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MARTIN MARIETTA ENERGY SYSTEMS

ENVIRONMENTAL MANAGEMENT PLAN

FY 1985 - 1989

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Prepared by

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Environment, Safety and Health

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Operated by
Martin Marietta Energy Systems, Inc.
for the
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*Now with The MAXIMA Corporation.

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EXECUTIVE SUMMARY

In response to recommendations made at the Congressional hearing in Oak Ridge, Tennessee, on July 11, 1983,* an Environmental Program Management Plan was prepared early in 1984 ["Department of Energy Environmental Management Plan for Oak Ridge Reservation," dated February 29, 1984, prepared under the direction of J. La Grone, Manager of Oak Ridge Operations (ORO), U.S. Department of Energy (DOE)]. Environmental plans prepared previously by the individual installations provided considerable data for the ORO document.

This plan, an outgrowth of the February 29 document, contains the most recent revisions (as of April 1, 1985) identifying and resolving environmental problems during the next five years at the four installations managed for DOE by Martin Marietta Energy Systems, Inc. (Energy Systems). These installations are

- Oak Ridge National Laboratory (ORNL),
- Oak Ridge Gaseous Diffusion Plant (ORGDP),
- Oak Ridge Y-12 Plant (Y-12),
- Paducah Gaseous Diffusion Plant (PGDP).

* Subcommittee on Research and Production and Subcommittee on Investigation and Oversite, "The Extent and Impact of Mercury Releases and Other Pollutants at the Department of Energy's Oak Ridge Complex at Oak Ridge, Tennessee," Congressional Hearing July 11, 1983.

Considerable changes in programs, laws and regulations, and attitude have taken place in 1984. The self-regulating position of DOE (for radioactive and "mixed" wastes) has been severely modified by a variety of actions including the formulated and still-under-discussion DOE/Environmental Protection Agency (EPA) Memorandum of Understanding (MOU), a major court decision, revision to federal environmental laws and pending regulations. There is every reason to believe that practices used in the past will not suffice for the future. The Draft Environmental Impact Statement (DEIS) for the Central Waste Disposal Facility (CWDF) received unfavorable comments from the regulatory agencies. Low levels of radioactive contamination were found in two test wells around the hydrofracture facility, and the future of this disposal concept is now being questioned. Although the proposed EPA regulation for limiting exposure to ionizing radiation has been strongly revised, there are indications that the new and more livable regulations will be tested in court by several environmental groups. Major amendments have recently been made to the Resource Conservation and Recovery Act (RCRA), and the impact will likely be significant on some of our operations. Such types of changes will continue in the foreseeable future; the realization of the dynamic nature of the regulations and laws became widespread in 1984.

The realization of the magnitude of the environmental challenges facing us also spread in 1984. Large funds are necessary just to remedy the pollution of the past. It is also becoming apparent that historical differences between low-level radioactive wastes, hazardous wastes, and

mixed wastes are beginning to disappear. It is becoming increasingly obvious that the regulators' environment is not static; the characteristic time scales are on the order of a few years and may be less than the time scale for funding requests.

With these changes it is not surprising that the three major assumptions identified in the February 29 report are no longer accurate. Consequently, this report is different from past reports.

The addition of PGDP, in an abbreviated form, to this consolidated plan is one of the major differences. Further, in contrast to other plans, the present document is not an exhaustive catalogue of environmental programs for which funds will be or have been requested, carefully arranged by funding sources, funding types, and year of request. Because the purpose of the present plan is to be a contribution in the development of strategies of funding, assuming economical solutions to the environmental problems of these installations, the thrust is to categorize the environmental challenges by the nature of the challenge. Therefore, the challenges are identified by categories; incidentally, the same broad categories used in the February 29 report. These categories are (1) radioactive waste, (2) hazardous waste, (3) co-contaminated waste (hazardous and radioactive contaminated), (4) conventional waste, (5) monitoring, and (6) remedial actions and decommissioning. The first five of these deal with current waste management practices while the sixth is related to past practices. The distinction between the first three is rapidly

disappearing. In fact, the categorization scheme is being extensively reviewed within Energy Systems and with DOE. Future versions of this plan, and the detailed long-range planning document developed for each installation, may have a different, but consistent categorization. In general, resolutions to environmental problems associated with current waste management practices can sometimes be planned and scheduled. Problems associated with past waste management practices, on the other hand, are more difficult to define and resolve, are dependent on extensive field testing and monitoring to determine bounds, and may also require research, development, and demonstration (RD&D) to identify appropriate solutions.

Each of these categories is further differentiated into subcategories, such as emissions from steam boilers in the category of conventional wastes. Only then are the various actions planned at various installations identified. Furthermore, weaknesses in these planned actions are mentioned. Major weaknesses or concerns in these programs include:

- revision of the CWDF program, the recently proposed hazardous waste disposal facility (HWDF), and all of the associated waste management systems (the revised CWDF effort has been initiated to broaden and include major alternate options);

- uncertainty in the status of past disposal sites [Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) versus RCRA regulatory responsibilities] and uncertainties in the likelihood (or even meaning) to "delist" even with waste stabilization (teams to evaluate the impact, formulate strategies, and keep track of the rapidly changing situations are now in place and functioning);

- required or suitable remedial actions in the White Oak watershed, the Bear Creek watershed (including the S-3 ponds), and the East Fork Poplar Creek areas. (See above for actions and plans.)

One of the basic thoughts of this report - the identification of weaknesses and deficiencies - is continuing by the examination of specific program areas. Problems, or challenges, that encompass multiple areas have been identified and are discussed. The principle generic problem areas are the following:

- Funding Practices. The funding process for environmental problems has been too slow to keep up with regulatory changes, is inflexible (resulting in non-state-of-the-art technologies or adherence to obsolete requirements), has risks (any one of a plethora of agencies can veto), and is diffuse (combining projects is difficult, even if money would be saved). The existence of different funding sources and budget categories makes trade-offs between operational costs and initial costs

difficult and certainly obscures the objective of minimizing total costs.

- Insufficient Centralization. In some instances similar deficiencies or future needs exist at more than one installation. The timely and cost-effective solution to a particular problem may involve the use of a common facility (e.g., one sanitary landfill to serve the Oak Ridge installations). Similarly, experience in solving past problems can be shared among the installations. Thus, the strengthening of a centralized approach in reviewing the strategy to be used in achieving environmental compliance will make better use of resources and existing information. All of these advantages are recognized; it is our plan to further centralization by uncovering major opportunities and removing any blocks. Major blocks to centralization are the funding methods including the "different colors" of money; as mentioned, an effort to overcome these funding blocks is under way. Jurisdiction problems also exist.

- Prioritization. It is clear that sufficient resources for the environmental challenges are unavailable at any given moment. Several prioritization methods were started in 1984; these should be refined, expanded, and used in the future. How the various sources of DOE resources are to be utilized is unclear. Risk assessment techniques suitable for environmental programs must be developed and made credible. Criteria for optimization programs,

techniques for evaluating the interaction impact of the program, and the methodology to allow shades of gray insofar as regulatory compliance is concerned must be developed. In other words, in the presence of uncertainty we must develop credible and usable metrics for evaluating both long- and short-range programs.

- Jurisdiction and Judicial Disputations. This type of annoyance has been a problem in the past and will become a greater challenge in the future as DOE becomes less self-regulating and as the EPA, following Congressional mandates, continues to divest itself of primary responsibilities for existing programs. A variety of intervenors - both in the Oak Ridge area and in other DOE operations - can be expected to foment lawsuits that may abruptly reverse current practices or even result in new laws. There are reasons to believe that the recent Union Carbide accident in India will result in new regulations or laws; how they will impact DOE is not clear. Because uncertainties and interregulatory agency conflicts are inevitable, we have to find methods of neutralizing the perturbation and also of building flexibility in the programs to be able to properly address changes as they occur.

Funding requirements for the environmental programs have been identified in this report. Consistent with the practices of the past, these funds do not include those required for operation of the various

facilities and programs. This is an area which will be addressed in great detail in future reports.

The minimum funding required from 1985 through 1989 is about $513 million, as shown in Table 1.1. This level of funding does not include funding for research and development programs and engineering expense studies normally required for capital projects. Some activities, such as certain CERCLA (or RCRA) remedial action for watersheds involving the Y-12 Plant cannot be accurately defined at this moment for inclusion in the fund requests.

Table 1.1 Total funding

Installation		Budget authorization (millions of dollars) 1985	1986	1987	1988	1989	Total funding
Y-12	1985 Plan	44	47	33	10	8	142
ORNL	1985 Plan	16	67	56	101	88	328
ORGDP	1985 Plan	17	18	6	<1	0	41
Total Oak Ridge Plan		77	132	95	111	96	511
PGDP	1985 Plan	<1	1	<1	0	0	2
Total Plan for 1985		78	133	95	111	96	513

As in previous reports, such activities are described as To Be Determined (TBD) and the funding (actually undetermined funding) is shown as zero. Scoping studies for these cases have been identified and included in the costs.

The funding needs, as described in Table 1.1, can also be broken down by waste categories as shown in Table 1.2.

Table 1.2 Funding projection by waste category
FY 1985-1989, total funding $512.9 million

Waste category	Funding x 10^6	% of total
Radioactive waste	$ 99.4	19.4
Hazardous waste	$ 67.1	13.1
Co-contaminated waste	$ 51.0	9.9
Conventional waste	$ 57.5	10.0
Monitoring	$ 36.9	36.9
Remedial action and decommissioning	$207.0	40.4
	$512.9	100.0

Aside from these waste categories, the total funding level can also be broken down to the statutory requirements as shown in Table 1.3.

Table 1.3 Current funding distribution by statutory requirements FY 1985-1989, total funding $512.9 million

Statutory requirement	Funding $ x 10^6	% of total
Clean Air Act (CAA)	24.8	4.8
Clean Water Act (CWA)	139.0	27.1
Resource Conservation and Recovery Act (RCRA)	158.8	31.0
Comprehensive Environmental Response Compensation, Liability Act (CERCLA)	13.9	2.7
Toxic Substances Control Act (TSCA)	33.6	6.6
National Environmental Policy Act (NEPA) and Decontamination and Decommissioning	73.8	14.4
DOE Orders/AEA	63.6	12.4
	512.9	100.0

The major programs (arbitrarily selected at more than $20 x 10^6) in these funding requests are the following.

	Cost (10^6)	Funding (FY)
Process Ponds Remedial Actions for ORNL Ponds	57.1	85-91 exp
Stabilization/Cleanup of White Oak Lake	62.7	87-91 exp
Replacement of LLW System Phases I and II	48.0	88, 89 LI
Compliance with TSCA Phases I and II	37.9	83, Future LI
Spill Site Remedial Action	26.6	85-91 exp
Upgrade Process Waste System, ORNL	26.2	85-91 exp
Improve Management of Hazardous and Toxic Materials, ORNL	36.3	85-91 exp
Nonradiological Wastewater Treatment, ORNL	23.0	86 LI

There are potentially major projects for which the costs are carried as zero (i.e., TBD). These include the following:

- four remedial decommissioning projects for ORGDP;
- National Pollutant Discharge Elimination System (NPDES) permit programs and facilities for PGDP;
- decommissioning for Alpha-4;
- CERCLA/RCRA action at Y-12, including New Hope Pond, S-3, East Fork Poplar Creek, and Bear Creek Watershed, and
- polychlorinated biphenyl (PCB) and lithium hydroxide containment at ORGDP.

It must be emphasized that there is reason to suppose that major funding requests beyond FY 1989 will be necessary to continue the cleanup programs that will have been identified or started. There is also reason to believe that considerable funds should be spent now on appropriate R&D activities in order to develop the technologies that will be necessary as cost-effective in the future. These R&D activities are related to both current and past practices. Those associated with current practices will focus on development and demonstration to resolve the problems associated with current practices while additional research will be required to resolve those associated with past practices. Remedial action and decommissioning are not routine and must be considered case by case.

This is a description of the status as of spring 1985. In the near future, there will be changes in the status, as well as in the appreciation of the problems. This plan, therefore, has to be a living document. It will change and reproduce. Already, Y-12 has produced an environmental plan; both consistent with, as well as an extension of, this report. It is expected that this type of report will be required to be prepared by most of the DOE controlled installations, and that the Y-12 staff effort represents a DOE first for Energy Systems.

1. INTRODUCTION

This report has been prepared by Martin Marietta Energy Systems, Inc.* Environment, Safety, and Health (ESH) with input from each of the four installations on plans for managing the environmental problems. The report covers only the next five years and thus cannot provide total solutions to all past, present, or future problems in this time period. Not all past problems will be resolved; in this time period, new concerns (such as unanticipated problems or new requirements) will arise; and many other changes (such as the mission for the installations) and the impact of constraints (such as funding) will modify the explicit components of this or any other plan.

The purpose of this plan, in contrast to that of others that have and may be prepared on this subject, is not to exhaustively catalogue all environmental actions for which funds are requested. At best, this would only be a snapshot of the requests in some arbitrarily chosen time frame. The purpose of this plan is much broader; it is to be a part of the developing strategy of how the environmental problems are to be found, assessed, and solved.

In order to achieve the above stated purpose, it is advisable to break down the different environmental actions into distinct categories. The same breakdown that was used in the Department of Energy, Oak Ridge

* Hereafter referred to as Energy Systems.

Operations report* is used here - namely, radioactive wastes, mixed wastes, hazardous wastes, conventional wastes, monitoring, remedial action and decommissioning. The reason for the choice of this breakdown is that there is logic in these categories (even though the distinction between some of these, such as the first three, is disappearing) and that there is a convenience in using historically accepted categories. This categorization scheme is being extensively reviewed within Energy Systems and with DOE and will be changed. Future versions of this plan, and the detailed long-range plans for each installation, will then have a consistent categorization. The Y-12 plan issued in April 1985 developes and uses the new category format.

However, the primary emphasis is on the challenges faced within these categories. Typical challenges include the control of emissions from steam boilers, and compliance with National Pollutant Discharge Elimination System (NPDES) requirements. Some of the challenges are unique to a single installation and some apply to several or even to all of the installations. The distinction of this plan from the previous plans is the focus on the commonality of problems and challenges.

Not all challenges, or problems, are being solved at this moment. Consequently, the aforementioned method of planning - i.e., the listing and summation of all the actions that are being funded or for which funds are being requested - would only obscure, by bulk, major deficiencies. In this plan, both the actions requested or under way, as

* Department of Energy Environment Management Plan for the Oak Ridge Reservation, February 29, 1984.

well as those areas where action plans should be developed or are considered to be insufficient, are mentioned. This includes, for example, the need to define de minimus levels of radioactivity in wastes, the need to alter various waste forms prior to disposal, and the need for waste reduction programs, just to mention a few.

The basic idea continuously identifying weaknesses or deficiencies (i.e., challenges) is, therefore, incorporated in this document. In the examination of these challenges during the past year, certain other challenges have been identified. There are environment-related problems that permeate all of the explicit challenges mentioned earlier. For example, the problems associated with the funding cycles for these projects (inflexible and slower than the requirements of the regulations for which the funds are intended) are described. For some of these generic problems, it is not always possible to suggest feasible solutions that meet the requirements of all interested parties within the time frame and cost constraints. But by this identification and discussion of generic challenges, it may be possible to alleviate problems by new means or by means that are now considered impossible.

This report requires a considerable amount of insight into recent events as well as an appreciation of the objectives and difficulties of present laws and regulations. To assist the reader, the first part of this plan is a brief history of the major environmental occurrences starting in CY 1984. That section is followed by a general discussion of the basic environmental laws (as well as regulations and DOE orders)

to which we are subject. The significant features of and the thrusts and applications to our installations are also discussed as are the uncertainties (in fact, the planned changeability) of these requirements. Further, our approaches to dealing with these issues are described.

After these stages are set, there follows a tabular description of the basic environmental challenges and a brief description of the basic problems and of the actions that are being taken or should be taken. The overall breakdown in categories has been described previously in this section. This material is introduced in a textual form, placing some of these comments in context. A similar discussion of some of the generic problems (also discussed earlier) follows.

The first of these generic problems is funding. In order to assist the reader, the summary tables for the funding schedules are given in Section 5.1. Since this is the first time that the Paducah requirements are being identified, the bulk of the needs for Paducah are still to be determined (i.e., are costed at zero dollars). The funding schedules are followed by a discussion of the problems inherent in the present funding methods and thereby a discussion of the operating costs (traditionally not included in the funding requests). Generic challenges associated with permitting are then discussed.

In all of these discussions of generic challenges, overall plans are presented as to how the problems could be alleviated.

2. HISTORY

In order to put the suggested plans, as well as some of the problems we are attempting to solve, in perspective, it is advisable to examine the history of the Oak Ridge installations. Events prior to CY 1984 have been described, in various degrees of detail, in a variety of publications. For the sake of brevity, description of these events will not be repeated here; it is assumed that the reader is familiar with them.

However, the major events (as they influence the environmental plan) that have occurred since the start of CY 1984 are mentioned here in order to try to impose some order on the turbulence of current events.

In CY 1984, certain pertinent administrative events took place. The old contractor, Union Carbide Corporation Nuclear Division (UCC-ND), was replaced on April 1, 1984, by a new one, Martin Marietta Energy Systems, Inc. As a part of this change, Energy Systems Environment, Safety, and Health (ESH), reporting to the president of Energy Systems, was established.

Understandings have been reached between DOE-ORO and Energy Systems as to the roles that each group has with respect to environmental activities. First, an agreement (dated March 30, 1984) was signed by Joe La Grone (DOE-ORO) and Ken Jarmolow (Energy Systems) that covered the basic approach. A letter (dated April 5, 1984) was sent from

Werner Furth (Energy Systems) to William Kaspar (DOE-ORO) in which more detailed steps were outlined, consistent with the basic approach. The ideas and provisions in those two documents are being carried out. For examp.e, frank and open meetings between members of ESH and corresponding members of DOE, started in 1984; mutual attendances at a wide variety of meetings - including weekly staff meetings - has begun; and additional working relationships are being established. Modes of interactions with regulatory agencies (DOE, policy; Energy Systems, technical) are being formed.

One of the agreements between DOE and Energy Systems (namely, that DOE would be considered the owner and operator of these facilities insofar as environmental affairs were concerned) has been carried out. A letter from the regional administration of the Environmental Protection Agency (EPA) Region IV that reaffirms this posture has been received.

Beginning in 1984, in order to meet a Congressional Committee's request, environmental management plans for the Oak Ridge installations were consolidated. A report, Department of Energy Environmental Management Plan for Oak Ridge Reservation, dated February 29, 1984, was prepared and transmitted by La Grone. In that report, a minimum funding request from 1984 through 1988 of at least $450 million was described. The costs for many of the major cost items, such as the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) site remedial actions for Y-12, were unknown; these were described as "to be

determined" (TBD) in that report and counted as zero dollars. Further work on the environmental funding requests was concluded in 1984. In July, the five-year plan for environmental management at ORNL was updated (ORNL/TM-9200); in this report the funding request for ORNL alone rose to about $400 million (as compared to $160 million in the February 29 report). There is every reason to believe that these requested sums will not fully take care of the past, present, and future environmental problems, and that subsequent plans will update requirements as new information becomes available.

The basic message - that the environmental problems at these facilities will require substantial funds, even if one wishes only to remedy the practices of the past - is now understood. In addition, it is now being realized that the operational costs associated with waste management and environmental cleanup will also be substantial (currently estimated at $40 to 60 million/year) and that major economies in these costs must be achieved. The anticipated increase in these costs (expected, in part, as a result of the prognosis for new and stringent environmental requirements, as well as for the future unacceptability of the standard practices of the past) will enhance the pressures on waste avoidances, on proper waste descriptions, and on volume or weight reductions. These are anticipated changes, brought on in part by movements that were felt in 1984.

There have been considerable changes in 1984 in the attitude toward the requirements of the Resource Conservation and Recovery Act (RCRA).

In January, the attitude was that "DOE was exempt," even though it was known that a lawsuit concerning this claim was to be decided and even though it was also anticipated that the DOE position (which had been "we are exempt but equivalent") might change. Nevertheless, it was lost and changes came.

First, a Memorandum of Understanding (MOU) was signed on February 22, 1984, by DOE and EPA, in which some understandings on implementation of RCRA were documented. These understandings included descriptions of the responsibilities and oversight duties of both Federal agencies and included provisions for the views of the States to be heard by EPA, even though no regulatory authority would be granted to the States.

On April 13, Federal Judge Taylor decided against DOE in the lawsuit brought by Legal Environmental Assistance Foundation (LEAF) as represented by Gary Davis. The Judge ruled that in the absence of convincing arguments to the contrary, RCRA did apply to certain wastes from Y-12. Spurred in part by the court ruling as well as by a continuation of the processes that gave rise to the February 22 MOU, discussions were held in Washington, D.C. between top officials of EPA and DOE to try to determine which of the DOE wastes were excluded from RCRA by the Atomic Energy Act (AEA) and what the roles of the agencies should be in the proper handling of the so-called "mixed" wastes. These discussions started in the late spring of 1984; personnel from DOE-ORO participated. Based upon (tentative) definitions of wastes that would

be excludable from RCRA, the unclassified waste streams from our four installations were described (DOE-ORO, Waste Stream Identification Report: Byproduct Candidate Hazardous, Candidate Radioactive Mixed, November 1984, ORO-851-Draft).

Because both anticipated changes in laws and regulations and all reasonable expectations of the results of the DOE/EPA discussions would result in the loss of the so-called DOE exemptions, steps were taken early in the summer of 1984 to obtain the required RCRA Part B permits for our installations by the end of 1985. Revised RCRA Part A permits were submitted to DOE/EPA/Tennessee Department of Health and Environment (TDHE) in December 1984.

The basic law for RCRA was revised in November 1984. The impact of these revisions will be significant to some operators (primarily the use of underground tanks and the use of hazardous waste disposal facilities) Since new EPA regulations have not as yet been proposed to implement the provisions of the new laws, uncertainties exist as to the potential impact on environmental plans.

Drafts of new EPA proposals on mixed wastes have been reviewed. As before, there is considerable uncertainty as to who will have final jurisdiction over various forms of DOE wastes, and what explicit policies will be pursued.

One thing is clear; changes in RCRA are occurring and will continue to occur. Past practices that were acceptable or were even demanded may

not necessarily be acceptable in the future. Reductions in the amount of wastes generated, as well as more stringent waste classification and segregation, will have to occur in the future. Insofar as RCRA is concerned, the future will be both expensive and uncertain.

Just as the applicability of RCRA to DOE was emphasized in 1984, the application of CERCLA ("Superfund") become evident. Although a formalized DOE Order for compliance with CERCLA is just now being developed, specific actions have already been implemented. The most noteworthy of these is the preparation of a remedial action plan for Bear Creek Drainage Basin, which is due for submission to EPA by midsummer 1985. This plan was initiated under the assumption that the entire Bear Creek Drainage Basin could be considered a single CERCLA site, even though certain areas have served as hazardous waste facilities since November 19, 1980, and could, therefore, theoretically be classified as RCRA sites. A special request for classifying these and other drainage basins as CERCLA sites to allow for more flexibility in the remedial action has been made in writing to EPA, but no official answer has been received; unofficial verbal communications from EPA staff indicate that they may reject this proposal and classify the drainage basin as a RCRA site. This one uncertainty remains the single largest concern for the ORO RCRA/CERCLA program, for if each individual RCRA site must be closed in accordance with the RCRA regulations, much more costly remedial actions may be required with no significant environmental benefit.

