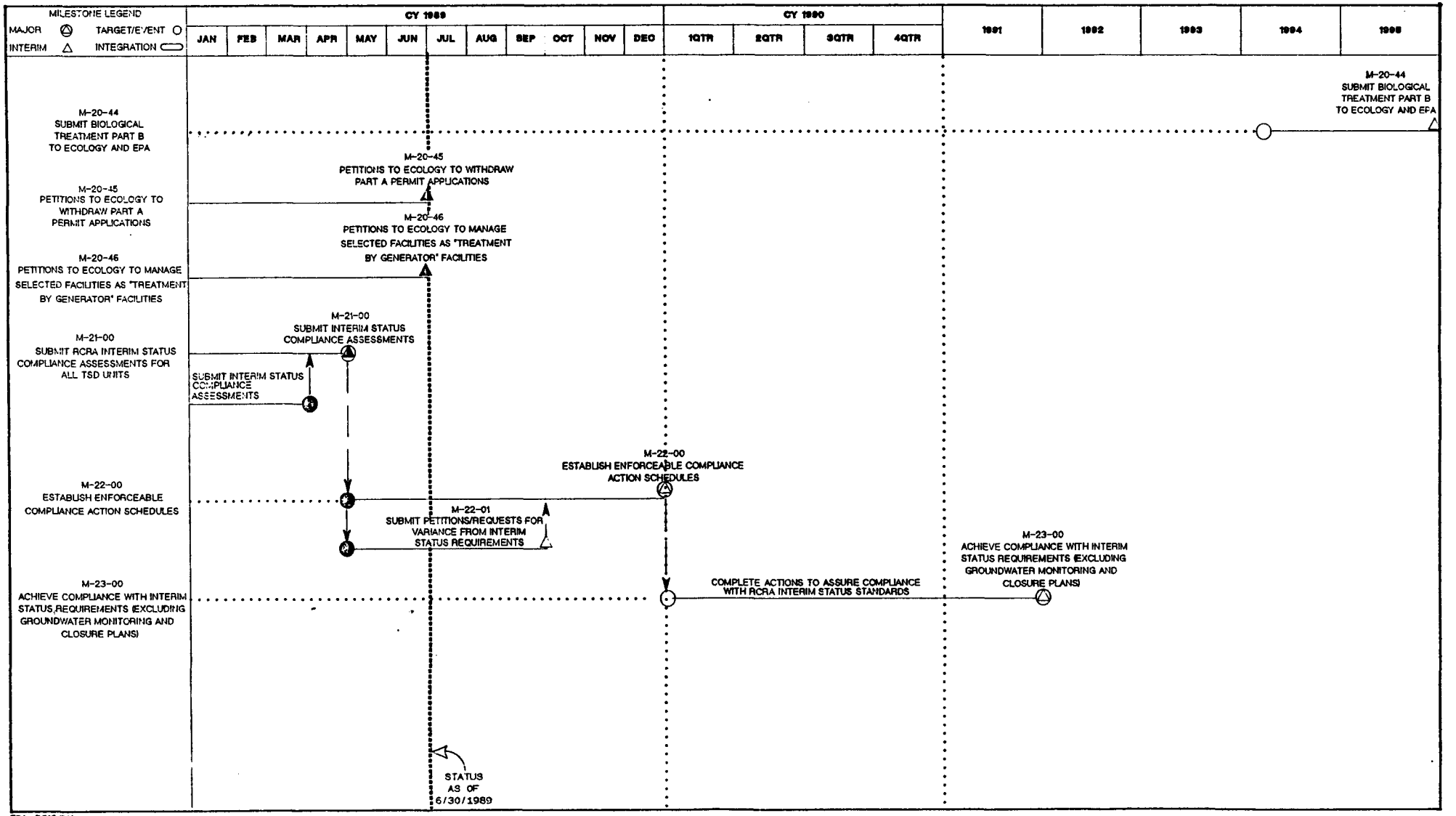
ACTION PLAN WORK SCHEDULE



TPA_PG15.GAL

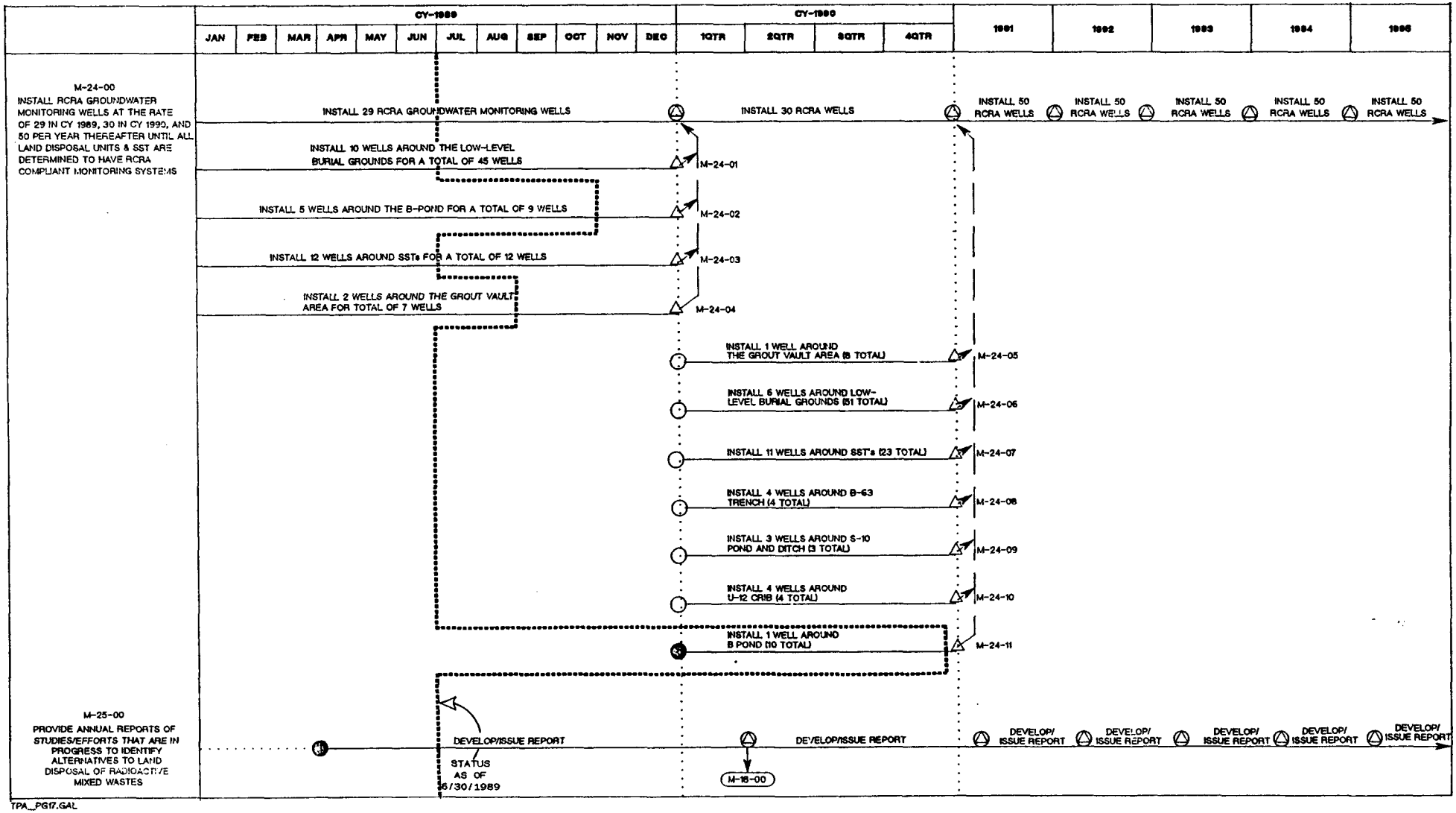
FEDERAL FACILITY AGREEMENT AND CONSENT ORDER

ACTION PLAN WORK SCHEDULE



TPA_PG16.GAL

FEDERAL FACILITY AGREEMENT AND CONSENT ORDER
ACTION PLAN WORK SCHEDULE



TPA_PG17.GAL

APPENDIX B

INTERIM STATUS ACTION TARGET DATES

The following table is table D-4 "Interim Status Action Target Dates" from the Tri-Party Agreement. See page B-5 for an explanation of the status symbols used.

UNIT	WAC 173-303-300 (WASTE ANALYSIS PLAN)	WAC 173-303-310 (SECURITY)	WAC 173-303-320 (INSPECTION)	WAC 173-303-330 (TRAINING)	WAC 173-303-340 (EMERGENCY EQUIPMENT)	WAC 173-303-350 (CONTINGENCY PLAN)	WAC 173-303-380 (RECORD KEEPING)	WAC 173-303-395 (OTHER GENERAL REQUIREMENTS)	40 CFR 265 SUBPART I (CONTAINER MANAGEMENT)	40 CFR 265 SUBPART J (TANK REQUIREMENTS)
MASF	A	A	N/A	A	A	A	N/A	A	N/A	A
SHLW TREATMENT AND STORAGE	A	A	A	A	A	A	A	A	A	N/A
305-B STORAGE FACILITY	A	A	A	A	A	A	A	A	A	N/A
241-Z (PFP) TREATMENT TANK	6/89 6/89(C)	A	5/89(3) 9/89(8)	4/89 4/89(C)	A	A	A	A	N/A	(1)
LOW-LEVEL BURIAL GROUNDS	A	A	9/91(4)	10/89	A	10/89	5/89(*) 7/89(E)	9/91(2,4)	N/A	N/A
DOUBLE-SHELL TANK FARMS	A	A	A	A	A	10/89	8/89	A	N/A	(1)
242-A EVAPORATOR	A	A	5/89(3) 9/89(8)	A	A	10/89	8/89	N/A	N/A	N/A
204-AR UNLOADING STATION	A	A	A	A	A	10/89	8/89	N/A	N/A	(1)
224-T (TRUSAF)	A	A	A	A	A	10/89	5/89 7/89(E)	10/89(2)	A	N/A
PUREX TUNNELS	6/89 4/89(C)	A	5/89(3) 9/89(8)	A	A	6/89 6/89(8)	A	N/A	5/89(3) 9/89(8)	N/A
216-A-36B	N/A	A	7/89	N/A	N/A	N/A	7/89	N/A	N/A	N/A
1325-N	6/89(5) 6/89(C)	A	6/89 6/89(C)	N/A	N/A	N/A	6/89 6/89(C)	N/A	N/A	N/A
1324-N	N/A	A	A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1324-NA	6/89(5) 6/89(C)	A	A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1301-N CRIB	N/A	A	6/89 6/89(C)	N/A	N/A	N/A	6/89 6/89(C)	N/A	N/A	N/A
216-B-3 POND	TBD(5)	A	7/89	N/A	N/A	N/A	7/89	N/A	N/A	N/A
216-A-29 DITCH	TBD(5)	A	7/89	N/A	N/A	N/A	7/89	N/A	N/A	N/A