Within Energy Systems, a CERCLA task force has been established. This task force, which is composed of representatives from the individual installations under the oversight of the central Office of Permitting and Compliance, ESH, will be developing general and site-specific strategies for dealing with all potential CERCLA sites, a listing of which was transmitted to EPA during 1984. The first effort of the task force will be to establish a prioritized listing of the potential CERCLA sites s that definitive decisions can be made relative to the need for remedial actions. It is now apparent that CERCLA activities will undoubtedly be the most complex and probably the most costly of the environmental activities of the next five years.

Recent changes in attitude concerning acceptable practices are not restricted to RCRA activities. A major blow is being delivered to the past practices for disposal of low-level radioactive wastes. The Draft Environmental Impact Statement (DEIS) on the proposed Central Waste Disposal Facility (CWDF) has received negative reviews from EPA, the Nuclear Regulatory Commission (NRC), and Tennessee Department of Health and Environment (TDHE). The gist of the negative comments centered on the lack of broad alternatives to the proposed approach (i.e., to the shallow land burial with slow drainage, which is the traditional disposal method). This reaction reflects a growing feeling that these practices of the past should be replaced by better methods.

The reconceptualization of the CWDF has begun. The date set for the CWDF to start accepting some of the radioactive wastes (August 1985)

cannot be met. Consequently, various actions must be taken to compensate for this nonavailability. The exact actions will depend upon the as yet not completely decided attitude of the State of Tennessee on cessation of activities in the Bear Creek burial ground, as well as upon the results of the study of the alternatives for the CWDF. It is obvious that perturbations may come in 1985 (ranging from minor ones, such as expanding the interim storage areas, to major perturbation, which cannot be accurately described at this time, but could include construction of new storage facilities).

Another mainstay of our waste-handling systems was also questioned in 1984. The hydrofracture facility at ORNL was used in a different operating mode in 1983. Because of an accelerated schedule, frequent injections were made (13 in 18 months). No provisions were made for allowing bleedback of aqueous solutions, and nonoptimum grout mixtures were possibly used. In the summer of 1984, it was noticed that there were radiation-contaminated waters in a narrow depth range in two of the surrounding test wells. Because this cast doubt upon further use of the hydrofracture technique, an investigation was launched, and the results were fully and objectively discussed with DOE, the National Academy of Sciences (NAS), Congressional aids, and regulatory agencies. Even though no precipitous actions are anticipated, additional tests must be conducted to determine the extent to which the hydrofracture systems can be used in the future.

That decision will be complicated both by a jurisdiction dispute between regulatory agencies (fueled in part by legal uncertainties) and by an anticipation of changes in some of the basic regulations governing underground injections. Draft regulations pertaining to underground injection had been proposed by Tennessee; these drafts would prohibit hydrofractures. Revisions are being made by Tennessee to these draft; these revisions allegedly would permit hydrofractures at Oak Ridge if one can meet certain stringent requirements. However, there are other contemplated changes to Federal regulations which could, again, prohibit underground injection of radioactive wastes. These uncertainties, coupled with the unfortunate groundwater contaminants found in 1984, cast doubt on the future of hydrofracture at these facilities.

Not all changes encountered in 1984 will result in new or expanded programs. In the summer of this year, EPA withdrew its proposed and controversial National Emission Standards for Hazardous Air Pollutants (NESHAP) 10/30 regulation. A revised, reasonable regulation was promalgated early in 1985. This removed the potential need to install expensive best available control technology (BAT) for the over-all control of radionuclides at ORNL and (possibly) at Y-12. Unfortunately, EPA's actions are being challenged in court, and the judicial system may again impose the full weight of the earlier regulations while not permitting any relief based upon actual impacts or realities.

The thrust for centralization, where cost beneficial, was expanded in 1984. Certain wastes, previously disposed of in the S-3 ponds, are

now treated at ORGDP. A common industrial landfill is being developed at Y-12, and will be used by the three Oak Ridge installations. The Y-12 NPDES permit effort is setting the model for ORNL and PGDP permits efforts. A variety of interplant committees are functioning, and their membership is now being augmented by the active participation of representatives from Portsmouth (Goodyear Atomic Corporation [GAT]) and from the Fernald Plant (National Lead Company of Ohio [NLO]).

It is planned that this interplant cooperation will be broadened in the coming years and will include other DOE facilities (such as Savannah River and RMI). During 1984, the magnitude of the environmental challenges at the Oak Ridge installations and laboratory has begun to be seen.

It has also been seen that within Energy Systems there are the skills, imagination, and experience to control, remedy, and manage such problems. This combination of human and technical resources, coupled with serious challenges, may be unique; it can be a basis for demonstration that the environmental challenges can be met.

3. CONSIDERATION OF LAWS AND REGULATIONS

3.1 OVERVIEW

The purpose of this five-year plan is to provide a definitive strategy for ensuring that DOE-ORO facilities, operated by Energy Systems, effect adequate protection of public health and the environment, including compliance with all applicable environmental laws and regulations. The environmental laws that have the greatest impact on Energy Systems operations and which form the primary basis for this plan are the Clean Air Act (CAA); Clean Water Act (CWA); RCRA; CERCLA; and DOE's Radioactive Waste Management Order (DOE Order 5820.2). All of these laws, including their respective goals, objectives, and related Federal and State regulations, have been appropriately factored into the environmental protection plans for each of the installations as well as into this consolidated plan.

Although the national objectives and goals of each of the environmental laws, which have been carefully outlined by Congress, are not likely to change, the means for their implementation very probably will change every few years. In fact, the intent of Congress is to provide, through periodic changes in the laws and their associated regulations, an organized process of evolution from our current levels of public health and environmental protection to those stated as goals in the laws themselves. Therefore, although existing regulations can be and are being used appropriately for the development of near-term environmental protection strategies, the ultimate goals outlined in the

laws and the regulations that are anticipated for meeting these goals must be included in the development of long-term plans. This is not to say that the long-term plans should include exotic, ill-developed technologies that necessarily imply high costs; on the contrary, they must incorporate sufficient development and engineering studies to allow for meeting such goals with reasonable technologies at reasonable costs. Also, and of greater importance, a clear understanding of projected goals and regulations will allow for the incorporation of sufficient flexibility in the near-term plans to minimize future needs for costly retrofits and remedial actions brought about by nearsighted, although currently legal, solutions to today's problems.

Included in the following sections are general discussions of the considerations given to the respective environmental laws in the formulation of this plan, with particular emphasis on uncertainties and probable future changes.

3.2 CLEAN AIR ACT (CAA) STRATEGY

The primary impact of the CAA on Energy Systems operations is the requirement for airborne effluent permits, which are issued by the respective States. Such permits are an integral part of the States' strategies for ensuring that ambient air quality is maintained in accordance with the Act.

In the past, considerable difficulty has been experienced by some of the installations in maintaining up-to-date permits. However, the necessary management systems have been or are in the process of being

implemented to ensure that every new project is reviewed by the appropriate environmental organization and that all permits are obtained as required. The major uncertainty with regard to CAA compliance is the current status of the proposed National Emission Standards for Hazardous Air Pollutants (NESHAP) regulation pertaining to airborne radionuclides. When the last five-year plan was prepared (February 1984), the Environmental Protection Agency (EPA), under court order, was proposing an extremely stringent rule that not only limited off-site radiological doses due to airborne emissions but also required the incorporation of best available technology (BAT) to reduce these doses to a level that could be considered as low as reasonably achievable (ALARA). After several months of review and comment by the public, private industry, technical societies, and DOE, the EPA just recently decided that there is no need to regulate these emissions, primarily because there was no demonstrated adverse impact. However, the EPA was found in contempt of court and ordered to provide a definitive regulation. They subsequently did promulgate a new rule for radionuclides that restricted offsite radiological doses to the general public at levels consistent with other existing radiological standards of EPA and NRC; they did abandon the concept of BAT/ALARA. The major concern is that the environmentalists will again be successful in causing the courts to revisit the issue and that EPA will be forced to readopt the more restrictive technology-based (BAT) rules.

3.3 CLEAN WATER ACT (CWA) STRATEGY

All of the installations are in need of and have definitive plans for new projects and/or programs to meet the requirements of the CWA. Most of the projects and programs are needed to comply with the CWA mandate for BAT. Because BAT was required by July 1, 1984, all of the installations have already been or soon will be placed on compliance schedules by the EPA/States. Although the specific facilities planned for the next five years are designed to meet BAT requirements only, they will incorporate sufficient flexibility to minimize future efforts and costs to effect long-term CWA goals of innovative technology and zero discharge, even though such changes are not anticipated in the foreseeable future.

The major uncertainty with regard to the CWA projects is their ability to produce effluents that will ensure the protection of the States' stream use classifications in addition to meeting BAT requirements. Although it is currently believed that such protection will be provided by the proposed projects, verification will be required as part of the NPDES permits for the respective sites. This verification will involve biological monitoring that will include both acute, near-term bioassays and in-stream, long-term species evaluations. If the results of these programs are as expected and demonstrate protection of stream use classifications, then no significant modifications or additions to the proposed facilities will be required unless more stringent, technology-based requirements are promulgated.

If the results of these studies indicate otherwise, modifications and/or additions to the treatment systems will be required.

3.4 RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) STRATEGY

As in the case of CWA compliance, all of the installations are in need of many RCRA facilities. Projects that will provide treatment, storage, and disposal facilities for hazardous wastes are planned for each of the installations, with shared facilities being used whenever feasible. In addition, many administrative programs are being developed and implemented to bring these installations into full RCRA compliance as soon as practicable. A major effort that was initiated in FY 1984 and will continue through FY 1985 is the preparation of RCRA Part B permit applications. These applications, which are being prepared on an expedited schedule, will be submitted to the EPA and the respective States by each of the installations prior to November, 1985.

With the reauthorization of RCRA in November 1984, there is likely to be significant changes in the Energy Systems RCRA compliance plans. All of the rules for effecting such changes have not yet been promulgated, but they are likely to alter certain disposal practices, especially those involving waste oils, surface impoundments, and tanks. In addition, significant changes to existing underground piping and storage facilities surface impoundments will be required to meet the new rules. A thorough evaluation of all hazardous waste operations relative to the reauthorized RCRA will be conducted in FY 1985 by the Energy

Systems RCRA task team under the oversight of the Office of Permitting and Compliance.

The major uncertainty and concern with regard to RCRA compliance is the ultimate regulation of hazardous, radioactive wastes (mixed wastes). These wastes constitute a significant portion of the total waste volume at each installation, and the ultimate regulation for handling these wastes will significantly bias the RCRA compliance strategy. Currently, it appears that negotiations between DOE and EPA will result in the vast majority of these wastes being regulated by EPA as hazardous wastes with special provisions for those wastes that contain high levels of radioactivity and for those activities that involve classified wastes and/or information. With this anticipated level of regulation as an assumption, a special study has been undertaken by Energy Systems to evaluate several alternatives for handling these materials. A draft report describing the various options, including a preferred option, has been completed. The study is intentionally very broad in scope and is evaluating many innovative as well as conventional means of storing, treating, and disposing of the mixed wastes in a manner that will minimize environmental impacts. Some of the more promising concepts being evaluated include high-temperature incineration, immobilization, and above-ground, long-term storage.

3.5 COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT (CERCLA) STRATEGY

Compliance with CERCLA is currently the most uncertain and potentially the most costly of the environmental protection strategies. The major uncertainty is the magnitude of the problem. Even though approximately 60 potential CERCLA sites have been identified on the Oak Ridge and Paducah Reservations, sufficient data pertaining to groundwater, surface water, surface water sediments, and soils contamination are currently not available to determine the need for remedial action, much less the scope of such actions. The immediate plans thus call for data collection and evaluation, followed by remedial action alternative studies for those areas where problems are found to exist, and, ultimately, remedial actions themselves. Some areas of the reservations, such as Bear Creek Valley, are being evaluated and alternative remedial action plans are already under development, while others, like White Oak Creek drainage basin, have not yet been thoroughly evaluated. Assuming full funding, during the next two years data collection and evaluation programs will be implemented at all of the inactive hazardous waste sites with subsequent significant remedial action evaluation programs anticipated for those areas that reveal potential problems.

A complicating uncertainty with regard to CERCLA compliance at this time is the interaction of the planned programs with National Environmental Policy Act (NEPA) activities, specifically the preparation of any required Environmental Impact Statements (EISs). For example, if

an EIS is determined to be required for the Bear Creek drainage basin remedial actions, (currently in the planning stages), a significant delay in the project will probably be realized. The final decision on the need for the EIS will be made at DOE headquarters, hopefully during the spring of 1985. The EPA and State of Tennessee have been notified of this impending delay but no official response has yet been received. Fortunately, most other anticipated CERCLA activities should not be adversely affected by NEPA activities from a schedule standpoint, since these activities are far enough into the future to allow for incorporation of NEPA requirements in the planning process.

3.6 RADIOACTIVE WASTE MANAGEMENT STRATEGY

The management of radioactive wastes has been in the past and will continue in the future to be regulated by DOE, even though recent philosophy changes in DOE-ORO will allow for intimate interaction with EPA and the States. As a major first step in improved management of these wastes, definitive implementation plans have recently been developed by each of the installations, and these individual plans have been consolidated into a single DOE-ORO plan. These plans generally provide for improvements in waste segregation practices, volume reduction, and waste packaging prior to storage or disposal with a single consolidated disposal facility being the major new project planned for the future.

The primary concern relating to radioactive waste management is the current uncertainty about the ultimate disposition of these wastes. Specifically, the Central Waste Disposal Facility (CWDF), which has been planned as a centralized shallow land burial operation, has been determined by the State of Tennessee, the EPA, and the Nuclear Regulatory Commission (NRC) to be unacceptable as initially planned. The primary concerns were the site selected for the facility (because of the underlying Knox formation geology) and the potential for the contamination, even at very low levels, of the groundwater, which is an indictment against shallow land burial in general. Because of the significant concerns about the preferred option for disposal, the regulators feel that an insufficient evaluation of alternatives was conducted. After considerable discussion with the EPA and State, it was decided that a new and more encompassing alternative study should be undertaken by a task team led by and composed mostly of Energy Systems personnel. The team has been established and includes, in an advisory role, representatives from the EPA, State, and DOE. The objective of this study is to provide, through a thorough evaluation of all feasible alternarives, a phased approach for handling all DOE Oak Ridge radioactive wastes in a manner that will meet the goals of the regulators and DOE. Any new projects required to implement this plan will be included in the appropriate budgets as well as future long-range plans.

Another significant concern at this time is the hydrofracture operation, which allows for the deep geologic disposal in immobilized

grout of certain radioactive wastes from ORNL. The State of Tennessee, under authority of the CWA, is currently in the process of developing regulations for deep well injection. While it is currently believed that these rules will allow for permitting of hydrofracture, considerable new information must be collected, and probable process modification will have to be made, to convince the regulators and the public of the technical viability of the concept. Plans for collecting this information, for effecting necessary process modifications, and for formulating contingency disposal options should hydrofracture be ruled unacceptable, are currently under development.

4. TECHNICAL PROBLEM AREAS

In the following sections the technical problems in current operating practices are identified and discussed according to waste category while those concerned with past practices are discussed separately in terms of corrective actions. The additional needs for control of effluents and verification are included in a section on monitoring. Each section contains a tabulation of basic problems and planned, as needed, actions and the projected costs are listed by fiscal year in Appendix C.

4.1 RADIOACTIVE WASTE

The generation of radioactive waste is a consequence of activities undertaken by Oak Ridge facilities (weapon production, research and development, and uranium enrichment). Radioactive waste can generally be classified as transuranic (TRU) waste, uranium and uranium-contaminated waste, other low-level solid waste, low-level liquid waste, and low-level air emissions. While each of these wastes must be handled individually, the need for de minimis levels and better waste definition and characterization is universal. Waste volumes could be significantly reduced with the establishment of de minimis levels, process modifications, and better source segregation. Source evaluation and characterization of the wastes will allow proper handling, treatment, and disposal techniques to be developed.

Another major concern is the ultimate disposal of low-level radioactive wastes. While recent events associated with the CWDF have

led to the conclusion that shallow land burial of all low level waste in Oak Ridge is unacceptable, at least from a political viewpoint, no definite alternative strategy has yet been developed. A task team has been established under the oversight of Energy Systems and with participation from TDHE, EPA, and DOE to conduct a comprehensive study of alternatives for such disposal.

Basic problems and planned and needed actions related to radioactive waste are summarized in Table 4.1.1.

4.2 HAZARDOUS WASTE

The problems associated with the management of hazardous waste at Energy Systems installations are many and varied. These are identified in Table 4.2.1. They are often complicated by national security classification and/or radioactive contamination considerations. DOE installations were initially constrained in complying with hazardous waste regulations after claiming an exemption from RCRA in 1980 under provisions of the Atomic Energy Act (AEA). While government and industry were required to fully comply with RCRA regulations, DOE attempted, under the AEA provisions for self-regulations, to implement a "comparable level of compliance" that fell short of RCRA requirements.

With the advent of Judge Taylor's ruling in April 1984, and with DOE's relinquishing its position of total exemption, the "incentive" to comply has become increasingly stronger. Hazardous waste management practices are rapidly improving, and while most new technologies and facilities are not yet on line, measures have been take to eliminate or

Table 4.1.1 Radioactive Waste

Category	Basic Problem	Needed Action
Waste Generation and Characterization	The generation of radioactive waste is a consequence of activities undertaken by ORO facilities (weapon production, research and development, and uranium enrichment). Radioactive waste can generally be classified as TRU waste, uranium and uranium-contaminated waste, other low-level solid waste, low-level liquid waste, and low-level air emissions. While each of these wastes must be handled individually, the need for de minimis levels and better waste definition and characterization is universal. Since de minimis radioactive contaminant levels have not been established, the radioactive waste category includes waste with incidental radionuclide contamination and wastes suspected of contamination. Exceptions are the de minimis levels for oils and solvents and solid wastes currently used at Y-12 and de minimis levels for tritium and carbon-14 in scintillation materials. Waste quantities could be significantly reduced with the establishment of de minimis levels and the development of de minimis tests which would allow recycle or disposal of wastes as nonradioactive materials.	A de minimis definition is needed. On October 16, 1981, a proposal titles "Exempt Concentrations of Uranium in Solids Wastes Within DOE Exclusion Areas" was submitted to DOE proposing limits for de minimis uranium contamination levels. Field tests for verifying de minimis levels must be established. Of utmost importance is the need for DOE to act on the request.
	Additional volume reductions may be possible at the point of generation either through better waste segregation or modifications of operations. Source evaluation and characterization of the wastes will allow proper handling, conditioning, and disposal techniques to be developed. The waste form in terms of physical and chemical stabilization will be integral to the radioactive waste management strategy.	Reductions in waste volume should continue to be implemented at the source, and the waste characterization for each source should be established. Volume reduction processes should be evaluated.
	Significant volumes of radioactive waste will be generated by remedial actions such as those associated with the closure of facilities, the decommissioning of surplus facilities, or miscellaneous areas contaminated by accidental spills or releases.	Volumes generated from remedial actions are highly uncertain and stabilization/disposal requirements must be considered on a case-by-case basis during the initial planning stages.

Table 4.1.1 (Cont'd)

Category	Basic Problem	Needed Action
TRU Waste Handling/ Storage	TRU wastes are generated primarily at ORNL, although all facilities have handled small quantities in the past. In addition, wastes with significant Tc-99 contamination have been handled as TRU waste. Paducah currently has about 20 drums of TRU waste, 10 drums of Tc-99 contaminated waste, and small quantities of liquid TRU-contaminated waste which must be solidified, packaged, and transported to ORNL for storage. All TRU wastes are stored at ORNL and will be either transported to a permanent repository, the Waste Isolation Pilot Plant (WIPP), or disposed locally using greater confinement practices. Additional temporary TRU storage space may be needed at ORNL before the WIPP facility becomes available (currently projected for 1989). During this interim storage the integrity of storage containers must continue to be monitored and additional information on materials and isotopes stored must be obtained. For TRU wastes which will be difficult to recover an Alternate Disposal Practice Petition (ADPP) will be prepared to allow local disposal using greater confinement practices.	Transport any TRU contaminated wastes from other facilities to ORNL for interim storage. Identify and evaluate alternatives for handling Tc-99 contaminated waste. Shielded TRU Waste Storage (86 GPP, $350 K) is planned to provide additional storage capacity. Evaluate the need for additional interim storage. Inspect storage containers and facilities. An X-ray device for determining the contents of the TRU storage containers will be operational by October 1, 1985.
	The packaging and transport of stored TRU wastes to the WIPP facility presents significant problems. Waste acceptance criteria require that contact-handled TRU waste be shipped in Type B containers (as classified by DOT) and that remote-handled TRU waste (> 200 mR/hr) meet specific container requirements. ORNL's remote-handled TRU wastes are packaged and stored in casks that do not meet these requirements.	Facilities are needed to provide packaging and repackaging for both contact-handled and remote-handled TRU waste in accordance with WIPP waste acceptance criteria. No funded projects are underway to address this problem.
	A special packaging problem involves retrievable capsules of cut up TRU fuel specimens currently stored in wells at ORNL. These specimens are very high in gamma radiation and will be difficult to shield sufficiently for transport. Additional storage wells are planned as a FY-87 GPP.	Packaging options should be identified and evaluated.

Table 4.1.1 (Cont'd)

Category	Basic Problem	Needed Action
Uranium & Uranium Contaminated Solid Waste Treatment, Storage, and Disposal	Significant quantities of depleted and small quantities of enriched uranium, uranium chips/oxides, and uranium contaminated scrap metal are produced. The uranium chips/oxides and depleted uranium metal are produced at Y-12 and uranium contaminated scrap metal resulting from program changes/upgrades is generated at Y-12 and ORGDP. Other uranium wastes include off-gas trapping media, floor sweepings, and cleanup paper and cloth.	
Uranium Chips	Y-12 is currently utilizing the Bear Creek Burial Ground for disposal of most uranium turnings (chips) and uranium sawdust. Vaults are being used to store a portion of these wastes. The uranium chips are in dumpsters covered with a mixture of water and water-based biodenitrification machine coolants. The practice of burning chips must be terminated because placement of pyrophoric uranium chips and disposal of machine coolants in the ground is not in compliance with regulatory requirements. In addition, Y-12 has been directed to cease disposal activities in the Bear Creek Valley Burial Ground, primarily due to groundwater contamination in this area.	Uranium chips will be oxidized in the Uranium Chip Oxidors (84 GPP, $950 K) currently under design. The uranium oxides and metals will then be stored in Uranium Oxide Storage Vaults (88 GPP, $690 K; 85 LI $300 K) on Chestnut Ridge directly south of the plant. The first vault has been constructed and additional vaults are planned. Handling of uranium sawdust will require expansion of or addition to the uranium chip oxidizers to allow for handling the dust size particles. An evaluation of the logistics of packaging and hauling the waste has been initiated. Development and engineering studies are needed to determine how to safely handle sawdust and "broken chips".
Scrap Metal Management	Uranium contaminated scrap metal is currently stored at the powerhouse area of ORGDP and at the salvage yard of Y-12. The scrap storage yard at ORGDP is in the 100-year floodplain of the Clinch River.	The Metal Waste Management at ORO Sites (84, 85 Exp, $3,800 K) is currently underway for segregating and sizing the scrap metal. Scrap Metal Smelting (85 Exp, $6400 K) was planned as a followup to sizing and sorting. This has recently been postponed. As part of the segregating and sizing operation at ORGDP, scrap metal is being moved above the 100-year flood plain. Y-12 plans similar handling for their contaminated scrap metal, but no funding has been identified. Modifications to Salvage Yard Contaminated Scrap Metal Storage Area/ Y-12 (86 GPP, $400 K) has been proposed to provide additional storage).

Table 4.1.1 (Cont'd)

Category	Basic Problem	Needed Action
Low Level Solid Waste Handling		
Unclassified Low-Level Waste Handling	Low-Level solid wastes which will be generated at the Oak Ridge facilities include bulk waste (250,000 ft^3/yr), conditioned, nonhazardous sludges (200,000 ft^3/yr), and contaminated soils (variable) and are equivalent to NRC's Class A category in 10 CFR 61. The bulk of the LLW currently goes to either Bear Creek Burial Ground at Y-12 or SWSA #6 at ORNL. The State of Tennessee has mandated Y-12 to discontinue all disposals in and prepare a remedial action plan for Bear Creek Burial Ground. The capacity of SWSA #6 is limited.	A strategic plan for handling the LLW disposal problem both interim and long-term must be developed including volume reduction, waste conditioning, and ultimate disposal. If possible the existing CWDF line item (ORNL-86-AR-2 LI, $7500 K) will be retained to fund the initial phase of the effort. A Glass Melter ($7 CFP, $900 K) is proposed at ORNL for volume reduction and waste stabilization. At ORGDP the Central Sludge Fixation Facility ($4 LI, $8800 K) is under construction for stabilizing sludges.
	The Central Waste Disposal Facility (CWDF) was planned as a central facility for disposal of low activity l- level wastes for the three DOE facilities in Oak Ridge. Site characterization studies indicated that West Chestnut Ridge was the best available area on the Oak Ridge Reservation for a shallow land burial operation. Drawbacks with respect to geology and hydrology were investigated in a pathways analysis study. Detailed site characterization and initial design were completed in conjunction with a draft EIS. Although pathways analysis indicated the site could meet performance criteria, comments from EPA, NRC, and the State of Tennessee reflected concerns about the site geology. In addition, comments suggested that alternatives to - shallow land burial should be addressed more completely.	A task force has been organized to look at alternatives. DOE, EPA, and the State of Tennessee will participate with Energy Systems personnel. Alternatives will address volume reduction and waste form in addition to long-term disposal/ storage.
	The long-term performance of past and current burial grounds is questionable and proper closure of these facilities must be completed. A limited quantity of classified LLW is also generated and disposed at either the ORGDP or Y-12 classified security pits.	Closure activities for existing and past burial grounds must be planned and implemented. Significant site characterization and evaluation of wastes disposed will be required. A report due in December 1985 will identify the actions required to comply with DOE 5820.2 relative to SWSA #6.

Table 4.1.1 (Cont'd)

Category	Basic Problem	Needed Action
Low Level Solid Wastes Handling (Cont'd)	Higher activity low-level solid wastes primarily generated at ORNL were not to be disposed at CWDF. These wastes were to continue to go to SWSA #6 until available areas had been used. SWSA #7 was proposed as the long-term disposal facility for these materials and initial site characterization has been completed.	In view of the uncertainties with regard to low-level waste disposal in general, the plans for SWSA #7 need to be re-evaluated in concert with the CWDF study.
Classified Wastes	Classified waste produced at the DOE facilities must be disposed of in secure areas. The classified disposal areas at both the Y-12 and the ORGDP facilities are reaching capacity. Additional areas will be required. The security requirements must be met for these facilities. In addition, the applicable regulations governing disposal of LLW or RCRA may be imposed. Such an imposition could have significant impacts on the schedules for opening new classified waste disposal areas.	Classified Burial Ground Expansion Project (87 GPP, $700 K) is needed at ORGDP. A new area for disposal of Y-12's classified radioactive waste will be needed within two to five years, and projects have been identified under the mixed waste category.

Table 4.1.1 (Cont'd)

Category	Basic Problem	Needed Action
Low-Level Liquid Waste Treatment and Disposal (ORNL)	Low-level liquid waste systems at ORNL include process waste collection and treatment facilities, low-level liquid waste collection and storage facilities, and hydrofracture disposal facilities.	
Process Wastes	ORNL's process waste collection and transfer system has outlived its design life. It is estimated that 70% of the system may be leaking. Monitoring systems have also served beyond their design life and should be replaced with state-of-the art equipment. Process needs have changed through the years and several waste streams routed to the process waste treatment plant (PWTP) do not require treatment for radioactive pollutants. These sources of inflow/infiltration should be eliminated from the system.	A process waste system inflow/infiltration study ($50 K) has been initiated. Funded projects to upgrade the PWTP and collection system include Upgrade PWTP Evaporator System (85 GPP, $430 K) to reduce effluent nitrate concentrations, Process Waste Treatment Plant Site Improvements (84 GPP, $60 K) to isolate the PWTP caustic storage tanks, Prefilter and Drain System, Building 3517 (85 GPP, $340 K) and Liquid Waste Systems, West End Area -3019 (85 GPP, $750 K) to upgrade process and low-level waste lines. Planned projects include Volume Reduction Modification to PWTP (85 GPP, $400 K) to divert nonradioactive process flows and Sludge Storage Tank (87 GPP, $300 K) to provide sludge storage until final disposition.
	Within the ORNL process system are a number of active open ponds (3524, 3539, 3540, 7905, 7906, 7907, and 7908) which do not conform to regulatory requirements and must be replaced by tanks.	The ponds are planned to be replaced by tanks in the Nonradiological Wastewater Treatment Project (86 LI, $21,000 K).

Table 4.1.1 (Cont'd)

Category	Basic Problem	Needed Action
Low-Level Liquid Waste Treatment and Disposal (ORNL)		
ORNL Low-Level Liquid Wastes	ORNL's low-level liquid waste collection and storage facilities have outlived their design life, and many collection tanks and piping systems do not meet ORNL Procedures and Practices for Radiation Protection or RCRA requirements. Much of the piping network is singly contained and cannot be pressure tested. There have been a number of leaks and spills which have resulted in high levels of contamination in containment pits and other affected areas. These high contamination levels have caused the delay of several modification and maintenance projects. The Melton Valley Waste Storage Tanks Piping Modifications (83 GPP, $250 K) has been delayed due to high radiation backgrounds in the pipe tunnel. Modifications to ORNL's evaporator system including feed tanks, evaporators, and off-gas systems are needed. The pH in the evaporator feed tanks must be kept above seven to reduce concerns related to corrosion and iodine volatility, but current pH control and sampling systems are inadequate to assure this minimum level. The low-level evaporator system contains two evaporators. Some of the new evaporator coils have been isolated from the system due to leaking heating/cooling coils and will require replacement. The older evaporator is in need of maintenance and should be inspected to confirm the integrity of piping and vessels. The isolation of leaking coils has reduced evaporation system capability. Concentrate has collected in the off-gas piping system causing pressure fluctuation in collection vessels and reduced efficiency of the filters.	Central LLW Collection System (83 GPP, $900 K), and LLW Drain Line, Building 3512, have been funded to upgrade LLW lines. Replacement of piping and tankage is planned in Replace LLW System, Phase I (88 LI, $40,000 K), Replace ILW System Phase II (89 LI, $8000 K), Upgrade Process Waste Collection System (86 GPP, $900 K), LLW Line Replacement -3019 Area (86 GPP, $950 K), and LLW Line Replace-ment - 3076 (87 GPP, $875 K). Cask Tool Storage (85 GPP, $100 K) and Secondary Containment and Contamination Control (85 GPP, $85 K) will provide containment for radioactive materials. In the interim maintenance and modifications to the existing system must be continued to maintain its integrity. Areas requiring access for maintenance such as pump pits may have to be decontaminated. These problems will be resolved under project Replacement of the Liquid Low-Level Waste (LLW) Collection, Transfer, and Evaporation Systems at ORNL (88 LI, $40,000 K). A study pertaining to the replacement of the evaporator vessels is now being accomplished by ORNL Engineering, funded by Operations expense money. This study is also investigating the possible causes of the coil failures in the new evaporator vessel.

Table 4.1.1 (Cont'd)

Category	Basic Problem	Needed Action
Low-Level Liquid Waste Treatment and Disposal (ORNL)		
ORNL Hydrofracture Wastes	Hydrofracture involves the blending of low-level liquid waste with a grout formulation and pumping the grout into fractures created in a deep well. The new ORNL hydrofracture facility began operation in FY 1982. The State of Tennessee has indicated that permitting of the facility is being considered under Underground Injection Control regulations, the Safe Drinking Water Act, and RCRA. If such permits as determined necessary cannot be obtained an alternate means for disposal will be required. The classification of hydrofractured waste as radioactive or mixed should be determined.	The status of the hydrofracture facility relative to permitting must be established.
		Wastes injected should be sampled and characterized to verify their waste classification as radioactive or mixed.
	Very low levels of contamination have been found in water in two wells located 1000 ft from the hydrofracture site.	Additional studies have been initiated to identify the source of contamination and study the extent of mixing with shallow groundwater.
Low-Level Liquid Waste Treatment Disposal	Liquid effluents from ORGDP's decontamination facility, plating shops, steam plant, and miscellaneous facilities are slightly contaminated with uranium.	The Central Neutralization Facility (84 LI, $1200 K) and Floor Plan and Cylinder Cleaning Facility (84 LI $1000 K) have been funded to provide treatment for liquid effluents.
Low-Level Airborne Emissions	With the withdrawal of EPA proposed National Emission Standards for Hazardous Air Pollutants (NESHAP) regulations pertaining to airborne radionuclides, only Y-12 requires near term process exhausts from enriched uranium salvage operations are not currently treated, and other process exhaust systems require upgrading.	The Air Emissions Control Project (85-D-122 LI, $14000 K) and the Process Exhaust Equipment Restoration Project (82-D-101 LI, $3000 K) at Y-12 will refurbish and upgrade the environmental control systems for all currently identified enriched uranium process exhausts potentially contributing significant body burden at the plant boundary. New environmental control systems may include prefilters, HEPA filters, fume scrubbers, and demisters which may be included in Enriched Uranium Exhaust Systems (88-91 LI, $900 K) or Depleted Uranium Exhaust Systems (88-91 LI, $5400 K).
	The withdrawal of the NESHAP regulations [illegible]ng debated in court, and the outcome remains uncertain.	Projects should be considered in the out years, should these proposed regulations be reinstated.

Table 4.2.1. Hazardous Waste

Category	Basic problem	Needed action
Lithium hydroxide monohydride storage at K-25	Approximately 10 million kg of lithium hydroxide, a material that is very basic and moderately soluble in water, is stored in deteriorating fiber drums in 13 vaults at the K-25 building. The fire water sprinkler system and the RCW lines located in some of the vaults are a potential source of water that could pose a low-probability/high risk environmental threat in the vent of a water break, flushing LiOH to Poplar Creek.	Various studies are under way to evaluate alternatives for providing better protection of the material, removing the water threat, and ultimately removing the material for sale to the public. The wet sprinkler system is already being replaced with a dry system.
PCBs at all installations	Large quantities of PCBs are in use at Energy Systems installations primarily at the diffusion plants and subsequently, significant quantities of waste PCBs are generated annually. PCBs and PCB contaminated materials are stringently regulated by the Toxic Substances Control ACT (TSCA). All installations have large quantities of PCB contaminated oils, hydraulic fluids and other materials. Much of the waste is radioactively contaminated, *essentially eliminating commercial disposal* options. Scheduling waste for the proposed PCB incinerator is a problem because of each installation's limited storage and "urgent need" to remove the waste.	PCBs not contaminated with radioactive material are disposed of commercially at sites licensed by the EPA and approved by Energy Systems environmental personnel. Radioactively contaminated (less than 1% assay) PCBs will be burned in the PCB/hazardous waste incinerator (compliance with the TSCA [83-N-402 LI, $31,900K]) now under construction at K-25. Other programs will involve "cleaning" PCBs from lube oil and hydraulic oil *systems. Transformers are being replaced with* non-PCB units. Scheduling waste for the incinerator is being resolved by a task team prioritizing each waste stream. Minor Modifications to Y-12's Building 9404-7 PCB Storage Area (84 exp, $20 K) are necessary to increase the height of the dike around the building to comply with current requirements for PCB storage. Replacement of Y-12's PCB Transformers (84-D-124 LI, $5000 K) with non-PCB equipment in environmentally vulnerable locations is required for continued compliance with TSCA. Other PCB transformers will be replaced in subsequent years with the Multi-site Electrical Systems Upgrade (86-OR-CB-13 LI, $5000 K). The emphasis is on improved storage and increased salability. However, much of this material will ultimately be disposed of in the TSCA incinerator to be built at ORGDP under the Compliance with Toxic Substances Control Act line item (Sect. 3.3.3).

Table 4.2.1 (continued)

Category	Basic problem	Needed action
		Transformers containing PCBs in ORNL facilities at the Y-12 Plant will have improved containment under the proposed Improvements to PCB Transformer Dikes, ORNL Facilities at Y-12 (84 exp, $10C K). In addition, Replacement of PCB Transformers Ph I, II, III, and IV (86-89 GPP, $3050 K) is planned to replace transformers that pose an unacceptable environmental threat because of their location or condition.
Asbestos at all installations	Asbestos has been used extensively throughout Energy Systems installations for insulation on piping ovens and other equipment. Demolition and renovation jobs involving asbestos will continue to be required at those sites for years to come.	Special projects will not be required to deal with these routine operations except at X-10. The waste is handled according to existing plant procedures and buried at State-approved landfills on the Oak Ridge Reservation. Asbestos was used as an insulation material in ORNL buildings constructed from the 1940s through the 1970s.
Trivalent chromium sludge at K-25	Trivalent chromium sludge is generated from the reduction of hexavalent chromium in the RCW blowdown at the Chromium Reduction Unit. Presently, this sludge is filling the K-901-A lagoon at K-25 and making it increasingly difficult to meet NPDES requirements for total chromium limits.	A Line-Item project 81-R-306 LI Chromium Sludge Collection will provide funding to build a static settler and sludge collection facility to remedy the problem. The sludge is not hazardous and will be buried at Y-12 central landfill.

Table 4.2.1 (continued)

Category	Waste problem	Needed action
Inadequate hazardous waste treatment, storage, and disposal facilities at all installations	Many existing hazardous waste treatment, storage, and disposal facilities at Energy Systems installations do not fully meet 40 CFR 264 facility standards or even 40 CFR 265 interim status standards.	Efforts have been initiated to identify facility deficiencies as part of the RCRA Part B permitting process. Subcontractors have been hired at K-25 and Y-12 to assist in the task. A subcontractor will be selected to assist in the effort at X-10 for surface impoundments. Once deficiencies are identified, decisions will be made to either seek funding to effect corrections or initiate facility closure. In addition, numerous projects are under way to effectively replace selected existing facilities.
RCRA Part B permitting deficiencies	RCRA Part B permit applications are being prepared for treatment, storage, and disposal facilities at all Energy Systems installations. Deficiencies such as inadequate groundwater monitoring programs for land units will result in incomplete permit applications. Other significant deficiencies for which corrective actions cannot be accomplished prior to permit submissions are also anticipated.	Subcontractors will be hired to implement groundwater monitoring programs to satisfy Part B permitting requirements. Because these efforts will extend beyond the due dates for Part B permit applications, discussions with the EPA/TDHE will be necessary to arrive at an agreement that will allow for the permitting of these sites. It is expected that compliance schedules can be incorporated into "provisional permits." Funding is needed for numerous modifications to existing facilities/procedures to meet the requirements of DOE 5480.2. The RCRA Compliance Program (84-85 exp, $2500 K) provides funding for evaluating plant systems, formalizing procedures, and training workers at Y-12. The Improvements to Hazardous Waste Management Area (86 GPP, $250 K) project is proposed to provide support facilities dictated by Occupational Safety and Health Act (OSHA) considerations for personnel working in ORNL's hazardous waste management areas.

Table 4.2.1 (continued)

Category	Basic problem	Needed action
Improper waste disposal methods	Historically, most of the hazardous wastes generated at the Y-12 Plant have been buried in the Bear Creek Burial Grounds or discharged to either EFPC or the S-3 Ponds. Many of these waste streams which are co-contaminated (and projects addressing them) are found in the mixed waste section 4.3. Other facilities at ORNL and ORGDP are also inadequate.	Y-12 has begun using commercial waste disposal options for most nonradioactive and unclassified hazardous wastes. Programs have been initiated to change the nature and volumes of wastes generated. Numerous projects have been initiated to eliminate the disposal of RCRA hazardous waste streams to EFPC and the S-3 Ponds. An interim measure is the treatment of certain of these waste streams at the ORGDP K-1232 facility. In February 1984, Y-12 began to ship certain non-radioactive hazardous wastes to commercial storage and/or treatment facilities on a quarterly basis or as generation rates require. These wastes have been staged through an existing warehouse modified to accept RCRA waste [Modifications to Building 9720-9 (84 exp, $200 K)]. Plans are underway to provide some processing capabilities by upgrading and expanding Y-12 oil/water/solvent separation and distillation capabilities via the Oil and Coolant Storage Facility (84 GPP, $720 K), and Waste Coolant Processing Facility (83 GPP, $845 K). A Plating Rinsewater Waste Treatment Facility (84D-124 LI, $2100 K) would provide a package treatment system to remove trace amounts of metals, cyanides, and organics from 8.7 million gal of plating shop rinse water per year. An East End Waste Facility (84 GPP, $185 K) will treat 1.5 million gal of water/paint from the plant's paint shops, as well as dirt, on an annual basis. Flammable Liquid Waste Storage Facility (84-D-124, $500 K) and Waste Solvent Storage Facility (85 LI, $1200 K) must include expanding the diked area in the salvage yard and replacing damaged or leaking drums that hold material awaiting future disposition. Improved storage tanks previously procured (82,83 exp) have made possible the elimination of many of the drums in the salvage yard area.

Table 4.2.1 (continued)

Category	Basic problem	Needed action
		Above ground storage facilities will be built adjacent to the existing pits as part of Modifications to Chestnut Ridge Security Pits (85 GPP, $900 K). Extensive modifications are required if all requirements of DOE 5480.2 are to be met. The plant's Spill Prevention Program (85-D-124 LI, $1000 K) will provide diking and other special control features at hazardous liquid transfer points, around hazardous material storage tanks, and at other high-risk locations. Spill Prevention - Main Plating Shop (84 GPP, $250 K) will provide a new waste storage tank and diking. Hg-Contaminated Soils Storage Area (86 GPP, $400 K) will provide concrete storage pads for staging its contaminated soils. At ORNL the Hazardous Waste Storage Facility (82 GPP, $225 K) was funded to provide additional space and adequate fire protection; however, the project was held up because of RCRA permitting considerations which have recently been resolved. Construction is expected to begin in April 1985. The Chemical Waste Storage Facility (84 GPP, $350 K) is funded to provide specifically designed storage space for all types of ORNL wastes chemicals by their compatability class. The Collection/Cleanup Operations - Solvent and Plating (86 GPP $100 K), Collection/Cleanup Operations - Mercury (86 GPP $100 K) and Collection/Cleanup Operations - Scintillation Fluids (86 GPP $100 K) projects are proposed to provide a recovery operations building and the equipment to recycle waste solvents and oils and to detoxify plating solutions. Other

Table 4.2.1 (continued)

Category	Basic problem	Needed action
		proposed handling and treatment facilities are located at ORNL facilities at the Y-12 Plant. These include the Isotope Separations Facility Wastewater Collection System (84 GPP, $185 K) to adjust the pH and remove solids from concentrated nitric acid wastes and the Hazardous Waste Staging Area for ORNL facilities at Y-12 (86 GPP, $500 K), which will serve as a facility for packing, sampling, and storing hazardous waste. Two new hazardous waste disposal facilities have been proposed for the Oak Ridge Complex to be located at ORNL. The Explosive/Shock Sensitive Chemical Disposal Facility (86 GPP, $100 K) will allow explosives and shock-sensitive materials to be detonated safely. The Gas Cylinder Disposal Facility (87 GPP, $200 K) will permit damaged gas cylinders to be safety vented to the atmosphere through appropriate emission control equipment. Six proposed projects at ORNL offer improved hazardous waste management support: Improvements to Hazardous Waste Management Area (86 GPP, $250 K), Emergency Spill Response Storage Facility (87 GPP, $250 K), Improvements to Hazardous Waste Storage Area Access Road (86 GPP, $250 K), Chemical Spill Trailer (85 exp $50 K), Two Tanker Trucks (85 exp $80 K), and Spill Equipment (86 exp $75 K). Three additional projects provide for hazardous waste reduction and recycle: Non-Radiological Waste Volume Reduction (86 GPP, $350 K), Trace Metals Protection Systems - Phase I (87 GPP, $445 K), and Trace Metals Protection System - Phase II (88 GPP, $920 K).

Table 4.2.1 (continued)

Category	Basic problem	Needed action
		Modifications Phase I (AI 1.1, $1073 K) will provide improved spill containment for chemical transfer station and provide a new Gold Dissolver Storage Tank.
RCRA/CERCLA interaction	Scheduling corrective actions for past hazardous waste facilities at all installations will be a RCRA permitting condition as a result of the reauthorized RCRA. While approximately 60 potential CERCLA sites have been identified, only two have received any significant amounts of investigations and remedial action study.	A CERCLA task team will review the potential CERCLA sites and recommend actions to be taken. Discussions with the EPA and TDHE may be necessary to reach agreement to have RCRA TSD facilities permitted without schedules for corrective actions in place.
Hazardous waste delisting efforts	To provide ultimate disposal for certain wastes, a "delisting" effort must be undertaken. The process is complex and cannot be guaranteed to succeed. EPA reviews such petitions and rules on them on a case-by-case basis.	Martin Marietta Environmental Systems Incorporated is assisting in the delisting effort for Energy Systems under ILJD E 84-001. A generic delisting program is being developed. The sludge generated through treatment of Y-12 liquid wastes at ORGDP has been identified as the test candidate for the project. The delisting effort for this sludge is underway, with cooperation between ORNL, Y-12, and ORGDP.

mitigate improper practices. Key projects have been expedited. Subcontractors have been hired to assist in preparing RCRA Part B permit applications and aid in studying groundwater. Hazardous waste management strategy planning has been centralized, and task teams have been identified to solve many of the remaining problems. General strategy plans include centralized treatment, storage, and disposal (TDS) facilities for use by all the Energy Systems installations. Central to the effort will be the PCB/hazardous waste incinerator, the sludge fixation facility, and a yet-to-be-defined central waste storage or disposal facility. Delisting of certain listed waste streams will also be part of the overall strategy. Other plans call for new programs of greater waste volume reduction, process modifications, and recycle.