UNIT	WAC 173-303-300 (WASTE ANALYSIS PLAN)	WAC 173-303-310 (SECURITY)	WAC 173-303-320 (INSPECTION)	WAC 173-303-330 (TRAINING)	WAC 173-303-340 (EMERGENCY EQUIPMENT)	WAC 173-303-350 (CONTINGENCY PLAN)	WAC 173-303-380 (RECORD KEEPING)	WAC 173-303-395 (OTHER GENERAL REQUIREMENTS)	40 CFR 265 SUBPART I (CONTAINER MANAGEMENT)	40 CFR 265 SUBPART J (TANK REQUIREMENTS)
216-A-10	N/A	A	7/89	N/A	N/A	N/A	7/89	N/A	N/A	N/A
216-B-63 TRENCH	10/89(5)	A	7/89	N/A	N/A	N/A	7/89	N/A	N/A	N/A
T PLANT 15-1 TANK	N/A(6)	A	7/89(3) 9/89(8)	A	A	10/89	6/89 7/89(E)	A	N/A	(1)(6)
222-S TREATMENT TANK & STORAGE PAD	3/90	A	5/89(3) 9/89(8)	6/89 6/89(C)	A	10/89	A	9/89	6/90	(1)
616 HAZARDOUS WASTE STORAGE	10/89	A	A	A	A	10/89	A	A	A	N/A
PUREX TANKS	6/89 4/89(C)	A	10/89(3) 9/89(8)	A	A	6/89 6/89(C)	6/89 6/89(C)	N/A	N/A	(1)
CENTRAL WASTE COMPLEX	A	A	A	A	A	5/89 6/89(C)	A	A	5/89 9/89(E)(9)	N/A
NONRADIOACTIVE DANGEROUS WASTE LANDFILL	8/90	A	6/89 6/89(C)	6/89 6/89(C)	A	6/89 6/89(C)	6/89 6/89(C)	A	N/A	N/A
300 AREA ACID TREATMENT SYSTEM	5/89 9/89(E)	A	8/89	A	A	5/89 5/89(C)	6/89 8/89(E)	5/89 5/89(C)	A	6/89 6/89(C)
311 TANKS	5/89 9/89(E)	A	A	A	A	A	6/89 8/89(E)	5/89 5/89(C)	A	5/89 6/89(C)
303-K STORAGE FACILITY	A	A	A	A	A	A	6/89 8/89(E)	A	A	N/A
303-M OXIDE FACILITY	10/89	A	10/89	A	A	A	10/89	5/89 5/89(C)	A	N/A
300 AREA PROCESS TRENCHES	9/91	6/89 6/89(C)	4/89 5/89(C)	A	A	N/A	7/89	A	A	N/A

	WAC 173-303-300 (WASTE ANALYSIS PLAN)	WAC 173-303-310 (SECURITY)	WAC 173-303-320 (INSPECTION)	WAC 173-303-330 (TRAINING)	WAC 173-303-340 (EMERGENCY EQUIPMENT)	WAC 173-303-350 (CONTINGENCY PLAN)	WAC 173-303-380 (RECORD KEEPING)	WAC 173-303-395 (OTHER GENERAL REQUIREMENTS)	40 CFR 265 SUBPART I (CONTAINER MANAGEMENT)	40 CFR 265 SUBPART J (TANK REQUIREMENTS)
HANFORD PATROL ACADEMY DEMOLITION SITE	6/89 6/89(C)	6/89 6/89(C)	6/89 7/89(E)	6/89 7/89(E)	A	6/89 7/89(E)	6/89 6/89(C)	A	N/A	N/A
4843 ALKALI METAL STORAGE FACILITY	6/90	A	7/89	7/89	A	9/89	A	9/89	N/A	N/A
3718-F ALKALI METAL STORAGE FACILITY	9/90	A	7/89	N/A	N/A	10/89	N/A	9/89	N/A	N/A
SINGLE-SHELL TANKS	10/90	A	8/90	6/90	A	9/89	8/90	9/89	N/A	9/89
HEXONE STORAGE TANKS	7/89	A	7/89	7/89	8/89	7/89	A	7/89	N/A	7/89
183-H SOLAR EVAPORATION BASINS	A	A	10/89	A	8/89	10/89	10/89	7/89	N/A	10/89
2727-S STORAGE FACILITY	N/A	5/89 6/89(C)	7/89	N/A	N/A	N/A	A	N/A	N/A	N/A
300 AREA SOLVENT EVAPORATOR	N/A	A	7/89	N/A	N/A	N/A	7/89	N/A	N/A	N/A
105-DR SODIUM FIRE FACILITY	N/A	5/89 5/89(C)	7/89	7/89	8/89	10/89	7/89	N/A	N/A	N/A
E-8 BORROW PIT	N/A	7/89	7/89	N/A	N/A	N/A	A	N/A	N/A	N/A
ASH PIT SITE	N/A	7/89	7/89	N/A	N/A	N/A	A	N/A	N/A	N/A
216-U-12 CRIB	N/A	A	7/89	N/A	N/A	N/A	A	N/A	N/A	N/A

	WAC 173-303-300 (WASTE ANALYSIS PLAN)	WAC 173-303-310 (SECURITY)	WAC 173-303-320 (INSPECTION)	WAC 173-303-330 (TRAINING)	WAC 173-303-340 (EMERGENCY EQUIPMENT)	WAC 173-303-350 (CONTINGENCY PLAN)	WAC 173-303-380 (RECORD KEEPING)	WAC 173-303-395 (OTHER GENERAL REQUIREMENTS)	40 CFR 265 SUBPART I (CONTAINER MANAGEMENT)	40 CFR 265 SUBPART J (TANK REQUIREMENTS)
2101-M POND	9/89(5)	7/89	7/89	N/A	N/A	N/A	9/89	N/A	N/A	N/A
216-S-10 POND AND DITCH	12/89(5)	12/89	7/89	N/A	N/A	N/A	12/89	N/A	N/A	N/A
100-D PONDS	12/89(5)	7/89	7/89	N/A	N/A	N/A	7/89	N/A	N/A	N/A
304 CONCRETION FACILITY	N/A	A	7/89	N/A	N/A	N/A	7/89	N/A	N/A	N/A
1706-KE WASTE TREATMENT SYSTEM	N/A	A	7/89	N/A	N/A	N/A	6/89 6/89(C)	N/A	N/A	N/A
B PLANT CANYON UNITS	1/91	A	5/91	5/90	A	9/91	12/89	8/91	8/90	7/91

(1) = REEVALUATION REQUIRED TO NEW STATE REGULATIONS. DATE WILL BE ESTABLISHED WHEN REEVALUATION COMPLETE.

(2) = DATE REFLECTS WHEN CONTAINER LABELING WILL BE COMPLETED.

(3) = POTENTIAL RCRA/AEA INCONSISTENCY FOR PHYSICAL INSPECTION REQUIREMENT RESOLUTION.

(4) = DATE REFLECTS WHEN ACCESSABLE MIXED WASTE IN THE RETRIEVAL STORAGE TRENCHES WILL BE RECONFIGURED.

(5) = WASTE ANALYSIS WILL ADDRESS PRESENT DISCHARGES TO THE UNIT. WASTE ANALYSIS OF UNIT WILL BE ADDRESSED.

(6) = APPLICABILITY CONTINGENT UPON TREATMENT-BY-GENERATOR SUCCESS.

(7) = ACTION SCHEDULE TO BE COMPLETED BY JUNE 30, 1989.

A = ADEQUATE

N/A = NOT APPLICABLE

* = DATES FOR CLOSURE PLANS AND GROUNDWATER MONITORING ARE LISTED SEPARATELY AS SPECIFIC MILESTONES.

C = ACTUAL COMPLETION DATE

E = EXPECTED COMPLETION DATE

(8) = PETITIONS FOR RULEMAKING WILL BE SUBMITTED AS PER MILESTONE M2201 CONCERNING RCRA/AEA PHYSICAL INSPECTION INCONSISTANCIES

(9) = SYSEM COMPLIANT DUE TO TEMPORARY REPAIR. DATE REPRESENTS COMPLETION OF PERMANENT REPAIR.

APPENDIX C

ACRONYMS

ACRONYMS

The following acronyms are used in the Quarterly Progress Report and are defined here for reference.

DOE	Department Of Energy
DOE-RL	Department Of Energy, Richland Operations Office
Ecology	Washington State Department of Ecology
EPA	Environmental Protection Agency
NOD	Notice Of Deficiency
PUREX	Plutonium Uranium Extraction
RCRA	Resource Conservation and Recovery Act
RFI/CMS	RCRA Facility Investigation/Corrective Measures Study
RI/FS	Remedial Investigation/Feasibility Study
TSD	Treatment Storage and/or Disposal

DISTRIBUTION

Number of Copies

OFFSITE

4 U.S. Environmental Protection Agency

1200 Sixth Avenue
Seattle, WA. 98101

P. Day
G. Hofer
R. Russell
R. Smith

8 Washington State Department of Ecology

5826 Pacific Avenue
Lacey, WA. 98503

C. Gregoire
T. Hussman
R. Stanley (6)

ONSITE

1 Hanford Environmental Health Foundation

L. J. Maas B1-61

1 Kaiser Engineers Hanford

W. H. Bodily 1264/3000

5 Pacific Northwest Laboratories

W. J. Vjoekluns P7-68
T. D. Chikalla P7-75
M. S. Hanson K1-51
S. S. Koegler P7-44
H. W. Slater P7-40

DISTRIBUTION

Number of Copies

ONSITE

27 U.S. Department of Energy-
Richland Operations Office

M. J. Anthony	A6-95	R. J. Nevarez	A6-50
J. J. Broderick	A6-95	J. E. Newson	A6-80
R. W. Brown	A5-51	A. J. Rizzo	A6-53
S. S. Clark	A6-55	G. W. Rosenwald	A6-80
D. L. Duncan	A6-95	W. A. Rutherford	A6-80
R. D. Freeburg	A6-95	J. P. Sands	A6-95
J. D. Furubotten	A5-18	L. S. Semmens	A6-55
R. F. Guercia	A6-80	R. K. Stewart	A6-95
R. G. Hastings	A6-55	N. G. Thomas	A7-27
R. D. Izatt (3)	A6-95	K. M. Thompson	A6-95
A. W. Kellog	A6-53	D. E. Trader	A5-92
A. J. Knepp	A6-95	P. H. Turner	A5-18
M. J. Lawrence	A7-50		