At Y-12, various liquid hazardous wastes, such as acids and bases, will be treated in wastewater treatment facilities to render them nonhazardous, and programs are under development to segregate listed hazardous wastes from other wastes to help minimize treatment problems. Waste oils and coolants were at one time disposed of in the Bear Creek burial grounds and Oil Landfarm. This material is currently being sold or stored with minimal processing.

In response to implementation of the RCRA, ORNL has developed a hazardous material handling system. Some existing facilities at ORNL pose safety problems and have very limited capability for the treatment and disposal of hazardous waste. More specifically, the current storage facility for hazardous waste suffers from inadequate fire protection and

potential safety problems related to its close proximity to a mothballed reactor scheduled for decontamination and decomissioning. The building is too small to ensure adequate separation of incompatible chemicals.

In addition to projects for constructing adequate storage facilities, projects have been proposed to extract valuable constituents from the wastes or to render them nonhazardous.

At ORGDP, numerous projects are under way to replace aging facilities or to provide a means of compliance with RCRA and CWA regulations. These projects include the Toxic Substance Control Act (TSCA) PCB/Hazardous Waste Incinerator, the Sludge Fixation Facility, and the Central Neutralization Facility.

At PGDP, several projects are underway or planned to replace aging facilities or to provide a means to better comply with RCRA and CWA regulations. These include replacing the gold dissolver storage tank and providing spill containment for chemical transfer stations.

4.3 MIXED WASTES

"Mixed Wastes" is a term developed by DOE to characterize the large volume of wastes that contain both hazardous and radioactive constituents. The major concern has been the regulatory status; i.e., are these wastes to be regulated by EPA as hazardous or by DOE as radioactive, or will a completely new set of regulations be developed? Currently, DOE and EPA headquarters personnel are attempting to resolve this question, and it appears that the vast majority of wastes generated

by the Oak Ridge and Paducah installations will be regulated by EPA as hazardous, with special provisions being enforced for overriding radiological and security concerns. Certain "by-product" wastes need further definition so that they, as well as the "source" and "special nuclear" materials, can be exempted from EPA regulation in accordance with the Atomic Energy Act.

Once the rules pertaining to "mixed wastes" have been developed and the necessary characterizations have been completed according to these rules, much more meaningful efforts can be undertaken to develop management strategies. Based on the assumption that the EPA RCRA rules will likely govern, a study of alternatives for disposal was initiated in late 1984 and is scheduled for completion in March 1985. From this study, as amended to accommodate any new rules, a definitive budget of required projects can be formulated. In addition, more definitive plans for volume reduction and treatment can also be developed. In the meantime, studies need to be implemented to determine short-term (next three years) needs for the wastes that are currently being generated. It is very probable that this solution will involve storage until a final strategy, based on the ultimate new rules, can be developed. Basic problems and needed actions are summarized in Table 4.3.1.

4.4 CONVENTIONAL WASTE

There are numerous sources of conventional wastes that are common to at least two or more of the four DOE installations discussed in this report. In many cases these wastes are common to all four

Table 4.3.1 Mixed Waste

Category	Basic Problem	Needed Action
Waste Generation and Characterization	The definition of mixed waste, volume reduction potential, and waste sampling and characterization are crucial to development of a strategy for managing the mixed waste problem.	The mixed waste category requires better definition, which is currently being pursued by DOE and EPA headquarters personnel. The need for defining a de minimis level for radioactivity is apparent in order to allow for significant reduction in waste volumes that pose no significant environmental risk. A study of waste disposal options will be complete by March 1985.
	Mixed waste is likely to be governed by RCRA regulations, but may have to be handled separately from hazardous waste because of the DOE requirements applied to low-level radioactive waste. Reductions in volumes of mixed waste may be possible at the point of generation either through process modifications or better segregation of wastes. Quantitative and qualitative characterization of the wastes are needed to categorize the waste and select appropriate handling, conditioning, and disposal techniques.	Reductions in the volume of mixed wastes generated should be implemented at the source, and the waste characterization for each source should be established.
Organics	About 1,600,000 gallons of oils, solvents, and other organic wastes contaminated with radioactivity and hazardous materials or PCB have been stored at ORO facilities, and about 370,000 gallons are generated at ORO facilities on an annual basis. These wastes will be disposed in the incinerator under construction at ORGDP. The burn schedule for the incinerator could affect the need for additional storage facilities. By law PCB contaminated materials must have highest priority.	The Compliance with the Toxic Substances Control Act (83-H-402 I.I, $31,900K) currently under construction will provide for incineration of mixed organic wastes. A portion of the ash generated by incineration will continue to be a mixed solid waste disposal problem. A burn schedule is being prepared to be used as a reference in determining the need for additional storage facilities at each site.
Enriched Uranium-Contaminated Organics	About 9000 gallons/year of enriched uranium contaminated oils, solvents, or coolants also contaminated with hazardous wastes or PCB are generated at Y-12 and ORGDP. These wastes have enrichment levels of greater than 1% U-235 enrichment, but recovery of enriched uranium would not be cost effective. They are not acceptable as a direct feed to the TSCA incinerator and may be a criticality concern.	Pretreatment processes for these wastes involving either removing the enriched uranium or mixing the wastes with depleted uranium are being developed. This will allow disposal in the TSCA incinerator. A pilot plant is in operation at ORGDP.

Table 4.3.1 (Cont'd)

Category	Basic Problem	Needed Action
Handling and Storage	Most mixed waste generated at Oak Ridge facilities is stored in tanks or 55-gallon drums for future treatment and disposal. Underground tanks containing mixed waste are in violation of RCRA requirements as they are not impertable and have no groundwater monitoring around them. Additional containment for spill prevention is needed in some areas.	New facilities may be needed at some plants depending on the TSCA incinerator burn schedule and availability of conditioning and disposal facilities Storage and handling facilities currently funded at Y-12 include Source Collection and Treatment Facility (84-D-124 LI, $3600 K), Waste Oil Storage Facility (84-D-124 LI, $1200 K). Classified Waste Storage Facility (85 GPP, $900 K), RCRA and Mixed Waste Storage (84, 87, GPP $1670 K), and West End Tank Farm (83, 84, GPE, $6100 K). At Y-12 improvements have been funded to the Spill Prevention Program (84-D-12 84 GPP, $1550 K). At ORNL the Scintillation Vial Crusher (85 GPE, $40 K) for removal of scintillation fluids from vials prior to treatment has been funded A Long Term Hazardous Waste Storage Facility (85 GPP $325 K) and Spill Prevention Control and Counter-measures Improvements, Ph I, II, and III (86-88 GPP, $700 K) are planned at ORNL. Replace Low-Level Waste System Phase I & II (88, 89 LI, $4800 K) include plans to replace underground tanks. At ORGDP Waste Oil Storage Facility (81 GPP, $715 K) has been funded.
Treatment	The conditioning required for mixed wastes is a function of desired volume reduction and acceptable leaching characteristics. The volume of mixed wastes disposed is greatly reduced by neutralization and treatment of mixed liquids leaving only the mixed sludges to be handled. These sludges may be dried to further reduce the volume. For organic mixed wastes, incineration provides conditioning and volume reduction prior to ultimate disposal. Fixation of mixed sludges and solids in concrete or other media may reduce leaching of contaminants.	Mixed wastes treatment and volume reduction are provided by Processing Y-12 Wastes at ORGDP (84-86 exp, $6300 K), the West End Tank Farm Treatment Facilities (85-D-124, $6600 K), and the Central Pollution Control Facility, Ph. I & II (81-D-120 LI, $7800 K), at Y-12, and ORGDP's Central Neutralization Facility (81-R-506 LI $1000 K). Incineration of organic waste in Compliance with the Toxic Substances Control Act (83-N-402 LI, $31,900 K) also provides volume reduc-tion and stabilization. If reduced leach rates are required stabilization in the Sludge Treatment Facility (81-R-506-LI $8800 K) at ORGDP would be necessary. Y-12 plans to have Environmental Support Facilities (84-D-124, $5700 K) to provide additional operations capabilities and has proposed a Classified Waste Processing Facility (87 GPP, $850 K).
Disposal/Long-Term Storage	No long-term ultimate disposal facility is available. Regardless of volume reduction and conditioning used, some form of ultimate disposal will be required.	A strategy for ultimate disposal or handling must be developed. On-site, off-site, and administrative options are being evaluated as part of the Mixed Waste Study and Y-12 Hazardous Waste Disposal Facility - Planning Studies (87 LI, $5000K).

Table 4.3.1 (Cont'd)

Category	Basic Problem	Needed Action
Liquid and Sludges	About 15 to 20 million gallons per year of potentially hazardous and radioactive contaminated liquids will be treated at Oak Ridge facilities. These facilities include the Central Pollution Control Facility, the Plating Rinse Water Treatment Facility, and the West End Treatment Facility at Y-12 and the Central Neutralization Facility at ORGDP. A significant quantity of the sludges generated by these and miscellaneous operations are considered to be mixed waste - about .6 to .8 million gallons per year (20% by weight solids). Better segregation of waste sources could significantly reduce the volume of these wastes. The sludge volume will also be impacted by the waste conditioning assumed (e.g., higher degree of dewatering, drying, sludge fixation).	Reduce liquids treated and sludge volumes and provide conditioning suitable for ultimate disposal (see below).
Classified	A portion of the mixed waste generated at Y-12 is classified because of shape or nature of the compound. In addition, ORGDP has about 5 million gallons of classified mixed waste stored in K-1407-B and C Ponds.	A strategy for handling classifed mixed waste is needed. The strategy at ORGDP is to fix the materials at the Sludge Treatment Facility (81-R-506 LI, $8800 K) before disposal in the Classified Burial Ground. The proposed Hazardous Waste Disposal Facility (87 design only LI, $5,000 K) at Y-12 includes a classified waste disposal area. Some commercial disposers can handle classified wast if de minimis levels are allowed.
Contaminated Soils and Solids	There may be a significant quantity of mercury and uranium contaminated soils removed from the Y-12 Plant. In addition, about 7,000 ft^3/yr of ash from the TSCA incinerator is considered a mixed waste.	Provide suitable conditioning/disposal facilities.
Remedial Action Wastes	Significant volumes of mixed waste may be generated by remedial actions such as those associated with closure of the S-3 Ponds and Bear Creek Burial Grounds, Building 9201-4 decommissioning, other CERCLA actions, and White Oak Creek Drainage Basin.	Volumes generated from remedial action are very uncertain and conditioning/disposal requirements

installations. These wastes can generally be divided into three categories: air, water (liquid effluent), and solid waste. Air emissions of concern consist primarily of volatile organics, hydrogen fluoride (HF), particulates, nitrogen oxides (NO_x), and sulfur dioxide (SO_2). Liquid effluent concerns consist primarily of suspended solids, nitrates, organics, and heavy metals. Solid wastes include construction debris, waste paper and scrap, sludge generated by treatment of coal pile runoff, and fly ash. The various projects that have been planned to correct deficiencies in the handling of these wastes are identified in Table 4.4.1.

4.4.1 Steam Plant Emissions

All four of the Energy Systems facilities currently operate coal-fired boiler systems, some as old as 43 years. These steam plants have been retrofited with pollution control equipment to reduce airborne particulate emissions and have achieved varying degrees of success in complying with emission standards. The Paducah Gaseous Diffusion Plant (PDGP), Oak Ridge Gaseous Diffusion Plant (ORGDP), and Oak Ridge National Laboratory (ORNL) currently use electrostatic precipitators for this purpose, and Y-12 is in the process of installing baghouses. The sulfur content of the coal burned at each installation is currently regulated at the source to meet SO_2 emission standards. However, PGDP has requested approval from the State of Kentucky to raise the restriction on its sulfur content from 0.75 to 2.3%.

Table 4.4.1. Conventional Waste

Category	Basic problem	Needed action
Steam Plant Emissions		
Y-12 stack emissions	The most important of Y-12's problems in this area involves the particulates (fly ash) from the steam plant. On April 14, 1982, DOE signed a Federal Facilities Compliance Agreement with the EPA that placed the Y-12 Steam Plant on a schedule to obtain compliance with the CAA and the State Implementation Plan for Tennessee.	The Steam Plant Improvement (82-83 LI, $13,500 K) project includes the installation of fabric filter baghouses to effect the control of particulates. The first two baghouses were installed in 1984, and the subsequent required tests (report due December 84) seem to indicate that the units will meet particulate standards. The third and fourth baghouse will be installed, under the same project, in 1985.
PGDP stack emissions	Present regulations require a low-sulfur coal (0.75%) to be used at this plant. This is expensive. Applications have been made to allow a high-sulfur coal to be burned; this request is being delayed by regulatory agencies because of regulatory uncertainty arising from court decisions involving the "tall-stack" policy (as applicable to the nearby commercial power plants, not to Paducah).	Follow-up will occur as opportunities open up. A local consultant has prepared a report (Prevention of Significant Deterioration [PSD applications]); that report should be reworked to make it consistent with new regulations and to optimize the coal's sulfur content and the allowed operating characteristics of the Steam Plant.
Y-12 coal pile runoff	Approximately 4 million gal per year of acidic runoff results from rainfall contacting and percolating through the Y-12 Plant coal yard, located next to the Steam Plant. The runoff has a pH range of 2 to 3, contains suspended coal fines and metal contaminants (iron, manganese, arsenic, and others), and is subsequently discharged to the East Fork Poplar Creek (EFPC). About 20 million gal of ion-exchange regeneration acid having a pH range of 1.5 to 4.5 and 20 million gal of boiler blowdown typically at an elevated temperature and with a pH of about 11 are also released to the creek annually.	The Steam Plant Wastewater Treatment Facility (85-D-124 LI, $4600 K) provides for the treatment of these acid and caustic discharges. The treated effluent will be a permitted outfall to the EFPC under a new NPDES permit scheduled for issuance in May 1985.

Table 4.6.1 (continued)

Category	Basic problem	Needed action
ORNL coal pile runoff and ash hopper effluent	ORNL Steam Plant effluents of concern are those associated with coal yard runoff and the ash hopper system. The two combine for approximately 6 million gal per year. Currently, the coal pile runoff is neutralized with 50% NaOH and discharged to a holding pond. The large quantity of sludge generated is filling up the pond. New discharge requirements, which will be included in the "second round" National Pollutant Discharge Elimination System (NPDES) permit, will undoubtedly require reductions in suspended-solid discharges to meet Best Available Technology (BAT) requirements.	Coal Yard Runoff Treatment System Improvements (84 GPP, $750 K) project has been funded to provide treatment facilities for neutralization, clarification, and sludge handling. The proposed facilities will allow ORNL to meet discharge requirements more consistently.
PGDP coal pile runoff and other associated liquid waste	Coal pile runoff, ash silo exhaust, boiler blowdown, and demineralized regeneration water, estimated at approximately 23.7 million gal per year, currently flow through the C-616 settling lagoon, where they are neutralized along with wastes from Recirculating Cooling Water (RCW) blowdown treatment systems.	It is currently believed that no additional corrective action is needed; however, this may change depending on the the outcome of NPDES permit negotiations.
ORGDP coal pile runoff	The coal pile runoff and softener regeneration waste, estimated at 4.6 million gal per year, are collected, neutralized, and discharged to the K-1407B pond.	The current waste treatment scheme is resulting in a rapid depletion of the pond volume. As a result, two new settling ponds will be provided in an 83 General Plant Project (GPP) estimated at $290 K. Because a "second round" NPDES permit for ORGDP was issued in 1984 for the next five years, no additional changes to this system are anticipated for the near future.
Air Emission - Organic		
Y-12	The principal volatile organic compound emitted by Y-12 is perchloroethylene (tetrachloroethylene). In most industries, it is usually used as a solvent in degreasers, but the primary use at Y-12 is as a machine coolant in the M-Wing Shop. Additional and replacement machines have increased perchloroethylene emissions above State-regulated limits.	The M-Wing Coolant Changeout (81-D-115 LI, $3800 K) project will replace the machine coolant with a propylene glycol-water mixture.

Table 4.4.1 (continued)

Category	Basic problem	Needed action
ORGDP	ORGDP also emits hydrocarbons to the atmosphere. One group of sources is numerous heat exchangers used i the diffusion process; these heat exchangers use a chlorofluorocarbon (Refrigerant-114) (not a VOC) as a working fluid. Other hydrocarbons released to the atmosphere (but in suspected minor amounts) are trichoroethane (used as a degreaser).	Continuing efforts are being made to reduce these emissions through maintenance of leaking pipes, valves, pumps, etc.
PGDP	The primary sources of hydrocarbon emissions at the PGDP Plant are the diffusion process heat exchangers and the degreasing operations. Refrigerant-114 (see ORGDP) is used as the working fluid in about 1800 heat exchangers. Approximately 150,000 lb/yr is lost because of leaks in pipes, valves, and fittings. As a result of an on-going effort at Paducah (and ORGDP) to locate and correct these leaks, progress has been made in reducing the refrigerant emissions.	No further actions are deemed necessary at this time because refrigerant-114 is not now considered a regulated VOC.
	Losses of trichloroethylene from PGDP degreasers (TCE) have been estimated at between 6000 and 10,000 lb/month, based on material balances. Trichloroethane is also used in drum quantities by the plant, but no emissions estimates have been made for this chemical. Permit applications have been filed for the degreaser emissions but not for the refrigerant losses. Permit applications have also been submitted for hydrocarbon emissions resulting from paint-spraying operations.	Because the PGDP VOC emission increases over the past five years do not exceed the PSD level of 40 T/yr, no corrective actions are deemed necessary at this time.

Table 4.4.1 (continued)

Category	Basic problem	Needed action
ORNL	The majority of the nonradioactive air emissions from the ORNL facility are composed of NO_x, chlorides, fluorides, fluorocarbons, and hydrocarbons. These are emitted by laboratories and small process facilities and are exhausted either to the 3039 stack or to separate roof vents. There are approximately 1500 laboratories at ORNL, and in many cases, several laboratories exhaust through a single duct and by a single fan. These multisource emissions have greatly complicated the air emission inventory that is now being prepared. Detailed data on conventional emissions from process and laboratory sources are not presently available.	In 1981, a program was initiated to collect updated air exhaust flow diagrams for the laboratories at ORNL. This program also identified the hoods, fans, and ducts associated with each exhaust and the exhaust rate from each laboratory. The program was suspended in 1982 and resumed in 1983.
	Nonradioactive emissions from ORNL facilities were estimated for the ORNL Environmental Analysis document using records from ORNL Purchasing and Stores. A rough, but more detailed, estimate of hydrocarbon emissions from ORNL has been requested by the State because of the need to improve estimates of ORNL impacts on regional attainment status. The entire State of Tennessee is presently classified as nonattainment for ozone. The hydrocarbon estimate is now being completed as part of the overall emission inventory. According to ORNL personnel, total hydrocarbon emissions from the facility may be only 1-2 tons per year, including emissions from paint spray booths, degreasers, and mobile sources.	A second program was initiated in 1983 to compile an air emission inventory for the entire facility, including laboratory and process sources. Scheduled for completion by late 1984 or 1985, the project will include identifying the type of work by lab and process, the elements and compounds used, and the method of discharge of each pollutant emitted. The data are particularly needed for preparing State permit applications; applications for existing unpermitted sources are presently being prepared.
	NO_x emissions result from the operation of the Nuclear Fuel Recycle Pilot Plant in Building 7600, which processes uranium oxide. This facility is permitted, and emissions of NO_x (from 60% aqueous HNO_3) and the feed rate of uranium are limited. The NO_x emission limit (calculated as NO_2) corresponds to about 27 lb/hr (100 tons per year (TPY) for continuous operation). There are no plans at present to expand the pilot plant into a production facility.	No additional actions are anticipated.

Table 4.4.1 (continued)

Category	Basic problem	Needed action
Air emissions - HF		
Y-12	Another Y-12 air emission of concern is HF. HF emissions arise almost exclusively from the chemical processing operations in Buildings 9212 and 9206. Recent and projected increases in production will significantly increase these emissions, possibly to levels above State of Tennessee control limits.	Process controls to minimize the necessity for the use of excess HF in the chemical operation are being installed. In addition, a HF Scrubbers (81-D-120 LI, $1100 K) project should essentially eliminate these operations as air pollution sources.
PGDP	There are several sources of airborne HF and other fluorides at the Paducah facility. These include: (1) Diffusion plant purge vent (classified rate) 18 TPY maximum, 3 TPY typical; (2) Fluorine production cells - F_2 and HF 0.5 TPY maximum; (3) UF_4 pulverizing equipment - UF_4 only 0.5 TPY maximum, 20 kg per year current level; (4) Nickel rotary calciner (NIF) - mostly HF 0.75 TPY maximum, typically <0.075 TPY.	To ensure compliance with the Kentucky ambient air standard of 0.6 ppb fluorides, the plant operates 12 fluoride-monitoring stations, and all the fluoride emission points are under administrative control. The diffusion plant purge vent emissions (primarily uranium and fluorides) are controlled using diffusion plant stages and a 99.9%-efficient NaF adsorber for gases from the product purification unit; they are then dispersed via a 200-ft stack. Pulverizer emissions are controlled by a high-efficiency filter, also 99.9% efficient. Calciner emissions are controlled by a $CaCO_3$ trap.
ORGDP	There is only one major source of fluoride emission at ORGDP, the diffusion cascade purge vent. These emissions are controlled by a potassium hydroxide scrubber, and sodium fluoride trap. Emissions are reasonably low (0.075 TPY in 1983).	No further corrective actions are anticipated at this time.
AIR EMISSIONS - Updated Source Inventories	All of the installations lack the appropriate source inventories to demonstrate compliance with all applicable Clean Air Act (CAA) rules. At Y-12 this inventory will require considerable stack sampling and characterization work to provide the necessary information.	Each installation, under the direction of the newly formed CAA strategy team, is developing plans for updating these inventories. In addition, a non-rad stack emission control project has been included in the 87 line item ($4200 K).