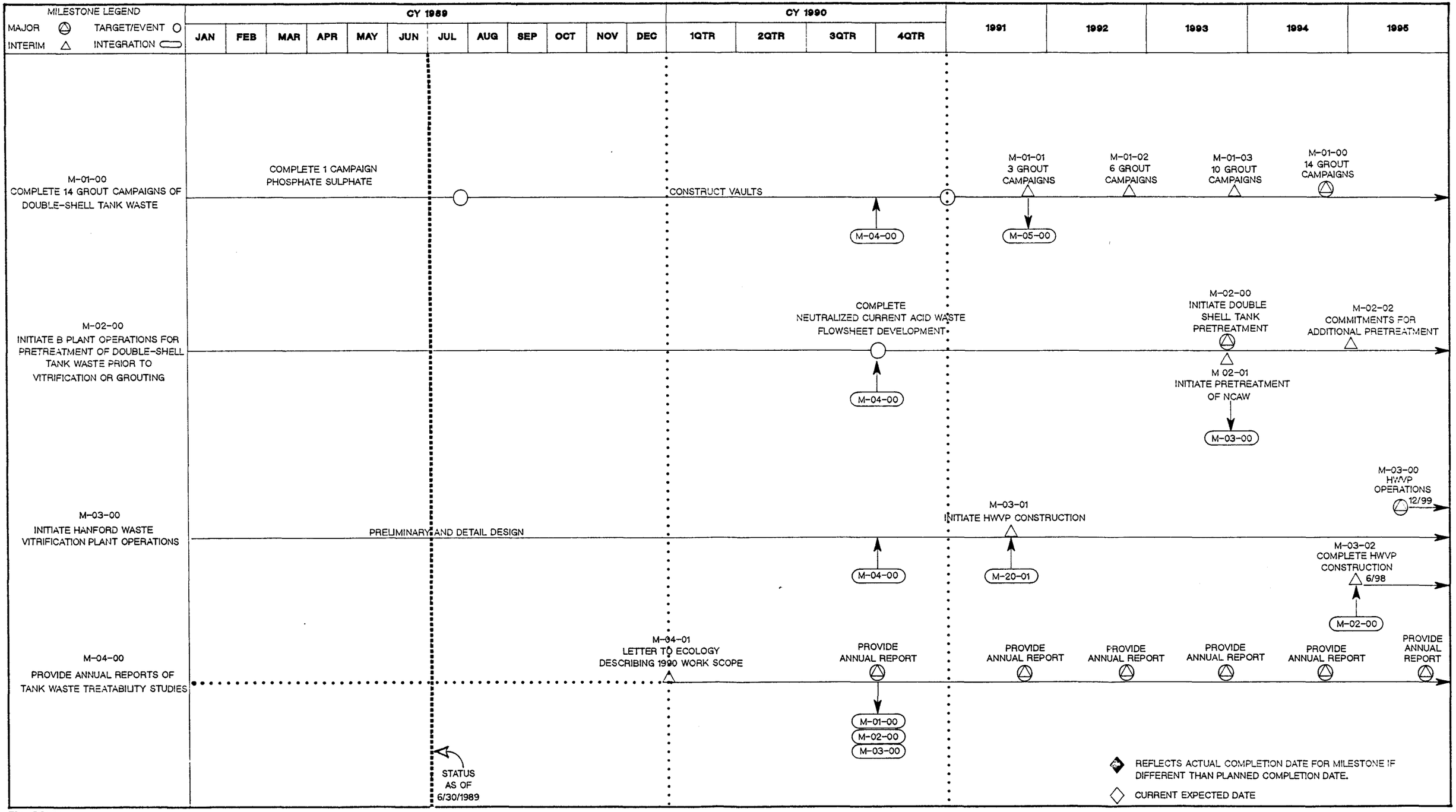
104 Westinghouse Hanford Company

M. R. Adams	L4-92	K. M. Leonard	R2-42
W. H. Arnold	H5-59	R. E. Lerch	H4-51
B. A. Austin	R2-75	H. E. McGuire	H4-51
H. Babad	H4-17	D. E. McKenney	R2-11
R. M. Black	R1-19	T. J. McLaughlin	P7-68
R. J. Bliss	B3-04	R. D. Morrison (25)	H4-52
R. W. Bloom	L5-57	M. E. Musolf	B3-26
N. C. Boyter	B4-52	R. C. Nichols	B3-02
L. C. Brown	H4-51	J. E. Nolan	B3-01
J. G. Burk	B3-25	L. L. Powers	H4-51
G. D. Carpenter	H4-17	R. E. Raymond	R2-40
J. G. Cassady	B3-03	I. E. Reep	S6-65
C. M. Cox	R2-26	R. J. Roberts	R1-43
H. F. Daugherty	R2-53	W. G. Ruff	X0-43
C. DeFigh-Price	H4-52	L. K. Severad	H5-60
W. T. Dixon	H4-52	E. Shapiro	H4-17
B. P. Dole	A2-50	D. E. Simpson	B3-51
K. R. Fect	H4-56	B. R. Thomas	R2-76
L. R. Fitch	H5-50	R. R. Thompson	R1-10
M. R. Fox	H4-51	J. E. Thrasher	H4-21
L. A. Garner	H4-50	D. A. Turner	R1-10
C. J. Geier	H4-57	J. E. VanBeek	R1-48
F. T. Green	H4-18	J. L. Waite	H4-52
V. W. Hall	H4-17	D. J. Watson	X0-41
W. F. Heine	R1-15	S. A. Wiegman	H4-50
K. L. Hoewing	B3-06	T. M. Wintczak	H4-17
J. O. Honeyman	R3-63	R. D. Wojtasek	H4-17

M. C. Hughes	R1-15	J. C. Womack	R2-18
G. W. Jackson	R2-29	D. E. Wood	H4-51
J. R. Knight	R2-52	D. D. Wodrich	B2-23
R. H. Koga	B3-07	Central Files	L8-15
M. K. Korenko	L5-56	DOE-RL Reading Room	A1-65
R. J. Landon	H4-50	EDMC (11)	H4-51
J. H. Larue	B2-06	Pub. Services (3)	L8-07

FEDERAL FACILITY AGREEMENT AND CONSENT ORDER

ACTION PLAN WORK SCHEDULE



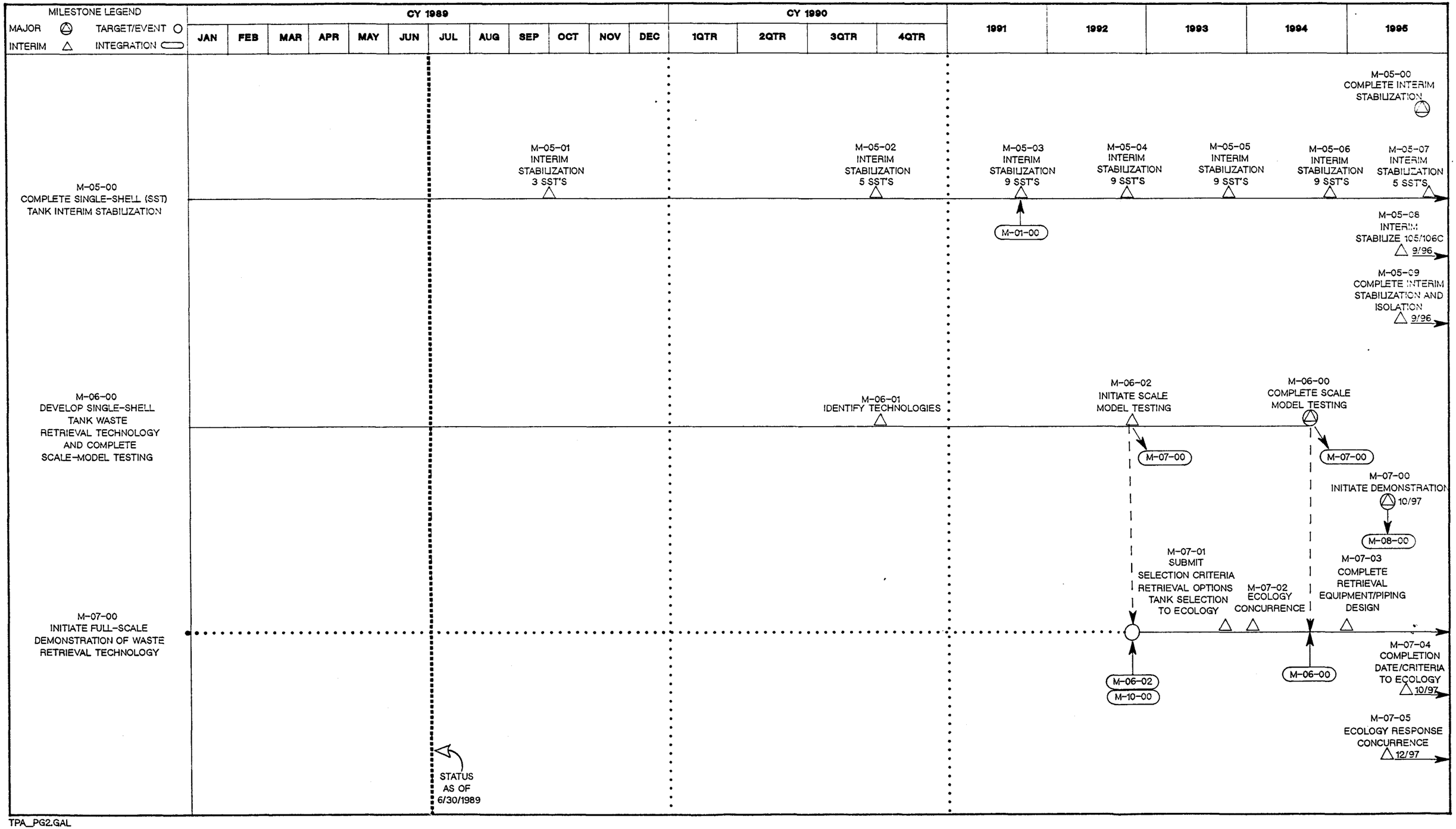
TPA_PG1.GAL

2

FEDERAL FACILITY AGREEMENT AND CONSENT ORDER

DOE/RL 89-13

ACTION PLAN WORK SCHEDULE



TPA_PG2.GAL

FEDERAL FACILITY AGREEMENT AND CONSENT ORDER

ACTION PLAN WORK SCHEDULE

MILESTONE LEGEND
MAJOR ◬ TARGET/EVENT ○
INTERIM △ INTEGRATION ⬭

	CY 1989												CY 1990				1991	1992	1993	1994	1995
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	1QTR	2QTR	3QTR	4QTR					