Table 4.4.1 (continued)

Category	Basic problem	Needed action
Liquid effluents - sanitary sewage		
ORNL	The inadequate treatment of ORNL's sewage has led to numerous NPDES noncompliances. The basic problems stem from infiltration of relatively large quantities of surface and groundwater into the old sewer lines and an existing sewage treatment facility that is incapable of satisfactory treatment.	Improvements to Existing Sewage Treatment Systems (84-E-104 LI, $1500 K) project has been funded to upgrade sewage treatment to meet BAT. This project includes tertiary filtration. Corrections to ORNL - Inflow/Infiltration (84 GPP, $265 K) project has been funded to reduce the hydraulic loading to the sewage treatment plant and allow treatment of more concentrated waste.
ORGDP	The ORGDP sewage treatment systems currently comply with all existing NPDES requirements.	In the past the ORGDP Sewage Plant sludge was disposed of in the on-site Classified Burial Ground, but because of changes in operation, this is no longer required. Plans are under way to use the Y-12 sanitary landfill.
PGDP	The PGDP sewage treatment system currently complies with NPDES standards. This plant on occasion experiences hydraulic overload during heavy rainfall and occasional unexplained contaminants (e.g., PCB) in the sludge.	No major corrective actions are deemed necessary at this time. Administrative programs have been initiated to locate the potential sources of contaminants and to eliminate the sources.
Y-12	Sewage is treated in the City of Oak Ridge Municipal Plant. There is evidence of accumulation of uranium in the sludge. Current disposal of sludge is through land application on DOE property.	Extensive sampling programs have been implemented to ascertain the magnitude of the uranium discharges. The sludge in the City's facility has shown evidence of uranium contamination, but further evaluations are needed and will be conducted to determine the source and significance of the contamination.
Liquid effluents - other wastes		
Y-12	The New Hope Pond, which is primarily used for pH adjustment (through flow equalization) and settling of insoluble materials, is rapidly filling with sediment and needs to be dredged.	A Sediment Removal Project (86 exp, $145 K) will b funded to remove the sludge and restore acceptable retention capacity.
	All liquid process waste streams from Y-12 that currently discharge to EFPC must be diverted to acceptable treatment systems prior to discharge.	A Source Collection and Treatment Facilities Project (85-D-124 LI $3,600 K) will provide collection tanks, curbs, pumps, piping, and truck loading facilities to allow for the transporting of waste to the appropriate treatment facilities.

Table 4.4.1 (continued)

Category	Basic problem	Needed action
	A continuing study of the Y-12 drainage systems is necessary to ensure that all liquid effluents are identified and documented.	A project entitled Drainage System Verification (84 exp, $250 K) has been funded to meet this need.
ORNL	All liquid process waste streams from X-10 that currently discharge to White Oak Creek and from Y-12 to EFPC must be directed to acceptable treatsystems prior to discharge in order to meet new NPDES permit requirements.	The Nonradiological Waste Treatment System (86 LI, $23,000 K) project has been proposed to meet BAT limits in handling organics, acids, and bases currently discharged to WOC. Two collection systems projects have been funded to route effluents from Environmental Research Laboratories to a central collection point; they are Treatment System 1505 Area (85 GPP, $315 K) and 2000 Area Process Drain Isolation (85 GPP, $255 K). To meet the NPDES requirements for ORNL facilities at Y-12, the following projects are proposed: Biology Area Wastewater Treatment Systems (86 GPP, $340 K) which will provide pH adjustment, solids precipitation. A Sump Oil Separation Project (86 GPP, $100 K) will install oil separators in pumps at Buildings 9201-1 and 9204-3 to remove oil prior to discharge of water.
	Additional State and EPA requirements regarding the isolation of process drains for treatment and added treatment systems are probable to meet BAT	In anticipation of these additional requirements, ORNL has proposed a project: Process/Storm Drain Isolation, Phase I, II 87-88 GPP, $1800 K).
PGDP	The containment of trichloroethylene, nitric acid, and the sulfuric acid transfer and storage require the installation of curbs and diking, consolidation of sulfuric acid storage facilities, and procurement of a vacuum truck for cleanup and spill response.	An Environmental Protection and Safety Modification Project (81 LI, $1600 K) is funded to meet these needs.
	Negotiations for NPDES permits at PGDP could result in additional treatment facilities and/or monitoring requirements the current magnitude of which is uncertain.	PGDP currently has reserved $250 K in the 1986 GPP budget for this purpose.
ORGDP	Potential additional State and EPA requirements regarding the isolation of process drains for treatment and added treatment systems are possible to meet future Clean Water Act (CWA) goals for innovative technology or zero discharge.	In anticipation of additional treatment systems needs to comply with regulatory requirements, ORGDP has proposed a project entitled Compliance with Clean Water Act (TBD LI, $8000 K). If these anticipated regulations do not materialize, then no engineering efforts will be expended.

Table 4.4.1 (continued)

Category	Basic problem	Needed action
Solid waste		
ORGDP	Construction debris, scrap paper, and normal sanitary wastes and fly ash from the K-25 Steam Plant are presently being buried in the new Y-12 Sanitary Landfill.	The existing contractors burial ground has been phased out, (84 GPP, $310 K), and no further corrective actions are anticipated. The old contractors disposal area closure will be handled in (86 GPP, $300 K).
PGDP	Construction debris, scrap paper, normal sanitary waste and fly ash from the Steam Plant are presently being buried in the PGDP Sanitary Landfill.	No further corrective actions are anticipated.
Y-12	Construction debris and scrap paper/normal sanitary wastes are currently being buried in the Y-12 Sanitary Landfill. Flyash from the Steam Plant is sluiced to Rogers Quarry.	The potential exists for the inadvertent mixing of uranium-contaminated materials with sanitary wastes, as a result Trash & Scrap Monitoring Facility (84 GPP, $140 K) is being built. A scrap metal monitoring facility is being constructed (86 GPP, $800 K) to assure that metals are not contaminated prior to sale. The practice of disposing of fly ash in the quarry, although permitted under the current NPDES permit, could change if significant problems are encountered in meeting discharge criteria.
ORNL	Construction debris is currently being buried in a contractors burial ground on-site. Sanitary wastes/scrap paper, etc., are hauled to the Y-12 Sanitary Landfill for disposal. Fly ash from the Steam Plant is currently being buried in the contractors burial ground.	A study is being conducted to determine if there is a more acceptable method for ash disposal. The construction burial ground will likely be closed, thus necessitating the disposal of construction debris and fly ash at the Y-12 Sanitary Landfill.

Also associated with steam plant operations are other necessary wastes, including boiler blowdown water, ash silo scrubber wastes, water softener regeneration wastes, and coal pile runoff. Each installation currently has its own treatment strategy for handling these wastes, as described in Table 4.4.1.

4.4.2 Airborne Emissions

Each of the installations now has or is developing appropriate management systems for identifying, evaluating, and permitting all airborne emissions sources. In general, suspended particulate emissions are generated by many processes, and they are controlled to meet state emission rates and opacity limits through the use of cyclone separators, electrostatic precipitators, and various filters. As mentioned in the previous section, the major SO_2 sources are the steam plants located at each installation, and emissions are controlled exclusively through the use of low-sulfur coal.

HF emissions emanate from various chemical processes, primarily those associated with uranium chemistry systems. At ORGDP these emissions are currently controlled through the use of a potassium hydroxide (KOH) scrubber, while at PGDP tall stacks were chosen to allow for appropriate dispersion in order to meet State ambient air standards. The Y-12 Plant currently has minimum HF control but have planned for KOH scrubbers as part of a 1981 (funded in 1985) line item - Control of Effluents and Pollutants. ORNL has no significant HF emissions.

The airborne pollutants of greatest concern to Energy Systems operations are volatile organic compounds (VOCs), which emanate primarily from equipment degreasing and machining operations. The major concern is due to the fact that essentially the entire eastern United States, including the Oak Ridge and Paducah areas, are categorized nonattainment for ozone, which results in the stringent regulation of VOCs. Recently, the Y-12 Plant has initiated a project - M-Wing Coolant Changeout - to allow for the substitution of a propylene glycol-based solution for perchloroethylene which is widely used as a machine coolant, thus substantially reducing VOC emissions.

During 1985 greater efforts will be expended on the preparation of better up-to-date ledgers of VOCs and other airborne sources to ensure compliance with appropriate clean air regulations.

4.4.3 Liquid Effluents

Although all four sites have some common effluent concerns, the differences in the types of processes they operate, in the physical layouts of their facilities, and in discharge requirements have necessitated the development of individual treatment strategies to comply with EPA, State of Tennessee, and State of Kentucky standards, as applicable. NPDES permit limits have been negotiated for ORGDP and Y-12, and negotiations at ORNL and PGDP will begin in the near future. Individual installation concerns and planned programs and projects for mitigating these concerns are listed in Table 4.4.1.

4.4.4. Solid Waste Disposal

Conventional solid wastes such as food scraps, waste paper, cans, glass, and construction debris including soil, asphalt, wood, and concrete have been in the past, and will continue to be in the near future, handled through shallow land burial. Because of its remoteness to the Oak Ridge facilities, PGDP obviously operates its own facilities for these materials. In Oak Ridge, each plant historically handled its own construction waste through burial on-site and shipped its sanitary wastes to a central facility near Y-12. During 1984 a reevaluation of the construction waste management system was conducted, and it was concluded that reduced environmental impact as well as economic cost advantages could be realized by utilizing the Central Sanitary Landfill at Y-12 for the disposal of all the installation construction wastes also. The appropriate change in permits has been effected, and the consolidation process has been initiated. More detailed information regarding conventional solid waste disposal is presented in Table 4.4.1.

4.5 MONITORING

Environmental monitoring activities have increased significantly with the implementation of regulatory requirements for environmental protection. Certain modifications in analytical procedures have been made as a consequence of a recent EPA audit inspection, and others will be made in field monitoring methods. Constant review and upgrading of equipment and procedures can be anticipated to meet with regulatory compliance. Studies will also be needed in some instances to better define the system and parameters to be monitored. Projects associated

with environmental monitoring programs including characterizing effluents and the fate of contaminants in the environment are listed in Table 4.5.1.

4.5.1 Air Monitoring

The ability to manage air emissions is dependent on adequate definition of the source term at the stack and to the atmospheric diffusion characteristics of the particular site. Deficiencies have been noted in the ability to obtain representative stack samples and real-time monitoring at several stacks at ORNL as well as in the adequacy of meteorological data (wind speed, wind direction, temperature differential with elevation, etc.) at the Y-12 plant.

4.5.2 Surface Water Monitoring

NPDES permits have made additional demands on the monitoring of waste streams at the source in order to ensure efficient utilization of existing and planned waste treatment facilities, and on the monitoring of waste effluents in receiving streams. The concern for the fate of contaminants in the environment and the need to demonstrate compliance include not only the requirement to monitor within the boundaries of the plant facilities but also the need for environmental monitoring in the surrounding environs such as East Fork Poplar Creek and the Clinch River.

4.5.3 Groundwater Monitoring

Regulatory guidelines require the development and upgrading of groundwater monitoring systems in waste disposal areas. These

Table 4.5.1. Monitoring

Category	Basic problem	Needed action
Air monitoring	Management of air emissions and estimates of downwind ground-level air concentration of materials in stack effluents require the ability to obtain representative samples from the stack, to conduct real-time monitoring for certain constituents, and to measure site-specific, meteorological parameters. These capabilities are not complete at each operating facility.	Two Meteorological Towers (84 OPF, $235 K) will be installed at Y-12 to collect meteorological data for predicting the behavior of contaminated plumes as required in Prevention of Significant Deterioration (PSD), and stack sampling will be improved in Stack Emission Monitoring Upgrade (87 LI, $4800 K). Stack sampling will be improved at ORNL to comply with DOE Orders in the Upgrade 7911 Stack Monitoring System (84 OPF, $350 K); representative sample collection and continuous air emission monitoring will be provided by Pressurized Gas Sampler System (85 OPE, $70 K), H^3 Stack Monitoring System (86 OPE, $200 K), and MSRE Stack Monitoring System (86 OPE, $250 K).
Surface water Monitoring	Additional requirements have been imposed on monitoring discharges to surface waters as part of revised NPDES permits. The capability to control the quantity and constituents in waste streams requiring treatment, which impact on the character of materials detected at NPDES monitoring points and the off-site environment, needs to be expanded and upgraded. certain laboratory capabilities is necessary to demonstrate regulatory compliance.	A number of corrective actions have been identified to meet the requirements for surface water monitoring. Additional NPDES monitoring stations will be provided at Y-12 in NPDES Monitoring/Sampling Stations (85 LI, $2000 K) and New NPDES Monitors at Y-12 (84 OPF, $250 K) and at ORNL in New NPDES Monitors at ORNL (85 OPF, $350 K). Upgrading surface water quality monitoring and measurements at ORNL includes Water Quality Monitors (84 OPF, $220 K), Boat/Trailer System (85 OPE, $25 K), Background Water Data Measuring Stations (85 OPE, $249 K), and Portable Water Samplers (86 OPE, $75 K). Improvements in ORNL waste stream segregation includes Instruments for Segregation of Process Waste (85 OPF, $950 K), Process Waste Monitoring System (86 OPF, $550 K), and Flow Measuring System for Sewage Lines (86 OPE, $350 K).
Groundwater Monitoring	Groundwaters of the Oak Ridge Reservation are considered to be waters of the State and in consequence must meet prescribed standards of water quality. Both RCRA and CERCLA impose certain Federal demands on water quality as related to the extent and	Concern exists for the contamination of deep groundwater flow systems as related to stabilization of ground disposal operations and will be investigated in three separate areas at ORNL by the projects Hydrostatic Head Monitoring Station, Trench Area (84 OPF, $220 K); Hydrostatic Head Measuring Station, SWSA

Category	Basic problem	Needed action
	degree of permissible levels of contamination associated with waste management and cleanup activities.	#6 (85 GPP, $300 K); and Hydrostatic Head Measuring Station, SWSA #5 (86 GPP, $600 K). Groundwater monitoring and protection strategies and initial monitoring systems will be developed at ORNL in Groundwater Monitoring Network, Phase I, II, III, and IV (86-89 GPP, $2650 K) and Groundwater Protection Program (F TBD exp, $2015 K). Monitoring capabilities will be upgraded in at ORNL Mobile Sediment/Soil Core Scanner (85 GPE, $150 K) and Mobile Well Logger (85 GPE, $100 K).
Monitoring System Support	Considerable monitoring data will be collected and it must be stored in a form useful for retrieval during routine plant operations or in the event of any emergency condtion. Monitoring support equipment must be provided to ensure that environmental samples can be collected in remote areas and that data collected can be processed in a timely manner.	At ORNL, the capability for automated storage, retrieval, and analysis of environmental data and tracking environmental samples will be provided in Environmental and Effluent Data Computer System (83 GPE, $198 K), Bar Code System (86 GPE, $490 K), and Environmental Management and Monitoring System (86 GPP, $900 K). ORNL monitoring equipment upgrading will be included in Environmental Monitoring Systems Upgrade Phase I, II (85-86 LI, $8500 K) and new requirements for environmental monitoring support will be provided in Environmental Monitoring/Management Equipment Phase I, II, III, IV, and V (85-89 GPE, $6260 K); Four Wheel Drive Vehicles (85 GPE, $44 K); Scan/Calibration Van (85 GPE, $150 K); and Gross Gamma Monitor (85 GE, $12 K).

requirements include the consideration of managing hazardous waste (RCRA) and the correction of conditions caused by past practices which are no longer considered acceptable (CERCLA). The United States Geologic Survey (USGS) is conducting studies of several groundwater systems underlying solid waste storage areas and has indicated the need for additional information on deep groundwater flow in the Oak Ridge Reservation as well as the need for additional monitoring capabilities of contaminant movement in shallow aquifers.

4.5.4 Monitoring System Support

Accompanying the increased requirements for environmental monitoring is the need to efficiently manage the additional data collected and to ensure the quality of the data. A dedicated computer for environmental data will be needed to store, retrieve, and process data and upgraded or new equipment will be required to help ensure the quality of the data collected. Specialized vehicles will be required for the various field monitoring activities.

4.6 REMEDIAL ACTION AND DECOMMISSIONING

Environmental characterization and upgrading have been practiced at the DOE Reservation since the 1960s but not to the extent required by current standards. The problems DOE faces at Oak Ridge fall into two categories. The first category includes those problems associated with upgrading old facilities and/or maintaining current research, production, and industrial practices to comply with today's environmental standards. It will be necessary for the Federal

government to operate its facilities in accordance with environmentally acceptable standards, and the projects required to achieve such compliance are reasonably well understood and can be planned and scheduled.

The second category of problems facing DOE involves the identification of corrective actions needed to reduce hazards from discontinued, early practices. These hazards have not been well characterized technically (e.g., original inventories and migration of leachates over time), and the appropriate corrective actions are even less certain. For example, the exhumation of contaminated and/or hazardous materials that have been buried for 30 to 40 years might, under some conditions, create a greater hazard than leaving the materials in place and limiting access or attempting to reduce groundwater movement through the contaminated area. A comprehensive monitoring program could accompany such protection strategies.

The problems associated with past waste management practices and the actions needed to correct unacceptable conditions are the principal projected cost estimates as listed by fiscal year in Appendix C.

4.6.1 Burial Ground and Waste Pits

Ground disposal of radioactive waste, sanitary waste, and various organic materials (some of which contained oils contaminated with polychlorinated biphenyl compounds [PCBs]) has been used extensively. Such disposal practices have been continually improved to reduce and minimize groundwater and surface water contamination. Many of the

Table 4.6.1. Remedial action and decommissioning

Category	Basic problem	Needed action
Burial grounds and waste pits	The use of soils and geological media for controlling the rate of contaminant entry into shallow aquifers and movement with the groundwater, respectively, is no longer accepted to the degree practiced previously. In some cases records of waste disposal operations are incomplete, and the extent of contaminant migration is not well characterized. Potential CERCLA sites have been identified for DOE/EPA/TDHE, and a DOE/TDHE agreed order requires submission of a remedial action plan for burial grounds in Bear Creek Valley.	Burial activities as practiced previously by Y-12 in Bear Creek Valley must be improved. The Bear Creek Watershed Remedial Action Planning/Studies (84-87 exp, $9800 K) will assist in defining the extent of corrective actions, which can only be estimated at this time in the Disposal Area Remedial Actions (84-D-129 LI, $12,000 K). Several corrective actions to reduce radioactive leaching from ground disposal operations by ORNL in Melton Valley have been and continue to be implemented. Diversion drains are being installed to intercept groundwater in Engineered Groundwater Barriers, Trench 7 (84 OPP, $400 K) and sludge stabilization is being tested in Solidify the Sludge Pond at SWSA5 (84 exp, $250 K). Evaluation of potential groundwater contamination adjacent to inactive burial grounds at ORGDP is in the planning stage.
Surface impoundments	Ponds have been used as an integral part of waste management systems and consequently have accumulated contaminated sediments and sludges. Soils and groundwater underlying these ponds have also become contaminated as a result of percolation and leaching of the contaminated materials from the ponds. Such practice no longer meets the environmental protection requirements of EPA/TDHE. Estimates of contaminated sludge include 11 million gal in S-3 Pond, 4 million gal in New Hope Pond, and 2 million gal in ORNL ponds.	The use of S-3 Ponds at Y-12 as waste management systems has been discontinued, and study is in progress to define the requirements for remedial action in Closeout of the S-3 Ponds (84-85 exp, $4200 K). A diversion ditch has been constructed around New Hope Pond and a disposal strategy is being developed for sludges that are now considered hazardous waste. The requirements for cleanup and decommissioning of ORNL ponds are also being formulated in Stabilization/Cleanup of Ponds (85-89 exp, $55,571 K).
Building decontamination and decommis-	Weapons production, uranium enrichment, and research and development activities involving radioisotopes have	Study is necessary to define requirements and cleanup practices to decontaminate the lithium isotope facilities at

Table 4.6.1 (continued)

Category	Basic problem	Needed action
sioning	resulted in the contamination of process equipment and some residual contamination in buildings. Several processes are no longer used, and equipment needs to be salvaged or converted into an acceptable form for sale or disposal. Decontamination and decommissioning of buildings will also generate a potential occupational exposure situation and a waste product for disposal. Approximately 60,000 tons of scrap metal awaits decontamination.	Y-12, and is included in Studies on Decommissioning of Lithium Isotope Facilities (84-87 exp, $6600 K). Similarly, plans will be necessary to decommission the unused purge cascade facilities at K-25. Several process buildings at ORNL are also candidates for decontamination including the Metal Recovery Facilities (84 exp, $6300 K), Fission Product Development Laboratory (84 exp, $3100 K), and the Old Hydrofracture Facility (87 exp, $290 K).
Mercury studies	The extent of on-site mercury contamination at Y-12 is presently undefined, and contaminated facilities and cleanup operations result in the entrainment of mercury in liquid discharges. Mercury discharges continue to EFPC at levels exceeding the standards of the TDHE.	Investigations are in progress to identify the existing sources of mercury in Y-12 Plant effluents entering EFPC in the study Mercury Source Identification and Remedial Action Planning 84-87 exp, $900 K), and facilities to reduce groundwater discharges ofmercury to the creek are being planned in the project Reduction of Mercury in Plant Effluents (85 LT, $15,000 K).
Watershed rehabilitation	A variety of organic, inorganic, and radioactive contaminants have been identified in the soils and sediments of Bear Creek Drainage Basin, EFPC, and White Oak Creek Drainage Basin (including White Oak Lake). Some contaminants exceed levels considered to be acceptable to EPA/TDHE. The extent and character of remedial actions are presently undefined.	The required rehabilitation of aquatic and terrestrial environments ispresently the topic of numerous studies. In addition to Bear Creek watershed studies (identified above), Y-12 has study requirements in East Fork Poplar Creek, both within and external to the plant are, and in Bethel Valley, in order to define the requirements for remedial action; these are included in East Fork Poplar Creek Watershed and Bethel Valley Remedial Action Studies Exclusive of the Y-12 Plant Area (87 exp, $2400 K) and East Fork Poplar Creek Watershed Remedial Action Studies Exclusive of the Y-12 Plant Area (84-86 exp, $4000 K), the latter supporting an Interagency Task Force investigation. Special studies are also needed in the City of Oak Ridge to define the extent of soil contamination and are included in special studies and Short Term Remedial Actions in City of Oak Ridge (84-87 exp, $1300 K). Environmental impact statements will be necessary for many activities and are included in Bear Creek Watershed EIS 85-86 exp, $1500 K), in East Fork Poplar Creek Watershed and Bethel Valley EIS, both Including Y-12 Plant Area (87-88 exp, $1750 K), and Exclusive of Y-12 Plant Area (86-87 exp, $1500 K).

Table 8.6.1 (continued)

Category	Basic problem	Needed action
		The requirements for corrective measures which involve ORNL are estimated in the Stabalization/Cleanup of White Oak Lake (85-89 exp, $49,700 K).
CERCLA	The Federal Act requires inactive hazardous waste facilities to be closed in a manner that precludes the future threat of hazardous material being released to the environment.	Inactive waste sites must be studied to determine the requirements for corrective actions, if any, and will be included in activities described above under Burial Grounds and Waste Pits and Watershed rehabilitation.
Information collection and data management	Additional information and data are necessary to determine the most reasonable and cost-effective measures to correct deficiencies in on-going operations and in discontinued practices. A centralized data base will assist the researcher in directing his studies and the manager in making choices among alternative corrective actions.	Information needs related to remedial actions and of a multisite nature are identified in Stabilization and Decommissioning of Waste Burial Grounds, Pits, Trenches, and Impoundments (84-88 exp, $3100 K), Advanced Environmental Control Technology and Decontamination of Sediments (84-88 exp, $4650 K), and Environmental Transport (84-88 exp, $9400 K), and the development of an environmental database is included in Resource Data Management (84-88 exp, $700 K).

earlier operations were discontinued upon reaching design capacity. Since a number of the disposal methods used previously are no longer acceptable, new closure requirements may be needed to satisfy present regulations.