M-08-00
INITIATE FULL-SCALE TANK FARM CLOSURE DEMONSTRATION PROJECT

M-08-00
INITIATE DEMONSTRATION PROJECT
◬ 6/2004

M-08-01
CRITERIA RATIONALE CLOSURE METHOD, TANK FARM, TO ECOLOGY
△ 1/99

M-08-02
COMPLETE DESIGN
△ 1/2001

M-07-00

M-08-03
CLOSURE PLAN TO ECOLOGY FOR APPROVAL
△ 12/2003

M-09-00
COMPLETE CLOSURE OF ALL 149 SINGLE-SHELL TANKS

M-09-00
COMPLETE CLOSURE ALL SST'S
◬ 6/2018

M-09-01
ISSUE DRAFT SUPPLEMENTAL EIS
△ 6/2002

M-09-02
CLOSURE PLAN TO ECOLOGY FOR APPROVAL
△ 12/2003

M-08-00
M-20-03

M-10-00
COMPLETE ANALYSES OF AT LEAST TWO COMPLETE CORE SAMPLES FROM EACH SINGLE-SHELL TANK

M-10-01
DRAFT WASTE SAMPLING ANALYSIS PLAN TO ECOLOGY / EPA / NAS

M-10-02
SUBMIT WASTE SAMPLING AND ANALYSIS PLAN TO ECOLOGY FOR APPROVAL

M-10-03
OBTAIN 15 CORE SAMPLES FROM 2 TANKS

M-10-04
OBTAIN 12 CORE SAMPLES FROM 6 TANKS

M-10-05
OBTAIN 20 CORE SAMPLES FROM 10 TANKS

M-10-06
OBTAIN 20 CORE SAMPLES FROM 10 TANKS

M-10-07
OBTAIN 22 CORE SAMPLES FROM 11 TANKS

M-10-08
OBTAIN 44 CORE SAMPLES FROM 22 TANKS

M-10-09
OBTAIN 44 CORE SAMPLES FROM 22 TANKS

M-10-00
COMPLETE ANALYSIS OF 2 CORES/TANK
◬ 9/98

M-07-00

M-10-10
OBTAIN 44 CORE SAMPLES FROM 22 TANKS
△ 9/96

M-10-11
OBTAIN 44 CORE SAMPLES FROM 22 TANKS
△ 9/97

M-10-12
OBTAIN 44 CORE SAMPLES FROM 22 TANKS
△ 9/98

M-11-00
COMPLETE CONSTRUCTION & INITIATE OPERATIONS OF EXPANDED LABORATORY HOT CELLS FOR HIGH-LEVEL RADIOACTIVE MIXED WASTE

M-11-01
COMPLETE CONCEPTUAL DESIGN

STATUS AS OF 06/30/1989

M-11-02
COMPLETE DEFINITIVE DESIGN

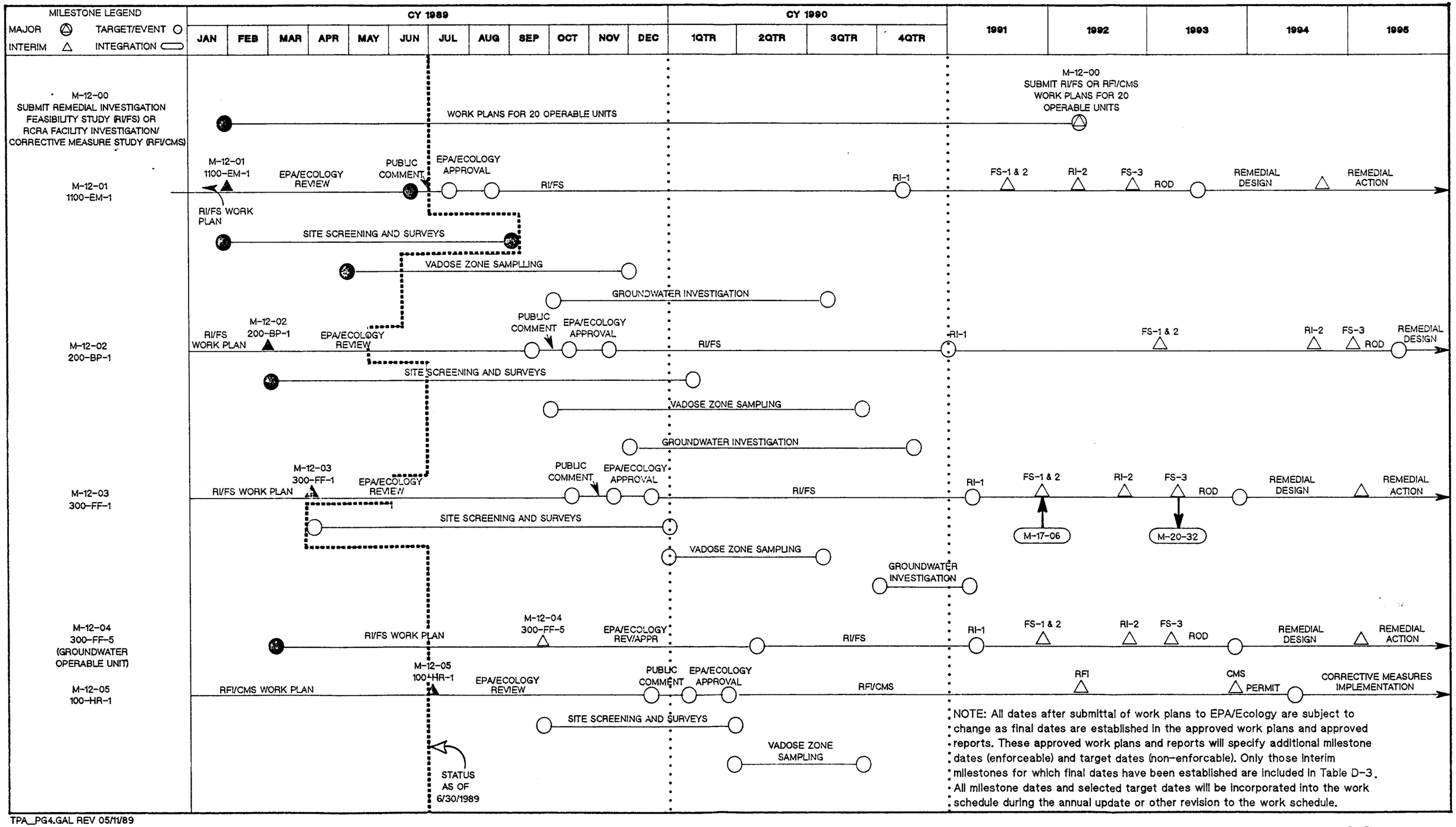
M-11-00
COMPLETE HOT CELL EXPANSION

M-10-00

TPA_PG3.GAL

FEDERAL FACILITY AGREEMENT AND CONSENT ORDER

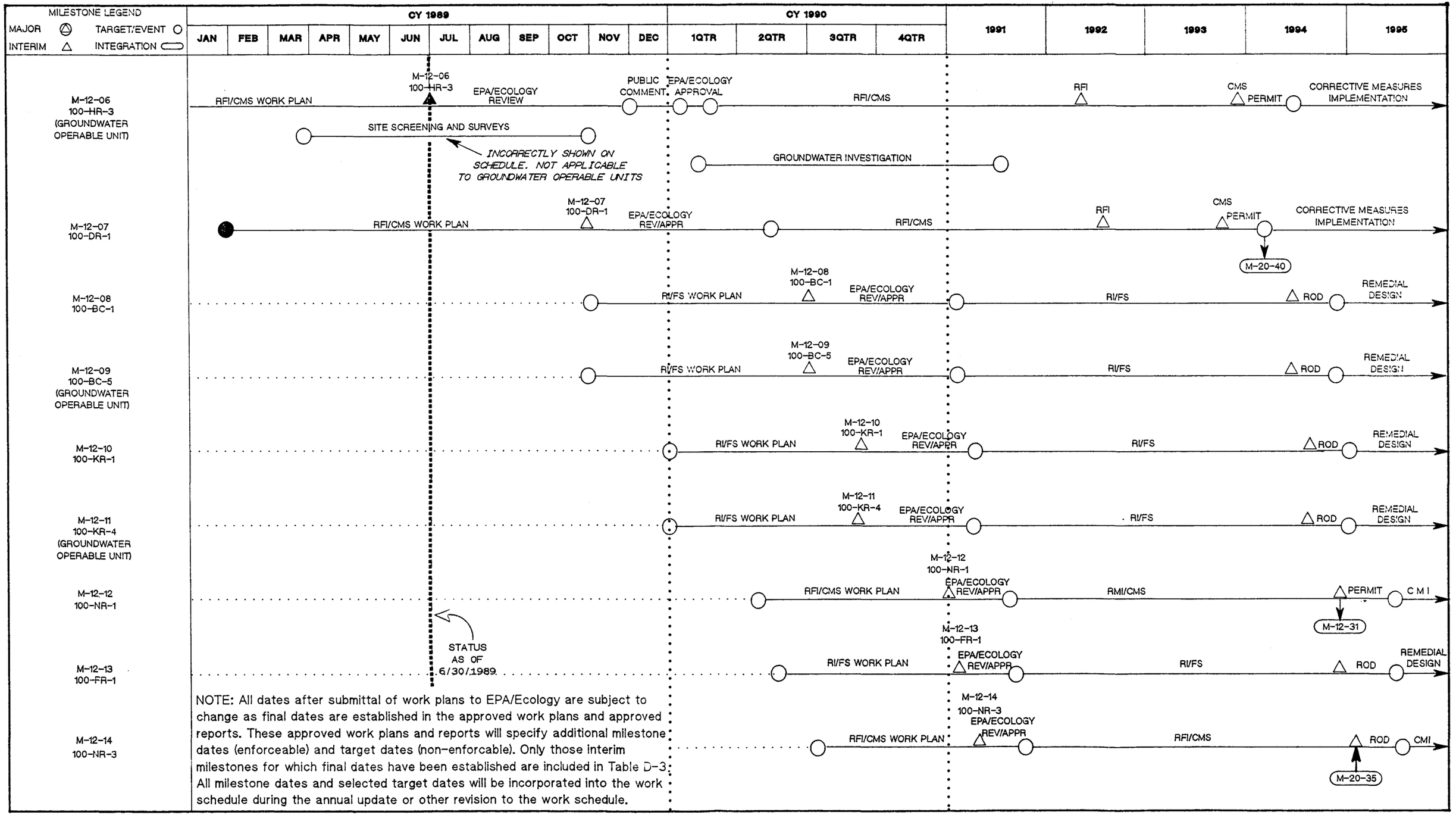
ACTION PLAN WORK SCHEDULE



TPA_PG4.GAL REV 05/11/89

FEDERAL FACILITY AGREEMENT AND CONSENT ORDER

ACTION PLAN WORK SCHEDULE



NOTE: All dates after submittal of work plans to EPA/Ecology are subject to change as final dates are established in the approved work plans and approved reports. These approved work plans and reports will specify additional milestone dates (enforceable) and target dates (non-enforcable). Only those interim milestones for which final dates have been established are included in Table D-3. All milestone dates and selected target dates will be incorporated into the work schedule during the annual update or other revision to the work schedule.

TPA_PG5.GAL REV 05/11/89

FEDERAL FACILITY AGREEMENT AND CONSENT ORDER

ACTION PLAN WORK SCHEDULE

MILESTONE LEGEND
MAJOR △ TARGET/EVENT ○
INTERIM △ INTEGRATION ⬭

CY 1989: JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC
CY 1990: 1QTR | 2QTR | 3QTR | 4QTR
1991 | 1992 | 1993 | 1994 | 1995

M-12-15 200-UP-2
RI/FS WP — EPA/ECOLOGY REV/APPR — RI/FS — ROD — REMEDIAL DESIGN
M-20-37

M-12-16 100-BC-2
RI/FS WP — EPA/ECOLOGY REV/APPR — RI/FS — ROD

M-12-17 200-BP-5
RI/FS WP — EPA/ECOLOGY REV/APPR — RI/FS — ROD

M-12-18 100-DR-2
RFI/CMS WP — EPA/ECOLOGY REV/APPR — RFI/CMS — ROD

M-12-19 200-ZP-1
RI/FS WP — EPA/ECOLOGY REV/APPR — RI/FS

M-12-20 100-KR-2
RI/FS WP — EPA/ECOLOGY REV/APPR — RI/FS

M-13-00 SUBMIT SIX RI/FS OR RFI/CMS WORK PLANS PER YEAR
M-13-00 ANNUAL WORK PLAN SUBMITTAL
6 WORK PLANS SUBMITTED | 6 WORK PLANS SUBMITTED | 6 WORK PLANS SUBMITTED | 6 WORK PLANS SUBMITTED

M-14-00 COMPLETE CONSTRUCTION AND INITIATE OPERATIONS OF A LOW-LEVEL MIXED WASTE LABORATORY
M-14-01 COMPLETE DEFINITIVE DESIGN
M-14-00 COMPLETE CONSTRUCTION AND INITIATE OPERATIONS

M-15-00 COMPLETE RI/FS OR RFI/CMS PROCESS FOR ALL OPERABLE UNITS
M-15-00 COMPLETE RI/FS OR RFI/CMS PROCESS FOR ALL OPERABLE UNITS DEC. 2005

M-16-00 COMPLETE REMEDIAL ACTIONS FOR ALL OPERABLE UNITS
M-16-00 COMPLETE REMEDIAL ACTIONS FOR ALL OPERABLE DEC. 2018

NOTE: All dates after submittal of work plans to EPA/Ecology are subject to change as final dates are established in the approved work plans and approved reports. These approved work plans and reports will specify additional milestone dates (enforceable) and target dates (non-enforcable). Only those interim milestones for which final dates have been established are included in Table D-3. All milestone dates and selected target dates will be incorporated into the work schedule during the annual update or other revision to the work schedule.

STATUS AS OF 6/30/1989

TPA_PG6.GAL

FEDERAL FACILITY AGREEMENT AND CONSENT ORDER

ACTION PLAN WORK SCHEDULE

MILESTONE LEGEND
MAJOR △ TARGET/EVENT ○
INTERIM △ INTEGRATION ⊂⊃

	CY 1989												CY 1990				1991	1992	1993	1994	1995
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	1QTR	2QTR	3QTR	4QTR					

M-17-00
COMPLETE LIQUID EFFLUENT TREATMENT FACILITIES/UPGRADES FOR ALL PHASE I STREAMS

M-17-00
COMPLETE LIQUID EFFLUENT TREATMENT FACILITIES/ UPGRADES FOR PHASE I STREAMS △

M-17-10
CEASE ALL LIQUID DISCHARGES TO HAZARDOUS LAND DISPOSAL UNITS △

M-12-00

NOTE: ERRONEOUSLY SHOWN TO BE COMPLETED IN CY 1990 INSTEAD OF 1989. DEFINITIVE DESIGN WILL STILL COMMENCE BEGINNING OF CY 1991