A study is now under way or planned to define the extent and degree of contaminant migration at inactive ground disposal sites and to determine the corrective measures necessary to further reduce contaminant occurrence in groundwater and surface water.

4.6.2 Surface Impoundments

Many process effluents are routed to surface ponds as a means of equalizing the flows and chemical composition for subsequent treatment and of settling suspended solids. In some cases, operations have resulted in unacceptable contamination of soils, groundwater, and, to some extent, surface waters. It is necessary to phase out operation and adequately close several of these ponds and to study others and determine the character of the contaminants present and the extent of groundwater contamination, if any. White Oak Lake is covered separately in a subsequent subsection.

4.6.3 Building Decontamination and Decommissioning

Changes in process operations typically resulted in process equipment that had to be dismantled and in buildings that had to be upgraded for new use. In some cases both the equipment and buildings had to be decontaminated; presently plans and schedules are being

formulated to effect the necessary changes. For continuous operations at Y-12 during the period of building restoration, several process units must be relocated (electrochemical metal removal) and facilities provided for support staff (approximately 150 people). Large quantities of scrap metal in storage must be sorted and subsequently decontaminated.

4.6.4 Mercury Studies

The severity of on-site mercury contamination at Y-12 is being evaluated for the possible application of remedial measures. This is an ongoing program to identify and isolate sources and to eliminate or isolate them. Techniques for sampling and analyzing the forms of mercury in storm sewers within the plant and environmental media are being reviewed and developed will be used to define the extent of mercury contamination in the plant environs. Techniques to reduce mercury-contaminated groundwater discharges to the surface waters are also in need of development. Even then the ability to meet the State's aquatic life standards for mercury in surface waters (~0.05 ppb) is not ensured. Simultaneously, a retrospective epidemiological study of employees who previously worked in the lithium isotope separation facility is being planned.

4.6.5 Watershed Rehabilitation

The most prominent long-standing environmental problem involves contaminated soils and sediments that contribute to both surface water and groundwater contamination of the Oak Ridge Reservation and the Clinch River.

At ORNL, these are primarily the radioactive burial grounds, White Oak Creek/Lake sediments and floodplains, and subsurface soils within the Laboratory resulting essentially from pipeline leaks. Each area causes localized groundwater contamination, and each area contributes to elevated radioactivity in surface water discharges from this DOE site. Similar problems exist at the Y-12 plant, extending off-site along EFPC, primarily within the City of Oak Ridge. The off-site sediment/floodplain soil contamination problem is currently under evaluation by the Interagency Oak Ridge Task Force (ORTF), which is chaired by the TDHE representative with membership from DOE, EPA, USGS, TVA, and the City of Oak Ridge. Environmental data collection within the City by the Oak Ridge Associated Universities (ORAU) has been ongoing since early summer 1983. Studies of surface water, groundwater, and fisheries have been begun by TVA and USGS; data assimilation and evaluation will be done for the ORTF by ORNL. Studies are expected to be completed during FY 1986, and ORTF recommendations will follow.

The DOE has determined that an environmental impact statement is required to meet NEPA regulations for corrective actions in Bear Creek Drainage Basin and East Fork Poplar Creek Drainage Basin.

4.6.6 Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

This act establishes the authority for the Federal government to respond to releases, or to the threats of releases, of hazardous substances from inactive hazardous waste facilities. Subpart F of

CERCLA provides for seven phases of hazardous substance response: (1) discovery - including notification of EPA and State; (2) preliminary assessment; (3) immediate removal - if necessary; (4) evaluation and determination of appropriate response; (5) planned removal - limited action; (6) remedial action for longer-term, more extensive effort; and (7) documentation and cost recovery.

Phase I has been completed, and about 60 potential CERCLA sites have been identified for evaluation at Energy Systems/DOE facilities.

4.6.7 Information Collection and Data Management

There is a need for additional information and data on the occurrence, fate, and effects of contaminants in the Oak Ridge environs to correct the deficiencies of past operations. Research activities are designed to assess the current situation as related to pollutant sinks and food chain availability and to provide data to permit decisions among alternative corrective actions. The integration of all separate data sources compiled by the research into a single data base is an essential component of a cost/benefit analysis.

4.6.8 Post 1989 Requirements

It is quite likely that certain corrective measures will extend beyond the five years identified in this plan, in particular, (1) the contamination of soils and sediments in White Oak Lake, (2) the remedial measures for East Fork Poplar Creek, (3) the remedial measures for Bear Creek Drainage Basin, and (4) the on-site cleanup of mercury at Y-12. Each of these activities may add an additional $30 million dollars; but

the extent of uncertainties may escalate the cost of corrective actions for each project to as much as $50 to 100 million.

5. ADMINISTRATIVE CONSIDERATIONS

5.1. FUNDING AND PROGRAMMATIC CONSTRAINTS

5.1.1. Funding Schedules

During FY 1984 considerable effort was expended through the central staff and the installations, environmental management groups, engineering, special study groups, and the Department of Energy to examine the various aspects of the strategy, policy, and funding for the environmental program. As a result of this effort revisions to the initial portion of the 5-year plan have been made. This document represents the revised 5-year plan. The funding levels and time constraints for funding and project development have played a significant role in the formulation of this revised plan. Included in this section of the revised plan is a summary of the funding authorizations and requests for the environmental activities for the next five years--FY 1985-1989.

Funding needed to resolve environmental problems were estimated at about $450 million for FY 1984 through 1988 in the 5-year plan published February 29, 1984, and submitted to Congress by DOE Manager La Grone. This document was requested by Congressman Gore and Congresswoman Lloyd. In this plan, funding needs have been reexamined and projected to be $513 million for the FY 1985-1989 time period. Funding for the Oak Ridge installations for this period is shown in Table 5.1. Similar

projections have been developed and are shown for the Paducah Gaseous Diffusion Plant.

Table 5.1 Total funding for Oak Ridge plants for FY 1985-1989

Plant		Budget requests (millions of dollars) 1985	1986	1987	1988	1989	Total
Y-12	1985 Plan	44	47	33	10	8	142
ORNL	1985 Plan	16	67	56	101	88	328
ORGDP	1985 Plan	17	18	6	<1	0	41
Total Oak Ridge	1985 Plan	77	132	95	111	96	511
PGDP	1985 Plan	<1	1	<1	0	0	2
TOTAL	1985 Plan	78	133	95	111	96	513

The total funding of $513 million for the Oak Ridge and Paducah installations does not include funds for remedial actions which cannot be determined at this time (see next paragraph) or R&D and Expense Studies Funding. R&D funding estimates in the FY 1984 5-year plan for broad installation funded projects were estimated to be about $55 million for the Oak Ridge installations. Similar funding levels are projected for the 1985-1989 time period of this plan. Since R&D will be one or the plan categories for future long-range plans, this estimate will be updated during CY 1985. Expense Studies Funding has been defined as funding required for feasibility studies and conceptual design work and documentation for capital projects (GPP and LI). This

has been calculated at 10% of the total estimated cost of the project and is funded in the one to three years prior to the funding year of the project. Expense Studies Funding is estimated to be between $20 and $30 million over the five year period of this plan.

As with the previous plan, the funding levels are projected for the resolution of problems associated with current waste management practices by FY 1990. Remedial actions are not projected to be completed in this plan and many are in the To Be Determined (TBD) category, which is shown as $0 funding. Planning and research and development (R&D) could be accomplished in this time frame, and some remedial actions could be initiated. Some additional information obtained during FY 1984 has permitted a better insight into some remedial actions. Although many remedial action projects are shown as TBD, it is most important to realize that this funding requirement will likely be in the several-hundred-million-dollar range. Even for those actions where funding is shown, the major efforts are generally funded in the out years (past FY-89) and are, therefore, not completely reflected in the funding totals. Last year this projection was $200-300 million and may increase significantly to implement recommended remedial actions.

Table 5.2 shows a comparison of the funding requirements as projected in the FY 1984 5-year plan and in this, the FY 1985 plan. It is significant to note that for the 1985 plan, the total funding requirements do not include R&D and Expense Studies which are estimated at about $75 million. This reflects a projected funding level of $96 million for FY 1989 and compares with the FY 1984 funding level of about $70 million. The FY 1985 plan also shows a decrease in the Y-12 totals of about $81 million as compared to the increased projection of about $165 million for ORNL (with $124 million of this increase is FY 1988-1989).

Table 5.2. Total funding for Oak Ridge installations
Comparison of fundings requests in 1984 and 1985 plans*

Plant		Budget requests (millions of dollars) 1984	1985	1986	1987	1988	1989	Total funding
Y-12	1984 Plan	39	48	46	52	38		223
	1985 Plan		44	47	33	10	8	142
ORNL	1984 Plan	14	20	30	39	60		163
	1985 Plan		16	67	56	101	88	328
ORGDP	1984 Plan	18	32	6	1	12		69
	1985 Plan		17	18	6	<1	0	41
Total	1984 Plan	71	100	82	92	110		455
	1985 Plan		77	132	95	111	96	511

*A direct comparison of the two plans is not possible at this time since the 1984 Plan includes R&D and Expense Studies funding, while the 1985 Plan does not. Estimates of these funding needs in the FY-1985-1989 period total about $75 million. Adding this to the 1985 Plan Total gives $586 million total funding. The FY 1985 plan also shows a decrease in the Y-12 totals of about $81 million as compared to the increased projection of about $165 million for ORNL (with $124 million of this increase is in the FY 1988-1989).

Figures 5.1 and 5.2 show the breakdown of the total funding for the Oak Ridge installations and the funding allocated to remedial actions by the installations, respectively. Out of the total FY 1985 funding of $77 million, approximately 25% ($19.5 million) is authorized for three previously approved line item (LI) projects. These LI projects provide centralized facilities for use by all Oak Ridge installations, including the TSCA Incinerator [Environmental Program Management Plan (EPMP) No. 3.3.1)] and the Central Sludge Fixation Facility (EPMP No. 3.1.2), which are funded at $7 and $5 million, respectively, in FY 1985. The

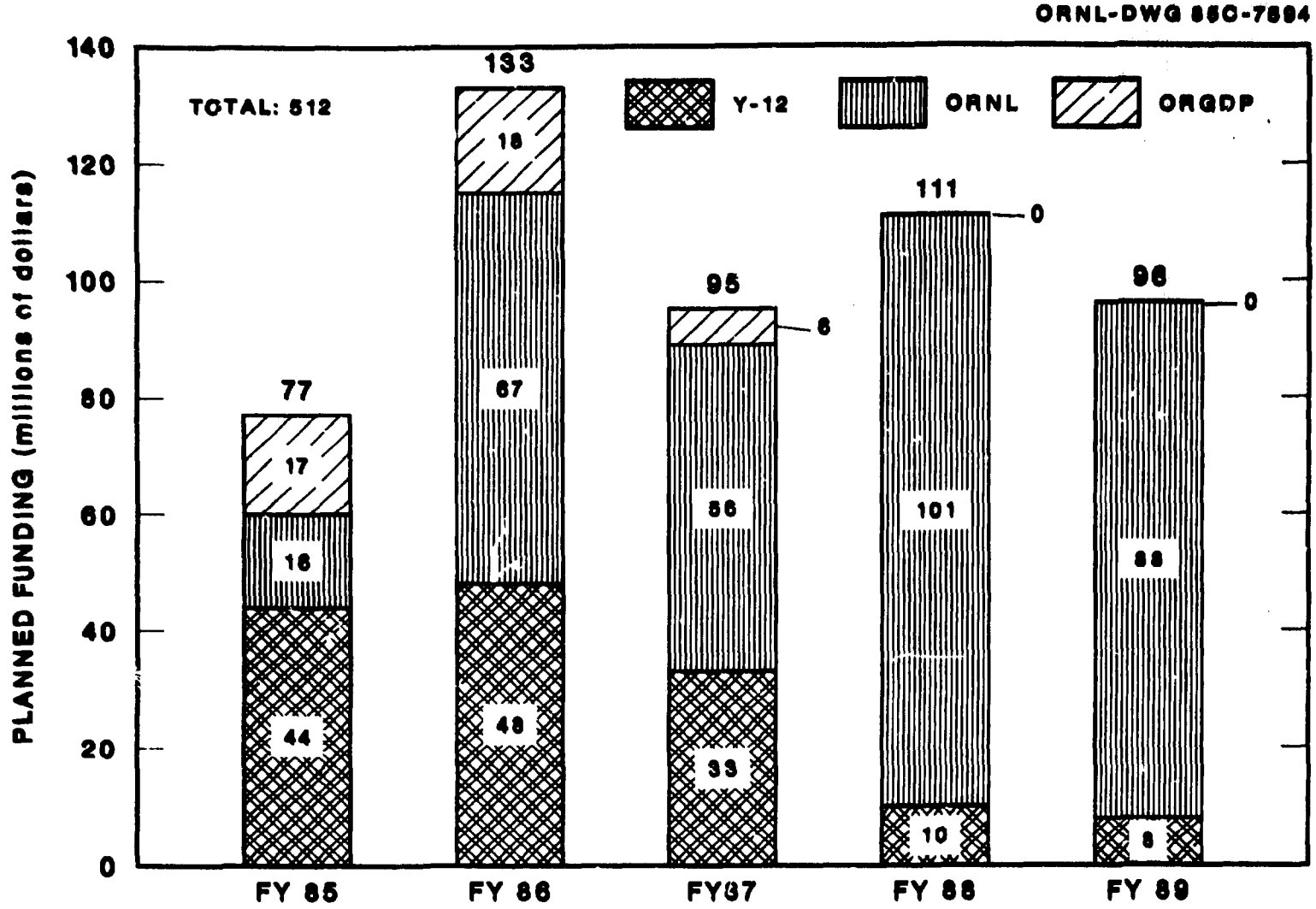

Fig. 5.1. FUNDING SCHEDULE FOR ENVIRONMENTAL ACTIVITIES FOR THE OAK RIDGE COMPLEX

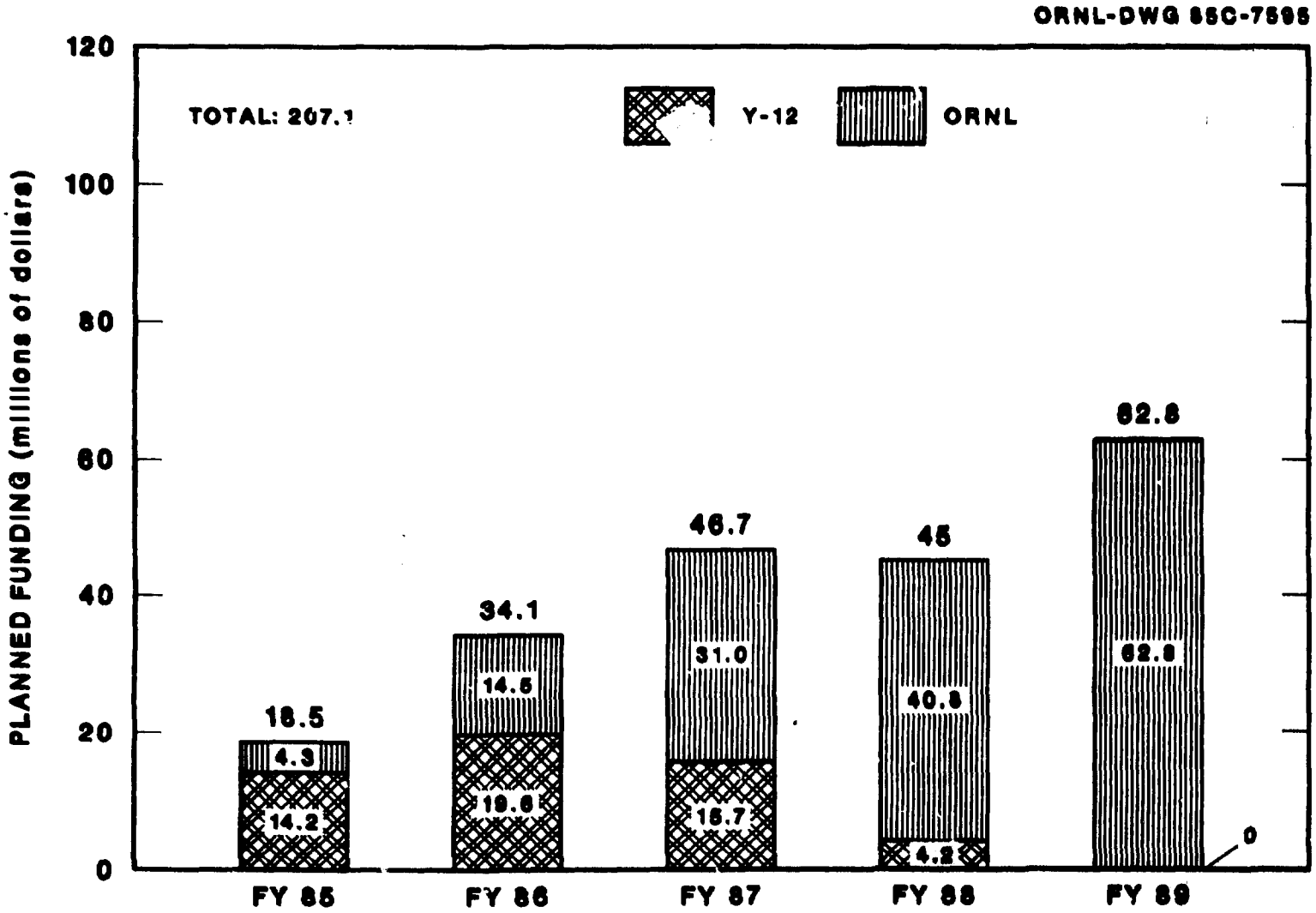

Fig. 5.2. FUNDING SCHEDULE FOR REMEDIAL ACTIONS FOR THE OAK RIDGE COMPLEX

other central project is the Central Waste Disposal Facility (CWDF) (EPMP No. 2.1.6) funded at $7.5 million; however, the Draft Environmental Impact Statement (DEIS) for this facility was rejected, and the project is now being redefined with a possible years delay in construction. This project represents approximately 10% of the FY 1985 funding total.

Figures 5.3 and 5.4 are pie charts showing a breakout of the funding authorizations by category for the FY 1984 and 1985 versions of the 5-year plans, respectively, for the Oak Ridge installations. Funding authorizations for these plans are shown for the six waste categories of the plans. These are (1) radioactive waste, (2) hazardous waste, (3) mixed or co-contaminated waste,(4) conventional wastes, (5) monitoring, and (6) remedial actions and decommissioning. As previously stated, and as shown here, two types of projects that significantly influence the total funding fall into two areas which are those proposed to comply with the Environmental Protection Agency and State of Tennessee regulations and projects for remedial actions.

With respect to the Environmental Compliance (Federal, State, etc.) Figure 5.5 presents a funding distribution for the projected funding for FY 1985-1989. This breakout shows how the funding (projects) are influenced by Statutory Requirements. In this breakout, the primary statutory requirement is shown, but in many of the projects there may be several statutory requirements that are applicable. While RCRA and CERCLA projects account for about one-third of the total funding in this

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Fig 5.3 FUNDING AUTHORIZATION BY WASTE CATEGORY
FEBRUARY 1984 PLAN -- 1984 - 1988
TOTAL FUNDING $456.4 MILLION

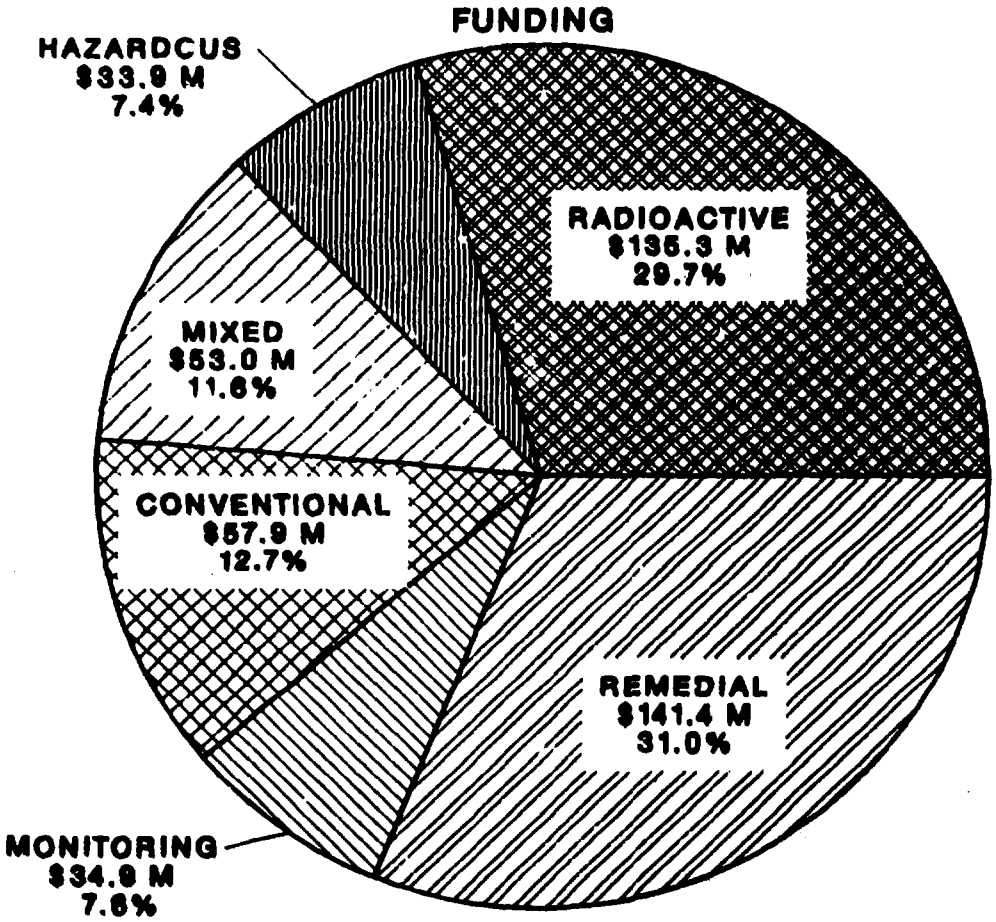

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Fig 5.4 CURRENT FUNDING PROJECTION BY WASTE CATEGORY
1985 PLAN -- 1985 - 1989
TOTAL FUNDING $512.9 MILLION