PUREX

M-17-02
PUREX AMMONIA SCRUBBER DISTILLATE TREATMENT SYSTEM

FDC ● — CONCEPTUAL DESIGN REPORT (CDR) — ○ DEFINITIVE DESIGN — ○ — CONSTRUCTION AND STARTUP △

M-17-02
COMPLETE PUREX AMMONIA SCRUBBER DISTILLATE TREATMENT SYSTEM

PUREX PROCESS CONDENSATE

FDC ● — CONCEPTUAL DESIGN REPORT (CDR) — ○ DEFINITIVE DESIGN — ○ — CONSTRUCTION AND STARTUP ○

M-17-03
COMPLETE PUREX DEMINERALIZER REGENERATION NEUTRALIZATION SYSTEMS UPGRADES ▽

M-17-03
PUREX CHEMICAL SEWER

M-17-01
B-POND BY-PASS SYSTEM

CONCEPTUAL DESIGN REPORT (CDR) ● — DEFINITIVE DESIGN — ○ — CONSTRUCTION

M-17-01
COMPLETE B-POND BY-PASS SYSTEM △

M-12-00

PUREX STEAM CONDENSATE

ENGINEERING STUDY ○ — CONCEPTUAL DESIGN REPORT (CDR) ○ — ○ DEFINITIVE DESIGN ○ — CONSTRUCTION AND STARTUP ○

UO_3

UO_3 PLANT PROCESS CONDENSATE

ENGINEERING STUDY ● — CONCEPTUAL DESIGN REPORT (CDR) ○ — CONSTRUCTION AND STARTUP ○

UO_3 PLANT WASTEWATER

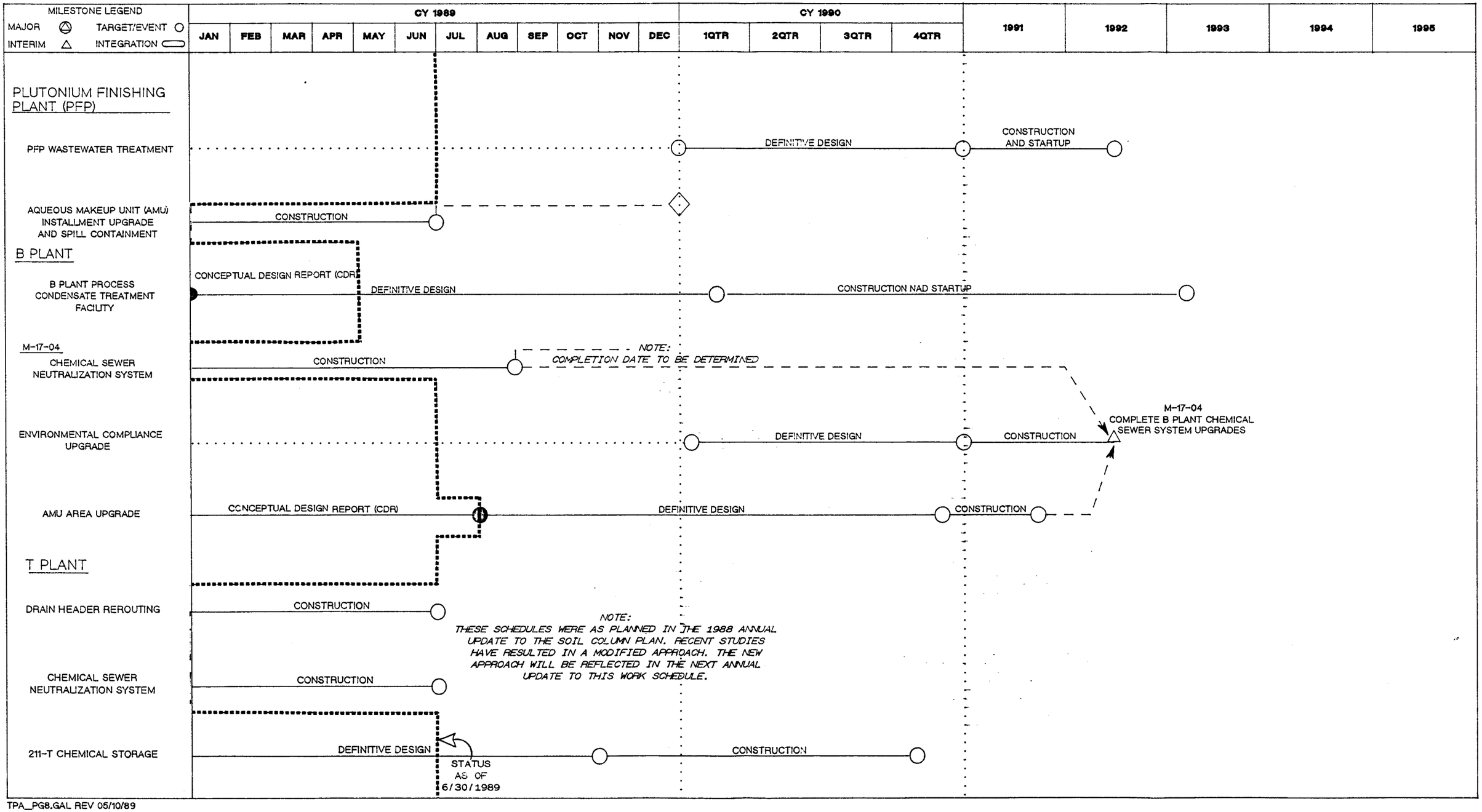
COMPLETE

STATUS AS OF 6/30/1989

TPA_PG7.GAL REV 05/10/89

FEDERAL FACILITY AGREEMENT AND CONSENT ORDER

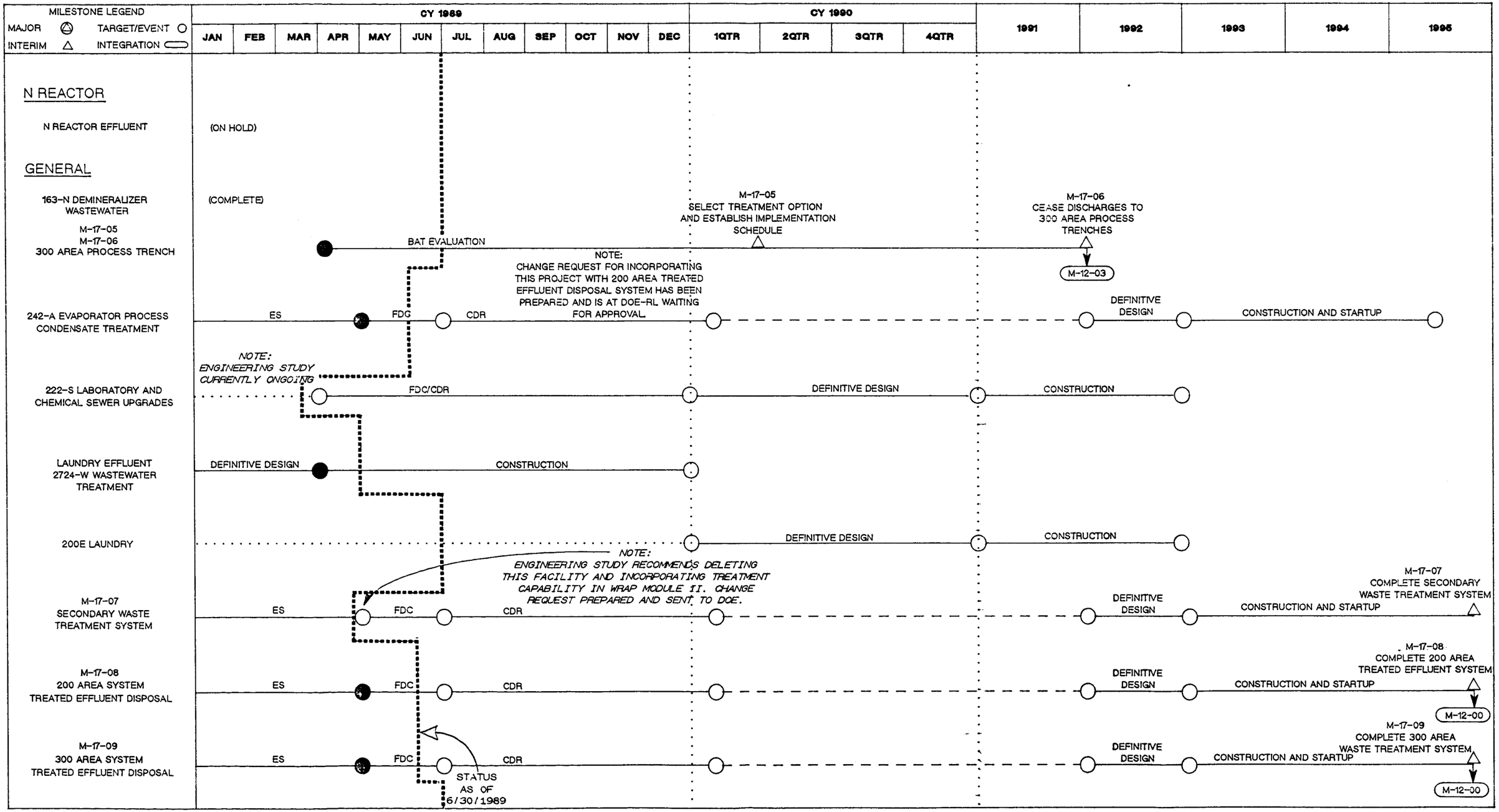
ACTION PLAN WORK SCHEDULE



TPA_PG8.GAL REV 05/10/89

FEDERAL FACILITY AGREEMENT AND CONSENT ORDER

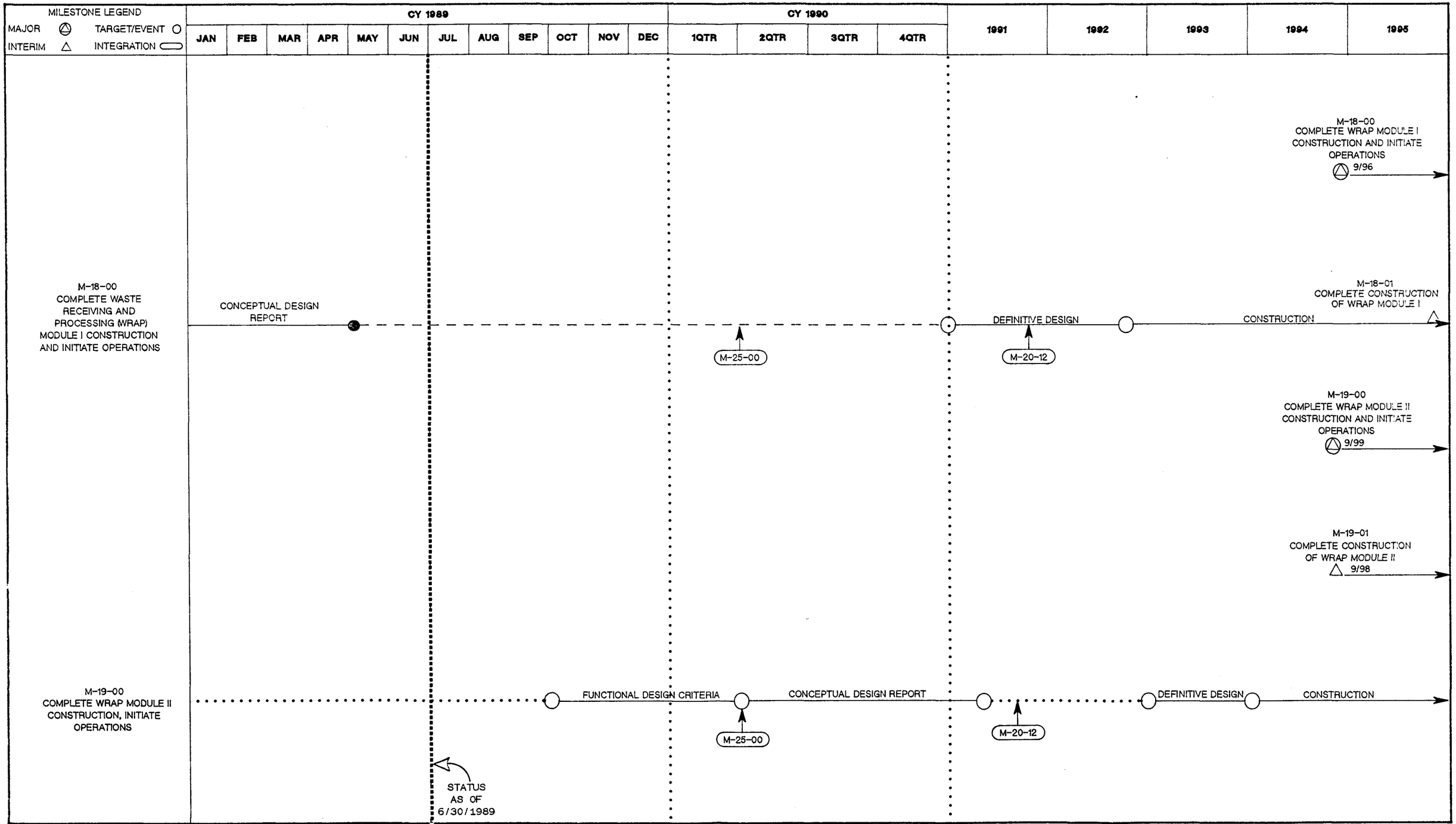
ACTION PLAN WORK SCHEDULE



TPA_PG9.GAL REV 05/10/89

FEDERAL FACILITY AGREEMENT AND CONSENT ORDER

ACTION PLAN WORK SCHEDULE



FEDERAL FACILITY AGREEMENT AND CONSENT ORDER

ACTION PLAN WORK SCHEDULE

MILESTONE LEGEND
MAJOR ◬ TARGET/EVENT ○
INTERIM △ INTEGRATION ⬭

CY 1989												CY 1990				1991	1992	1993	1994	1995
JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	1QTR	2QTR	3QTR	4QTR					

M-20-00
SUBMIT PART B PERMIT APPLICATIONS OR CLOSURE PLANS FOR ALL RCRA TREATMENT, STORAGE OR DISPOSAL (TSD) UNITS

M-20-00
SUBMIT PART B PERMIT APPLICATIONS OR CLOSURE PLANS FOR ALL RCRA TREATMENT, STORAGE OR DISPOSAL (TSD) UNITS
◬ 5/96

M-20-01
SUBMIT HWVP PART B TO ECOLOGY AND EPA

PREPARE PART B — △ ECOLOGY REVIEW — DOE REVISION — ECOLOGY REVIEW — DOE REVIEW — DRAFT PERMIT — PUBLIC REVIEW — ISSUE PERMIT → M-03-01

M-20-02
SUBMIT 616 STORAGE FACILITY PART B TO ECOLOGY AND EPA

PREPARE PART B — △ ECOLOGY REVIEW — DOE REVISION — ECOLOGY REVIEW — DOE REVIEW — DRAFT PERMIT — PUBLIC REVIEW — ISSUE PERMIT

M-20-03
SUBMIT SST SYSTEM CLOSURE/CORRECTION ACTION WORK PLAN TO ECOLOGY AND EPA

PREPARE PLAN — △ ECOLOGY REVIEW — DOE REVISION — 1 2 3 → M-09-00

M-20-04
SUBMIT 2101-M POND CLOSURE PLAN TO ECOLOGY AND EPA

PREPARE PLAN — ◆ — △ ECOLOGY REVIEW — DOE REVISION — 1 2 3

M-20-05
SUBMIT CENTRAL WASTE COMPLEX – RMW STORAGE PART B TO ECOLOGY AND EPA

PREPARE PART B △

M-20-06
SUBMIT LOW-LEVEL BURIAL GROUNDS PART B TO ECOLOGY AND EPA

PREPARE PART B — △ REVIEW AND APPROVAL — PERMIT

M-20-07
SUBMIT NONRADIOACTIVE DANGEROUS WASTE LANDFILL CLOSURE / POST-CLOSURE PLAN TO ECOLOGY AND EPA

PREPARE PLAN △

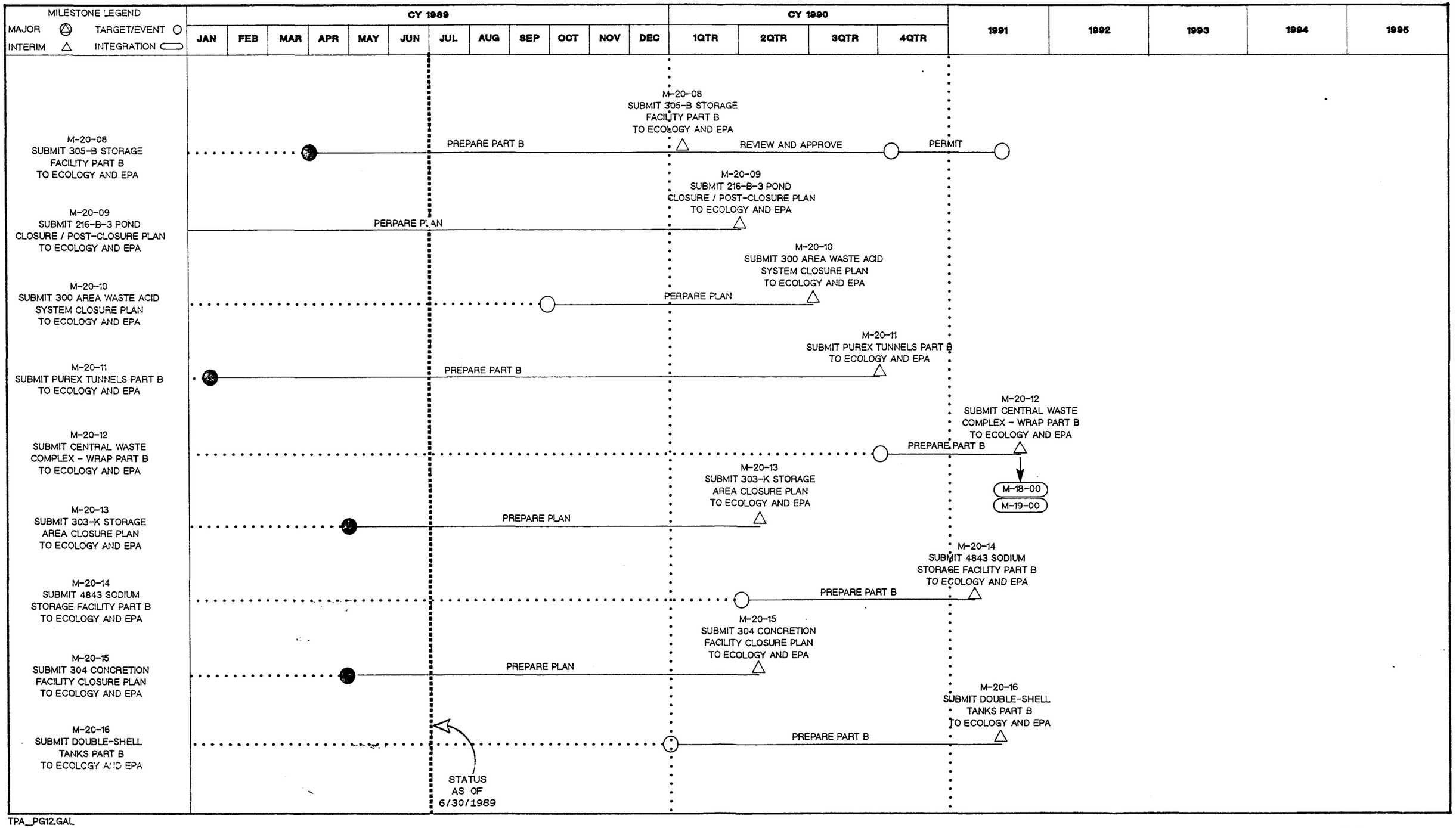
STATUS AS OF 6/30/1989

CODE DEFINITION:
1. ECOLOGY REVIEW
2. DOE REVISION / PUBLIC COMMENT
3. ECOLOGY APPROVAL

TPA_PG11.GAL REV 05/10/89

FEDERAL FACILITY AGREEMENT AND CONSENT ORDER

ACTION PLAN WORK SCHEDULE

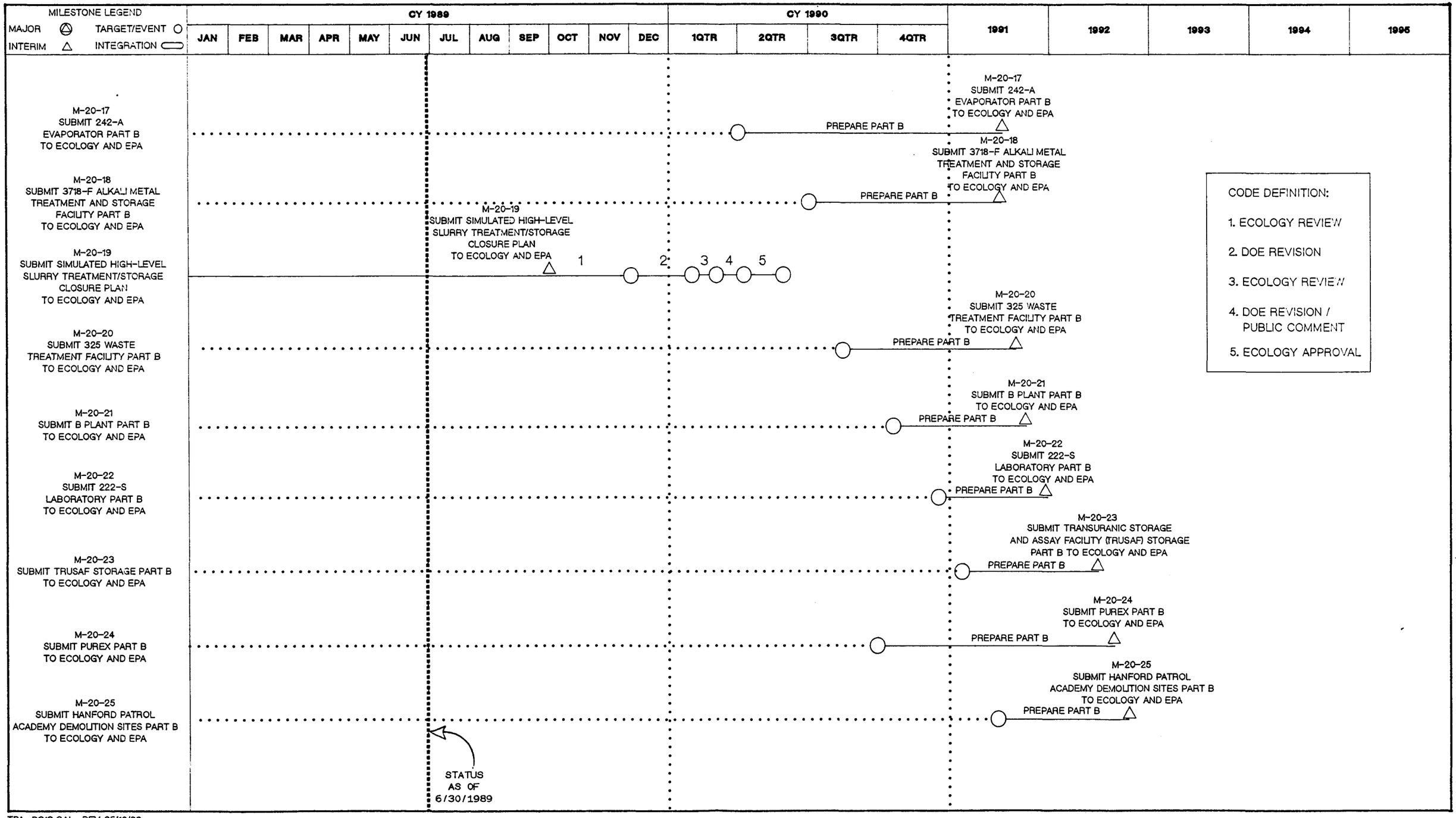


TPA_PG12.GAL

2

FEDERAL FACILITY AGREEMENT AND CONSENT ORDER

ACTION PLAN WORK SCHEDULE



TPA_PG13.GAL REV 05/10/89

FEDERAL FACILITY AGREEMENT AND CONSENT ORDER

ACTION PLAN WORK SCHEDULE

MILESTONE LEGEND
MAJOR ◇ TARGET/EVENT ○
INTERIM △ INTEGRATION ⬭

CY 1989											
JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC