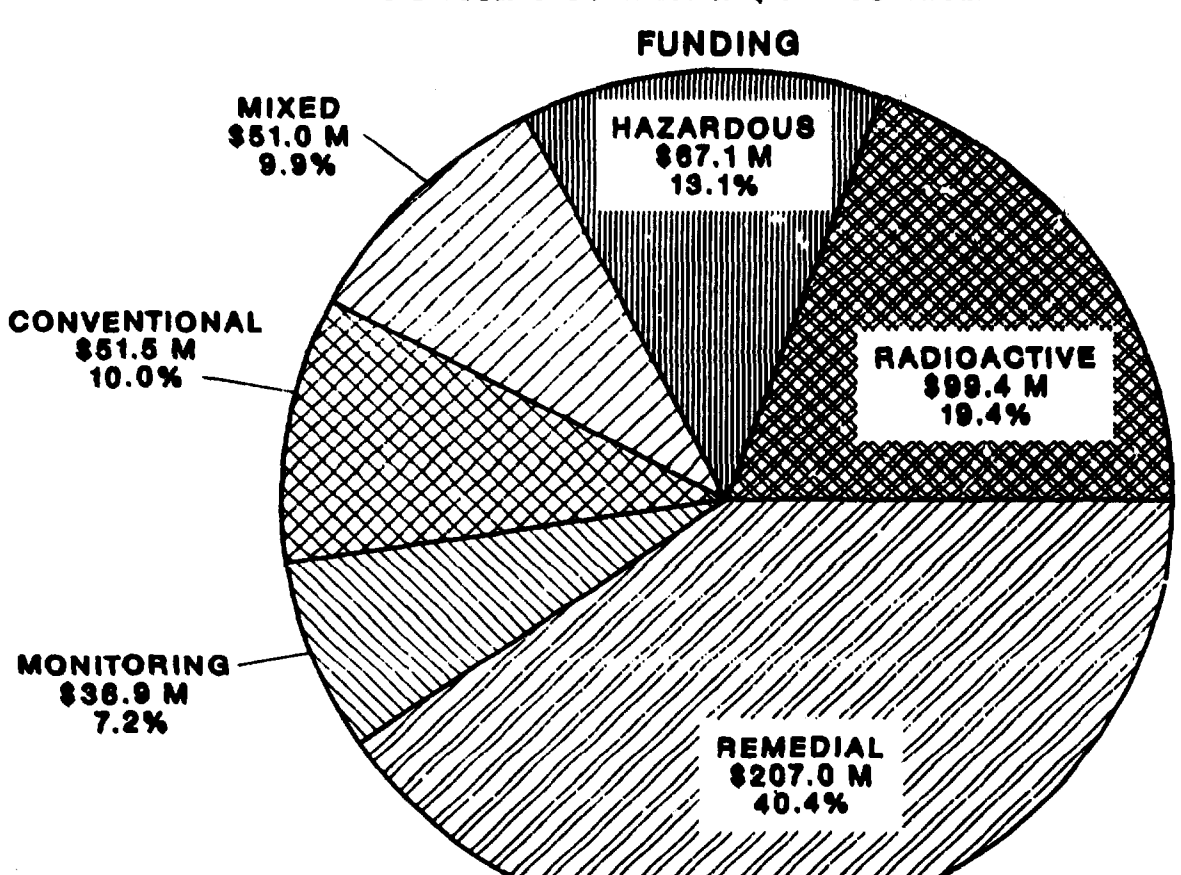

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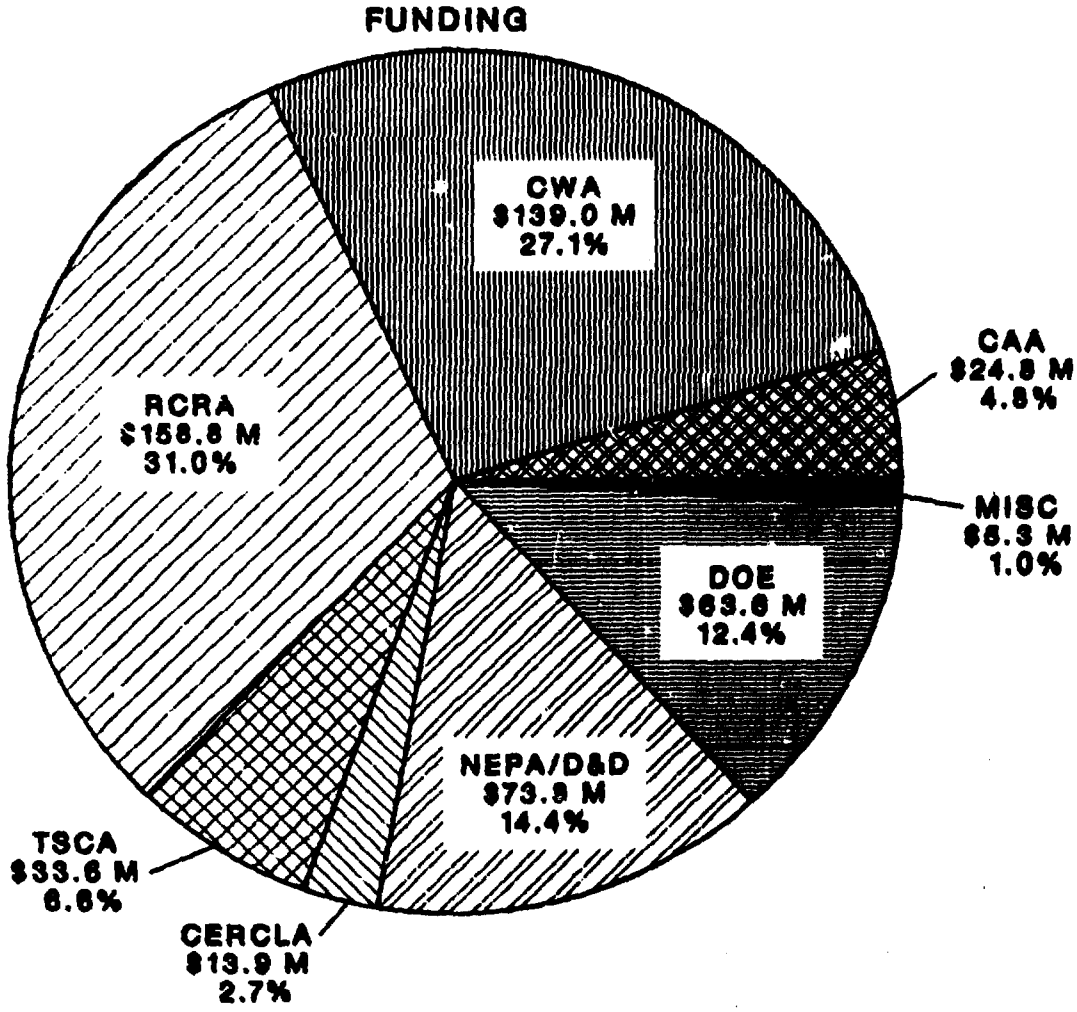
Fig 5.5 CURRENT FUNDING DISTRIBUTION BY STATUTORY REQUIREMENT 1985 PLAN -- 1985 - 1989 TOTAL FUNDING $512.9 MILLION



time period, this could increase as site clean up decisions are resolved and as remedial actions for these sites are defined in the out years beyond 1989. NEPA/D&D activities will likewise show a significant increase in the out years. These are the funding areas, that even within the 1985-1989 time period are shown as TBD. As has been pointed out in other parts of this document, TBD funding will likely flag the need for several tens to hundreds of millions of dollars.

R&D activities, in support of this plan, have not been summarized in this plan. Based on estimates from the previous plan, R&D activities continue to be estimated at about $55 million for the 5-year period. Expense Studies funding has been estimated at 10% of the cost of the GPP and line item capital projects and is provided in the year-3 for LIs and year-2 for GPP projects. Expense funding provides for engineering and field tasks to develop feasibility and conceptual design. For the 1985-1989 planning period, expense studies are estimated at $20 to $30 million dollars. This spread in the estimate is due to the uncertain, but significant, line item funding projected for 1990 and 1991.

Detailed funding schedules are presented in Appendix C. Funding details may also be obtained through the recently implemented EPMP data base (see Appendix D).

Table 5.3 is a Funding Summary Table for the Oak Ridge Installations showing a breakdown of the type of funding and the funding source (Budget & Request designation) for the $511 million of the Oak Ridge part of this plan. As with most of the ORGDP projects the $1.79 million for the Paducah plant is funded from enrichment (CD) authorizations. Table 5.4 provides the key for the B&R funding source and type of funding.

Table 5.3 Funding summary table for 218 projects in FY 1985-1989 plan

Funding Type	Funding Source	Total	Funding x 1000 1985	1986	1987	1988	1989
CE	CD	196	140	8	48	0	0
EXP	AH	14500	0	0	0	0	14500
EXP	AR	48790	5730	8740	7815	9550	16955
EXP	AT	0	0	0	0	0	0
EXP	CD	2015	760	590	665	0	0
EXP	GB	32425	12750	9925	8350	1400	0
EXP	KG	131100	4200	12900	28000	43000	43000
GPE	AR	2144	494	300	375	475	500
GPE	AT	10598	2348	2240	2750	1680	1580
GPE	GB	2500	2500	0	0	0	0
GPE	KG	6200	0	1000	2600	1300	1300
GPP	AR	8750	2400	2700	3650	0	0
GPP	AT	13516	3346	4200	2970	1600	1400
GPP	CD	2127	127	750	1100	150	0
GPP	GB	6130	2350	1700	1750	330	0
GPP	KG	13040	0	5000	3970	3470	600
LI	AR	55500	0	7500	0	40000	8000
LI	AT	8500	1000	3500	4000	0	0
LI	CD	30416	13134	13467	3815	0	0
LI	GB	101500	26300	36300	23200	9200	7800
LI	KG	23000	0	23000	0	0	0
TBD	CD	0	0	0	0	0	0
TBD	GB	0	0	0	0	0	0
	Totals	512947	77579	133520	95058	111155	95635

Table 5.4 Key to finding type and funding source for environmental projects in plan

Funding Type:

Key		Description
EXP	-	Expense
EXS	-	Expense Studies
GPP	-	General Plant Project (Capital)
GPE	-	General Plant Equipment (Capital)
LI	-	Line Item (Capital)
CE	-	Capital Equipment
TBD	-	To be determined

Funding Source:

Key		Description
AT	-	Fusion Energy
AR	-	Defense Waste
AH	-	Remedial Action - Surplus Activities
KG	-	Multiprogram General Purpose Facilities
OER	-	Office of Energy Research
GB	-	Weapons Activities
CD	-	Uranium Enrichment

5.1.1.1 Y-12 Plant

Y-12 has requested total funds of about $142 million [exclusive of research, development, and demonstration (RD&D)] to support environmental projects and activities during FY 1985-1989 (see Figures 5.6, 5.7, and 5.8). Figure 5.6 shows the funding schedule by type of budget for the proposed environmental activities, and Figure 5.7 shows the funding schedule by the six waste categories. The remedial action category is also shown separately in Figure 5.8.

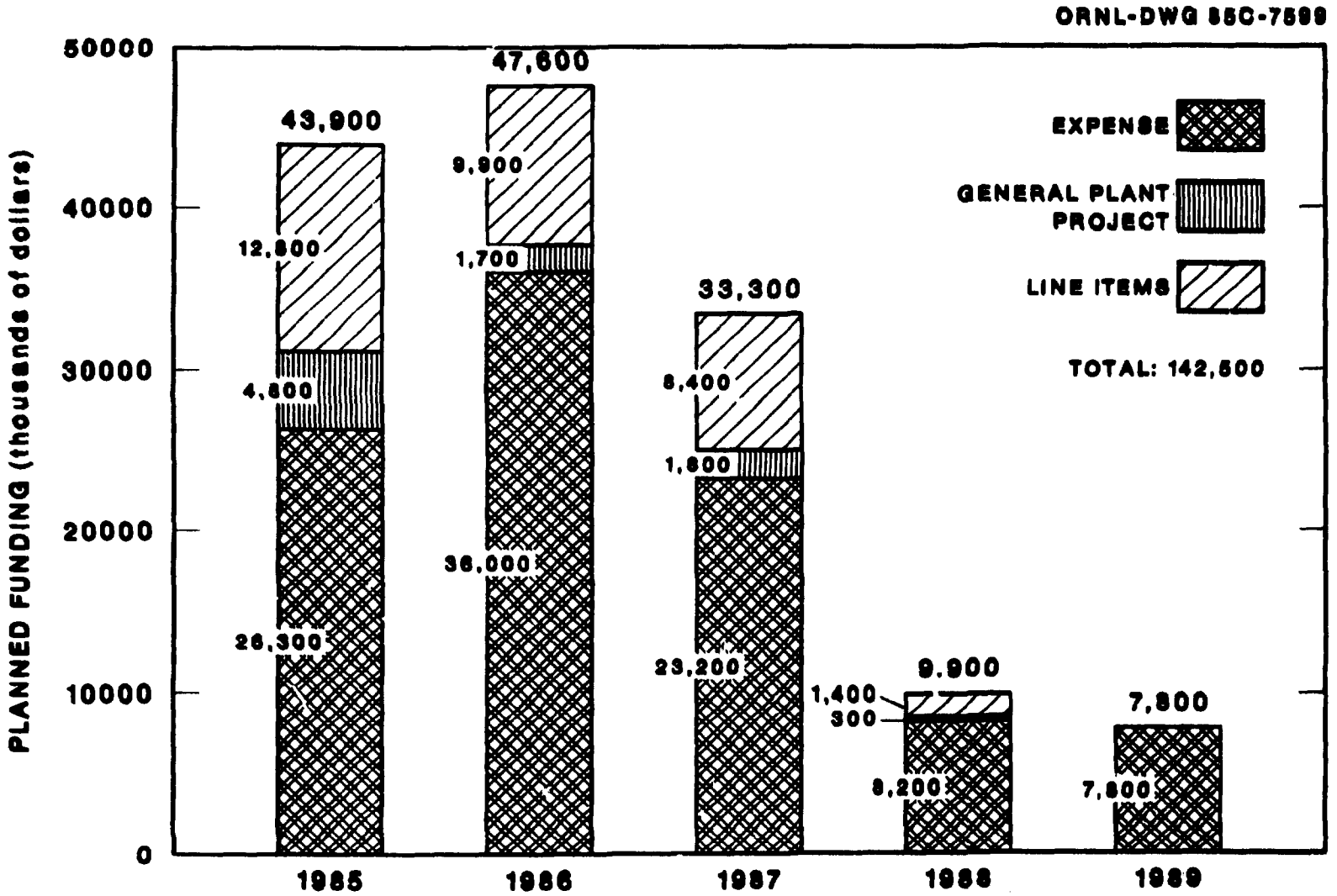


Fig. 5.6 Y-12 FUNDING FOR ENVIRONMENTAL ACTIVITIES BY BUDGET AUTHORITY

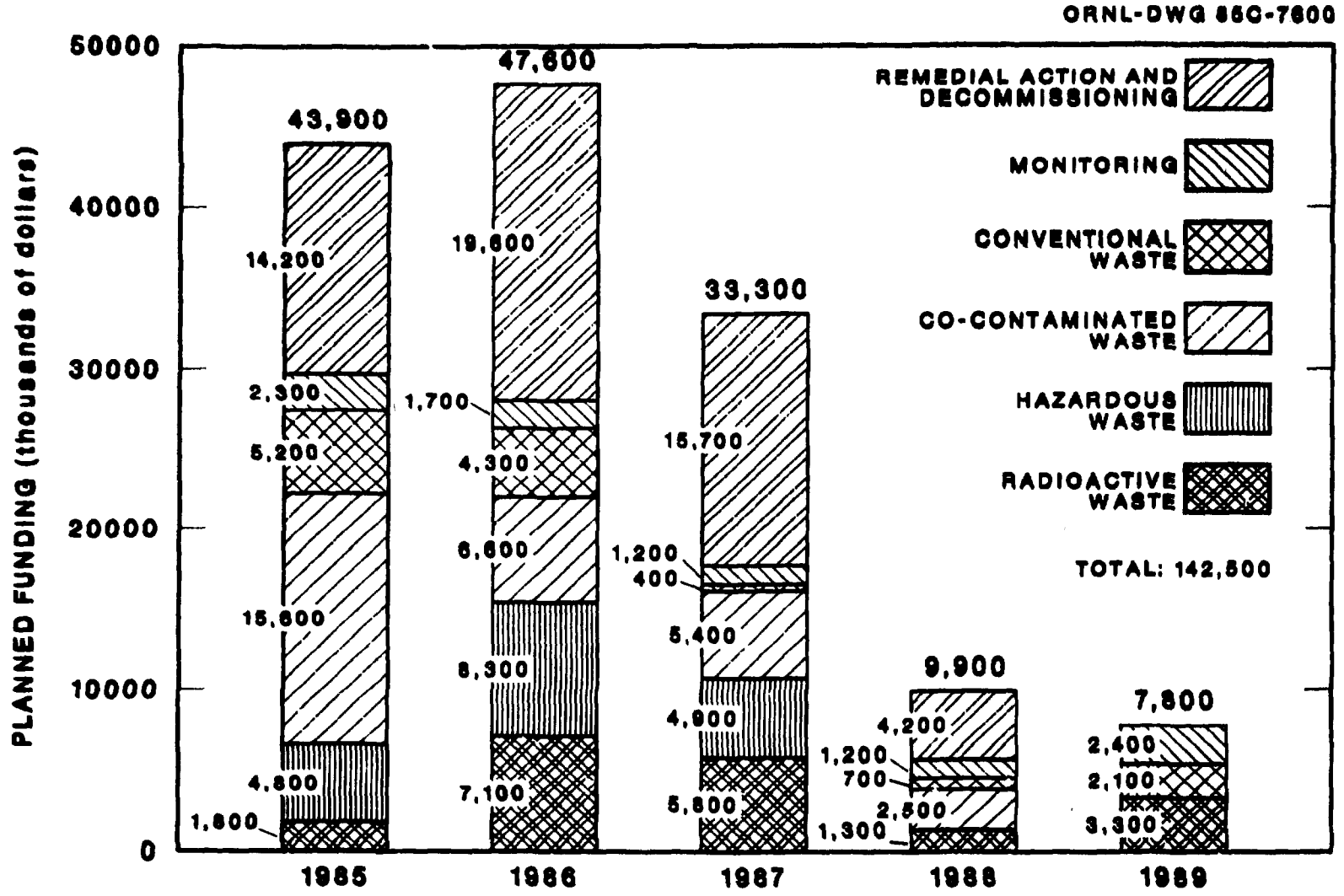


Fig. 5.7. Y-12 FUNDING FOR ENVIRONMENTAL ACTIVITIES BY CATEGORY

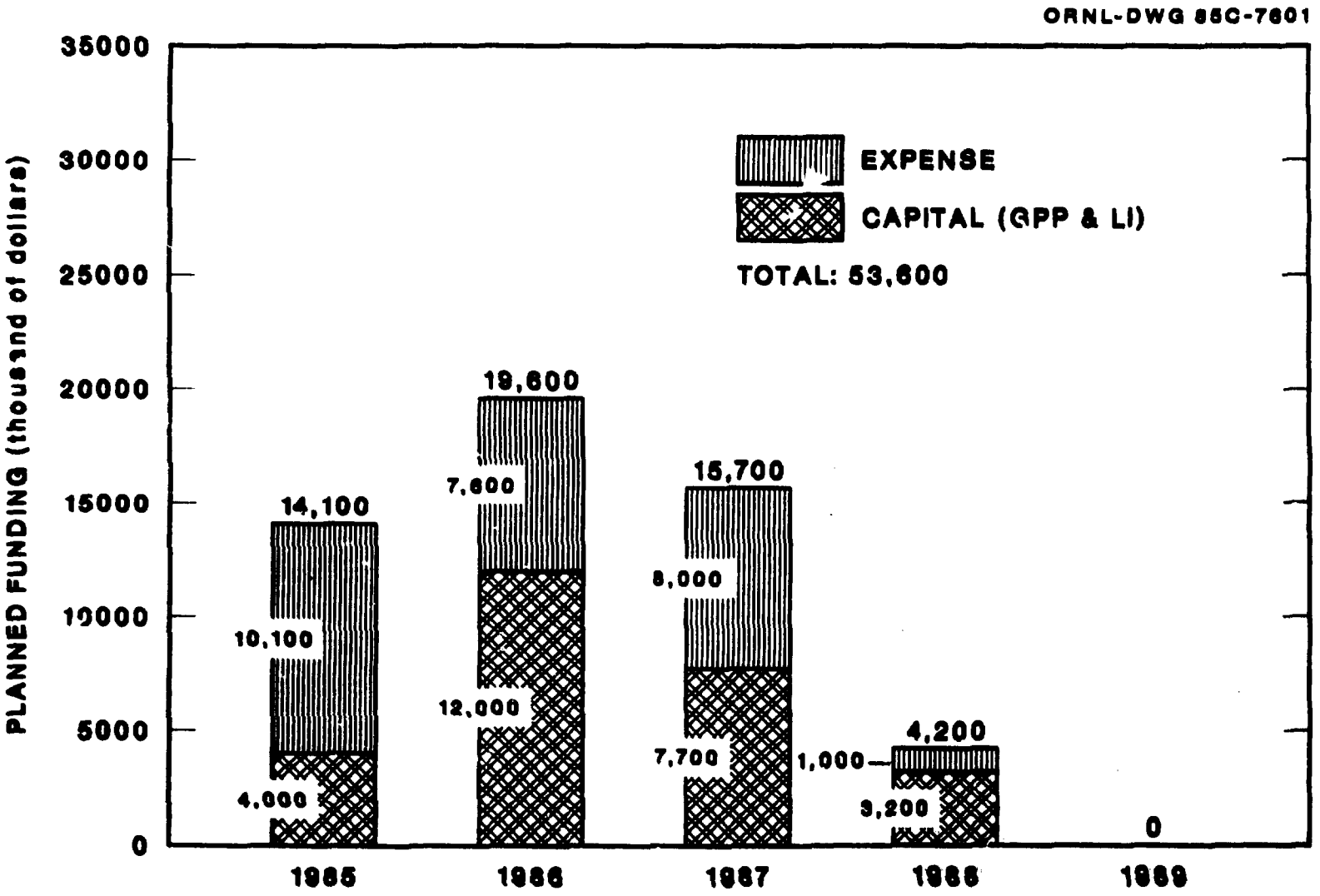


Fig. 5.8. Y-12 FUNDING FOR REMEDIAL ACTION AND DECOMMISSIONING

5.1.1.2 Oak Ridge National Laboratory

ORNL has requested total funds of about $328 million (exclusive of RD&D) to support environmental projects and activities during FY 1985-1989 (see Figures 5.9, 5.10, and 5.11). This is a significant increase over the previous request of about $130 million excluding R&D funding. About $108 million of the current request is proposed for funding by the Defense Waste Management Program. Figure 5.9 provides a summary by budget type for the ORNL environmental activities. Figure 5.10 shows the funding schedule by the six waste categories, and Figure 5.11 breaks out the funding schedule for the Defense Waste Management Program.

5.1.1.3 Oak Ridge Gaseous Diffusion Plant

ORGDP has requested funds of about $41 million to support environmental projects and activities during FY 1985-1989. Over $25.6 million of this is funding for two centralized facilities, the TSCA Incinerator and the Central Sludge Fixation Facility. In FY 1985 these two projects account for $12 million of the $16.8 million total funding. Figure 5.12 summarizes the budget types for the ORGDP environmental activities, and Figure 5.13 provides a summary for the six waste categories.