CY 1990			
1QTR	2QTR	3QTR	4QTR

1991	1992	1993	1994	1995

M-20-26
SUBMIT ASHPIT DEMOLITION
SITE CLOSURE PLAN
TO ECOLOGY AND EPA

M-20-27
SUBMIT HEXONE STORAGE
AND TREATMENT CLOSURE PLAN
TO ECOLOGY AND EPA

M-20-28
SUBMIT E-8 BORROW PIT
DEMOLITION SITE CLOSURE PLAN
TO ECOLOGY AND EPA

M-20-29
SUBMIT MASF PART B
TO ECOLOGY AND EPA

M-20-30
SUBMIT 303-M OXIDE
FACILITY PART B
TO ECOLOGY AND EPA

M-20-31
SUBMIT 1301-N/1325-N
CLOSURE PLAN / POST CLOSURE PLAN
TO ECOLOGY LAND EPA

M-20-32
SUBMIT 300 AREA PROCESS
TRENCHES CLOSURE /
POST CLOSURE PLAN
TO ECOLOGY AND EPA

M-20-33
SUBMIT 216-A-10 CRIB
CLOSURE / POST CLOSURE PLAN
TO ECOLOGY AND EPA

M-20-34
SUBMIT 216-A-36B CRIB
CLOSURE / POST-CLOSURE PLAN
TO ECOLOGY AND EPA

STATUS
AS OF
6/30/1989

M-12-03

M-12-12

3/96

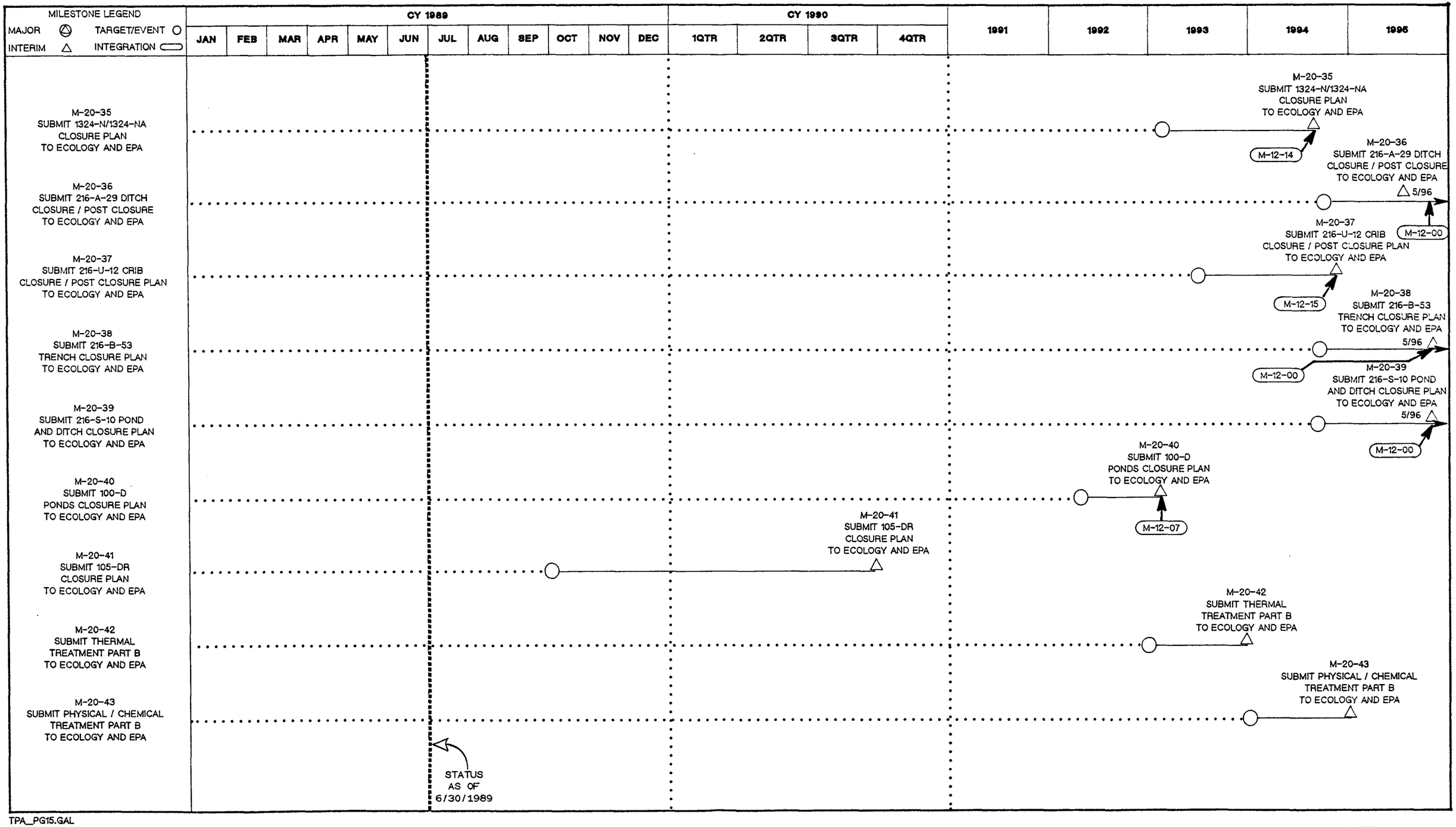
3/96

TPA_PG14.GAL

2

FEDERAL FACILITY AGREEMENT AND CONSENT ORDER

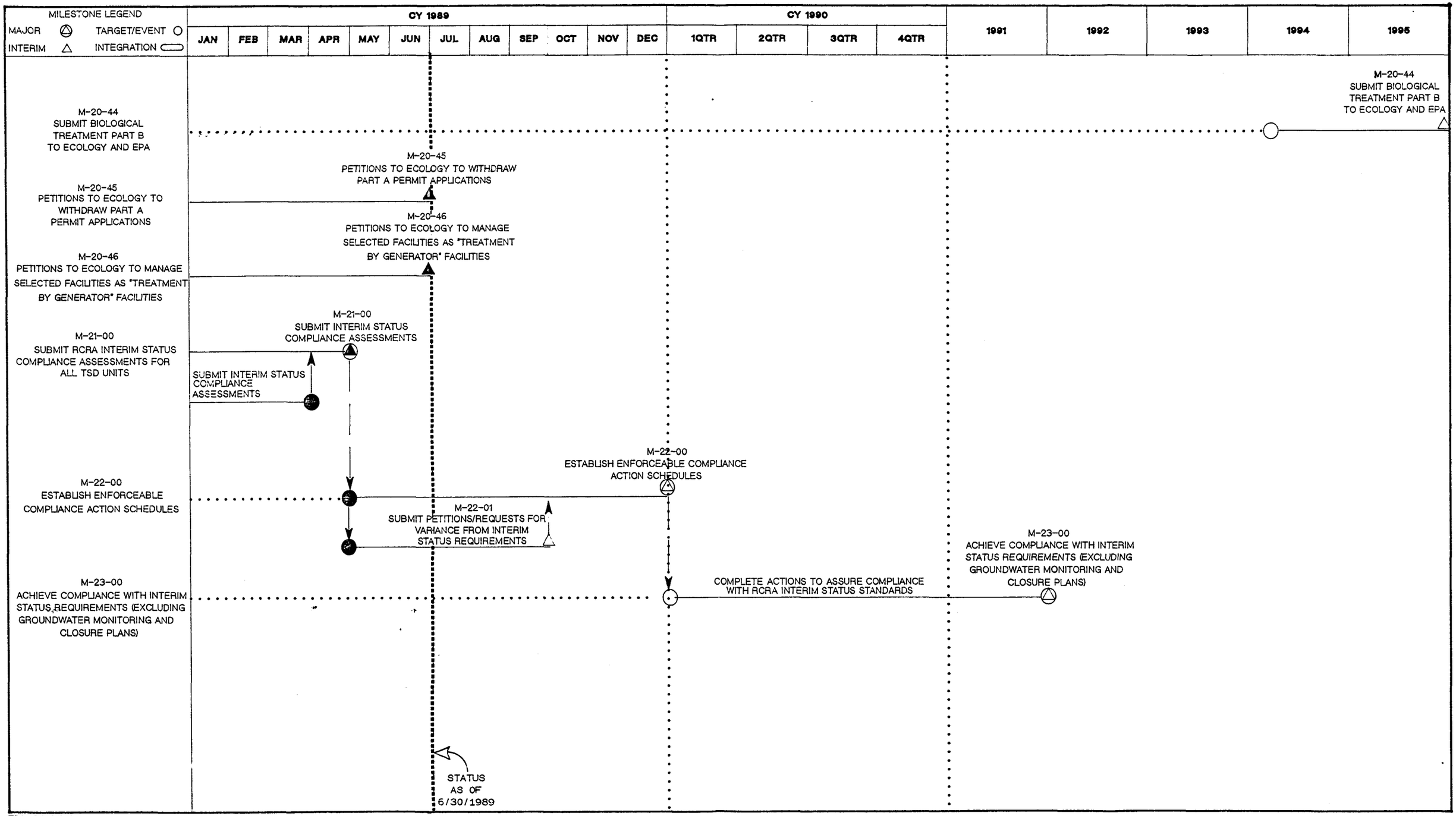
ACTION PLAN WORK SCHEDULE



TPA_PG15.GAL

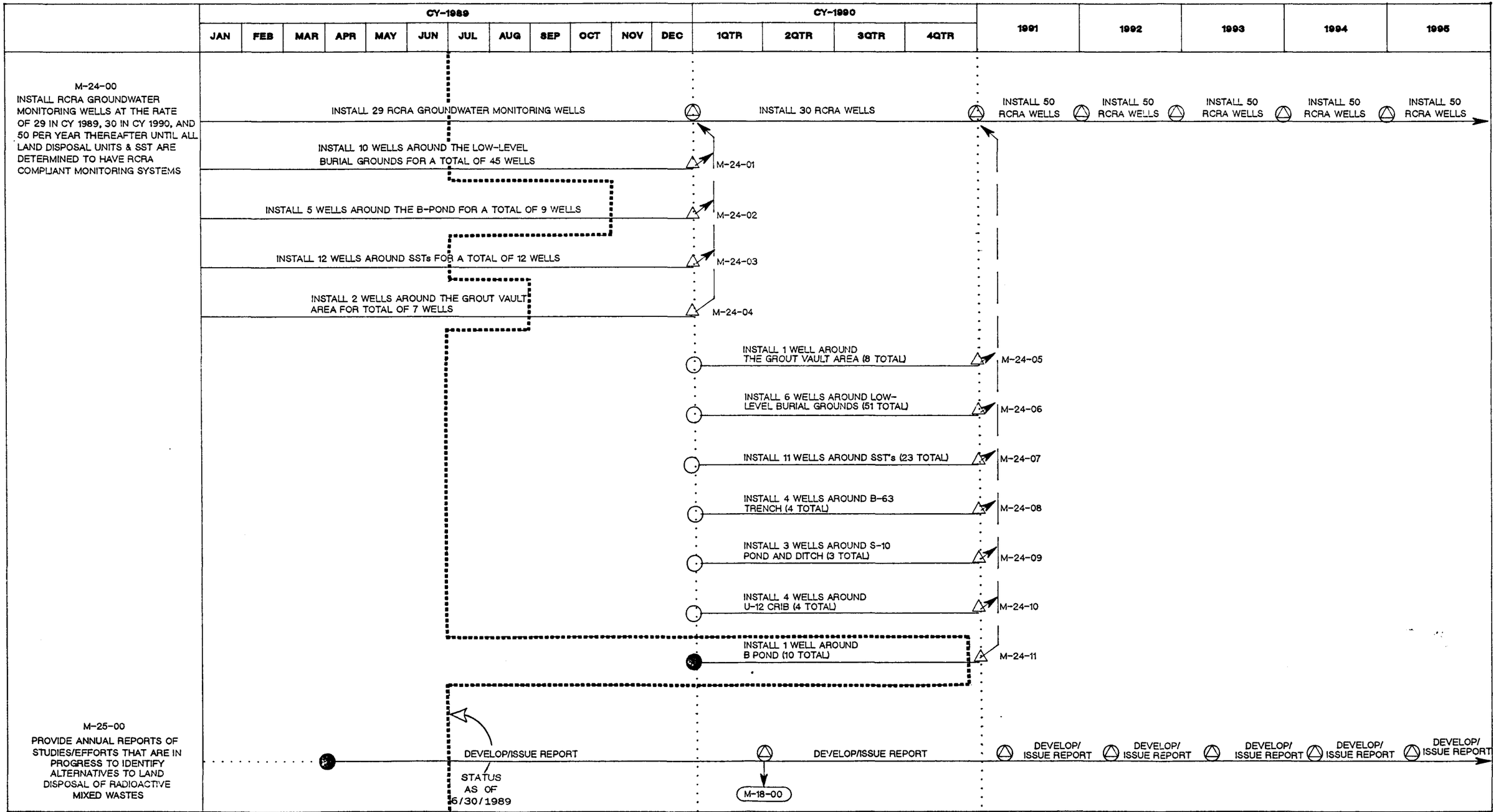
FEDERAL FACILITY AGREEMENT AND CONSENT ORDER

ACTION PLAN WORK SCHEDULE



TPA_PG16.GAL

FEDERAL FACILITY AGREEMENT AND CONSENT ORDER
ACTION PLAN WORK SCHEDULE



TPA_PG17.GAL