Revised schedules combined with reduced costs for major projects have resulted in about a $7 million reduction in the ORGDP 5-year funding estimate. Specifically, a $15 million reduction is reflected in FY 1985 while FY 1986 and 1987 show an increase of $3 million and $4 million, respectively, in this plan as compared to the 1984 plan.

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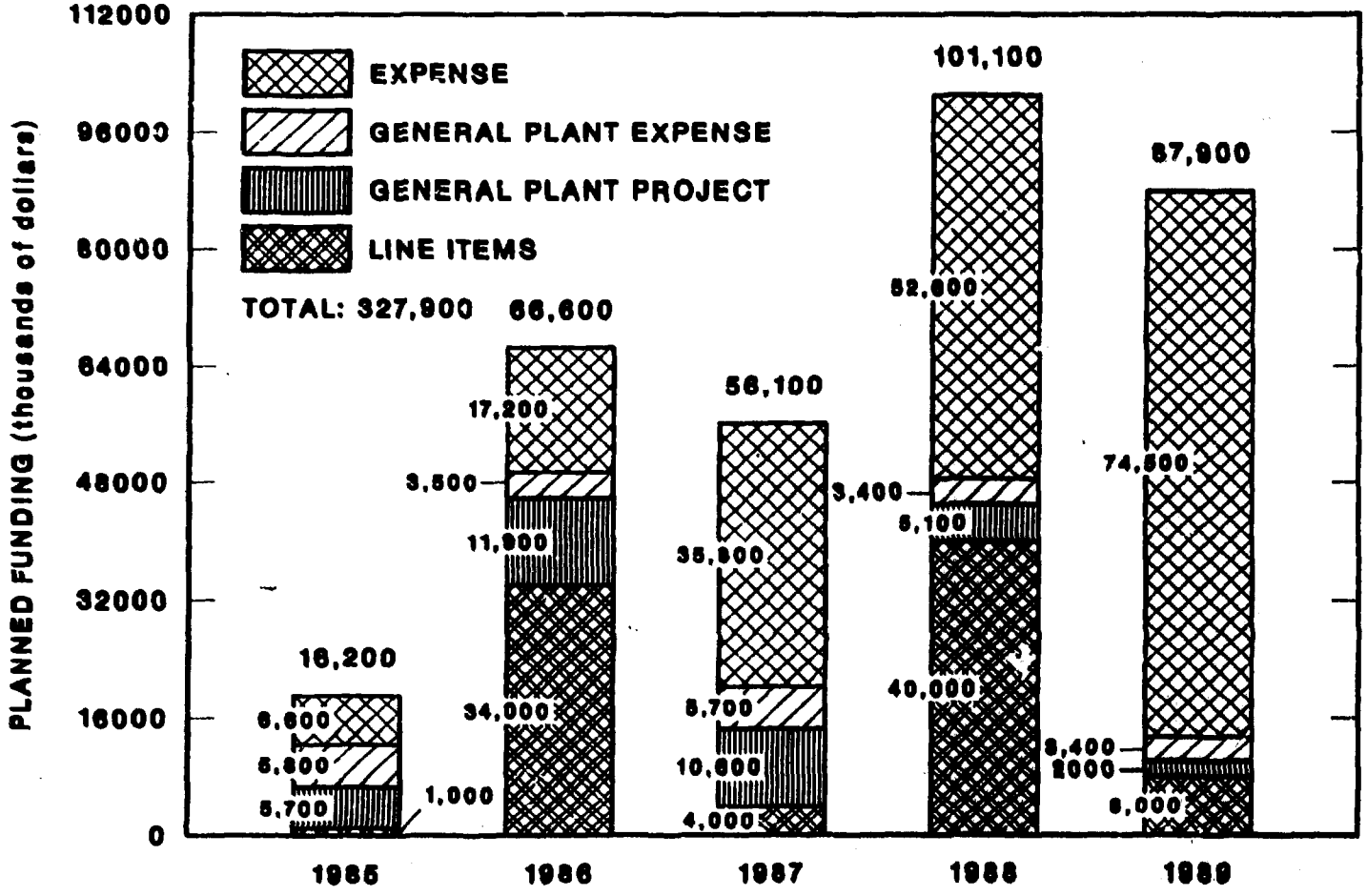

Fig. 5.9 ORNL FUNDING FOR ENVIRONMENTAL ACTIVITIES BY BUDGET AUTHORITY

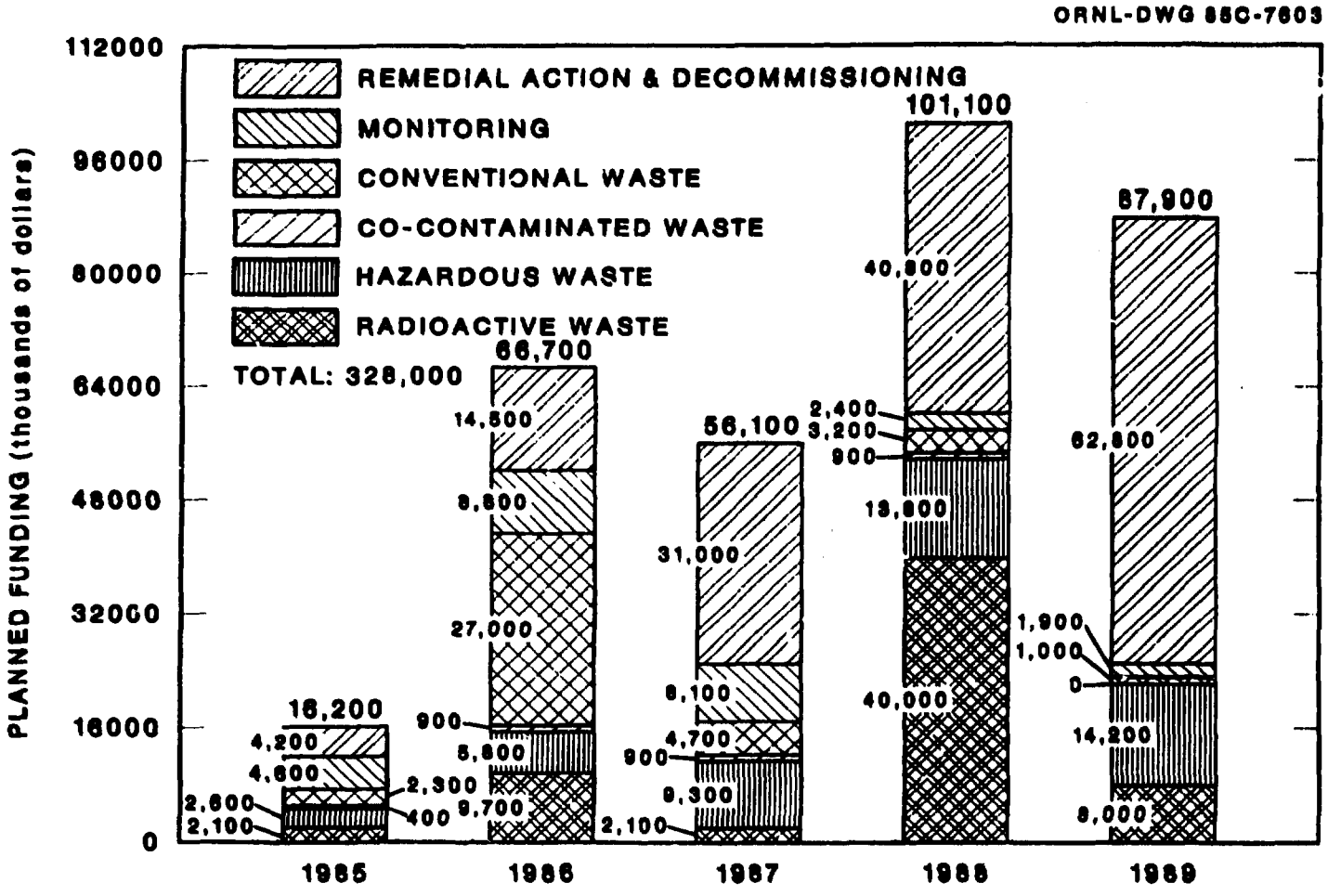

Fig. 5.10 ORNL FUNDING FOR ENVIRONMENTAL ACTIVITIES BY CATEGORY

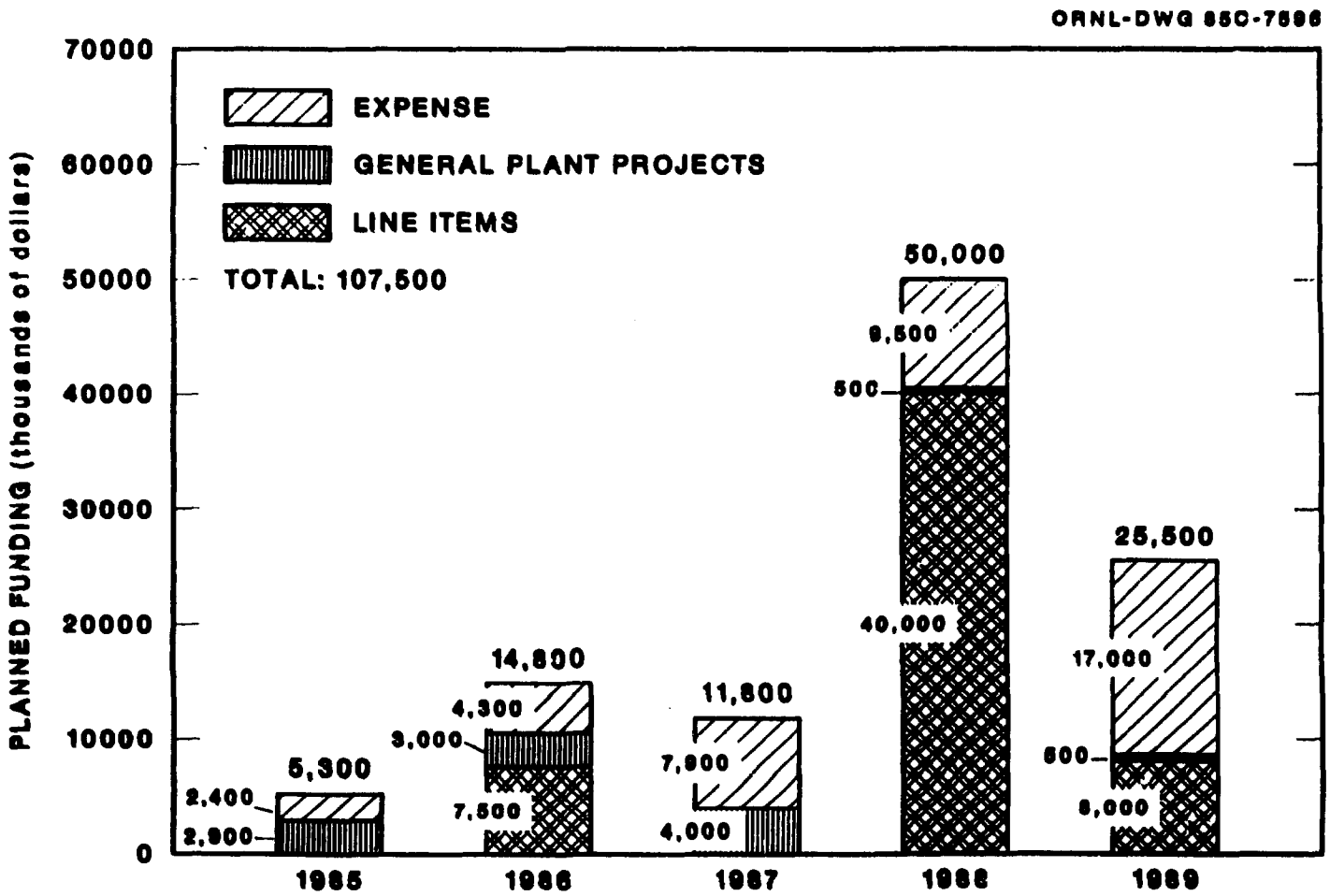

Fig. 5.11. ORNL FUNDING FOR DEFENSE WASTE MANAGEMENT PROJECTS BY BUDGET AUTHORITY (AR)

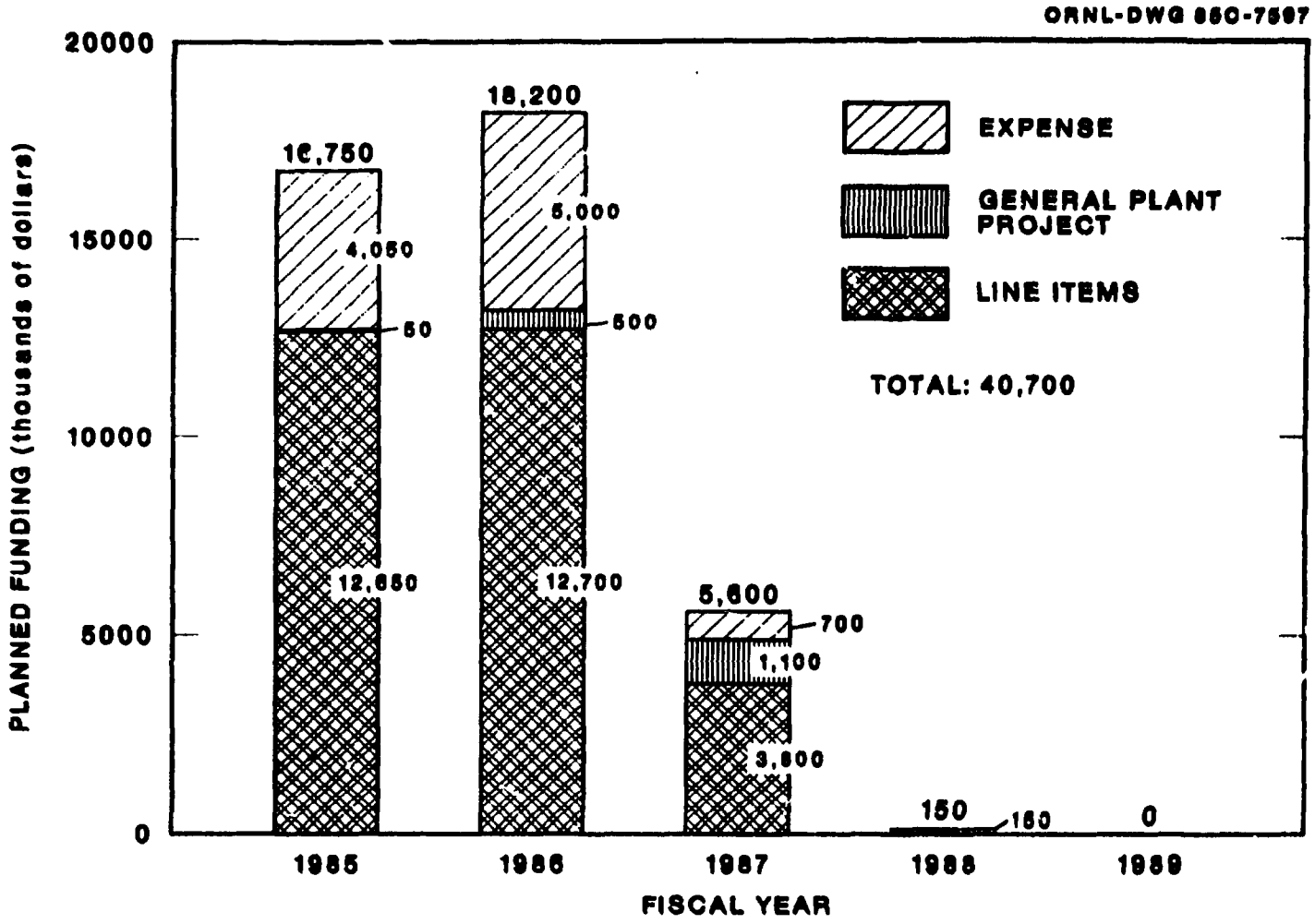

Fig 5.12 ORGDP FUNDING FOR ENVIRONMENTAL ACTIVITIES BY BUDGET AUTHORITY

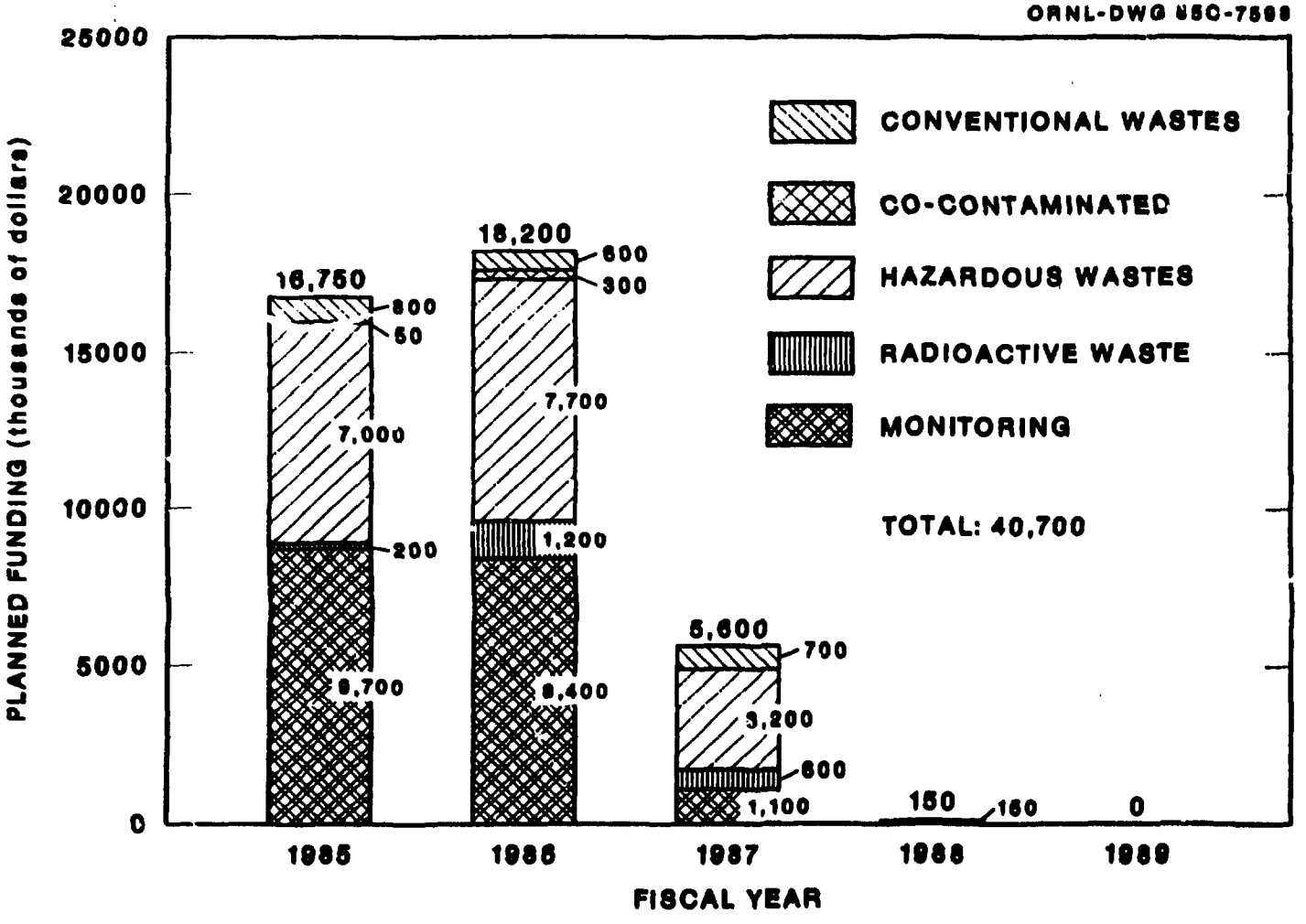

Fig 5.13 ORGDP FUNDING FOR ENVIRONMENTAL ACTIVITIES BY CATEGORY

5.1.1.4 Paducah Gaseous Diffusion Plant

PGDP was not included in the 1984 Gore-Lloyd plan. Funding requests for PGDP for the FY 1985-1986 period are shown at $1.79 million. Of this total, $1.27 million is in support of the Environmental and Safety Modifications Line Item Project. A graphical presentation of the PGDP funding summary is not presented. Funding for the PGDP projects are all through the Enrichment Program (CD).

While the PGDP funding projection is relatively low, there is concern that significant funding (up to $40 million) may be required to meet future NPDES activities.

5.1.2. Funding Constraints

Funding constraints inherent in the Federal Government budgeting process play a most important and significant role in the orderly and timely implementation of an overall environmental program for the Oak Ridge area. Funding for the construction of waste treatment facilities and for corrective actions comes from a number of budget sources. These include expense funding (operating and overhead) and capital funding as GPPs and LI projects. The size, scope, and cost of the project all determine the type of funding. For normal project planning and program development the funding process works reasonably well. However, for environmental projects that involve legal obligations and time goals for compliance, the funding process can pose several problems.

First, in today's climate of rapidly changing environmental regulations, memoranda of understandings (MOUs), and court orders, the availability of funding and the ability to plan and implement corrective actions are not always compatible. Consequently, a public perception of program delay and noncooperation develops that carries over into the regulatory agencies.

Second, the need to define and start planning large and costly projects that will likely be funded as capital projects, either GPPs or LI projects requires a considerable amount of feasibility study and conceptual design. This project conceptual design must be rather specific for submission to Congress for approval. Although the regulatory agencies are aware of the funding process and its detriment to a quick fix, the need to comply with various legal orders does not diminish. The need for immediate action on multimillion dollar projects that have to be funded through the LI project route is not recognized in a budget process requiring up to three years for design, approval, and authorization and another two to three years for construction.

The three general funding sources are (1) operating or expense and capital funding as (2) GPPs and (3) LI projects.

- Expense Funding (EX). This is funding that comes from the operating budget of the installation through a programmatic budget approval or as part of the operating overhead rate for the installation. Expense or operating budgets are used for the general operating expenses of the program, such as manpower, travel, R&D,

maintenance, analysis work, and engineering, and for the construction and purchase of noncapitalized items. This funding must be spent during the budget year in which it is authorized. Further discussions on the use of operating or expense funding are found in Section 5.3.

- General Plant Projects (GPPs). These projects involve the construction of major capital facilities (GPP) or the purchase of major capital equipment (GPE). Funding for the GPPs is limited to one million dollars, including engineering costs. Planning for such a project starts from one to three years prior to the budget year. Construction generally starts at the beginning of the budget year and, depending on the project scope, may take from one to three years (including the budget year). A project flow chart for GPPs is shown in Figure 5.14. Although this is a lengthy process, it can be implemented more readily than those for the more formalized and rigid LI projects.

- Line Item Projects (LIs). These projects generally cost over one million dollars and must consequently be submitted as a "line item" in the DOE budget for Congressional authorization. The LI funding covers both capital equipment and facilities and in the case of a capitalized project can cover operating costs associated with the project. The time period required for all of the planning and budget submission runs to about three years prior to the budget year; then construction does not begin for another year. With from two to three years required for construction, a typical LI project

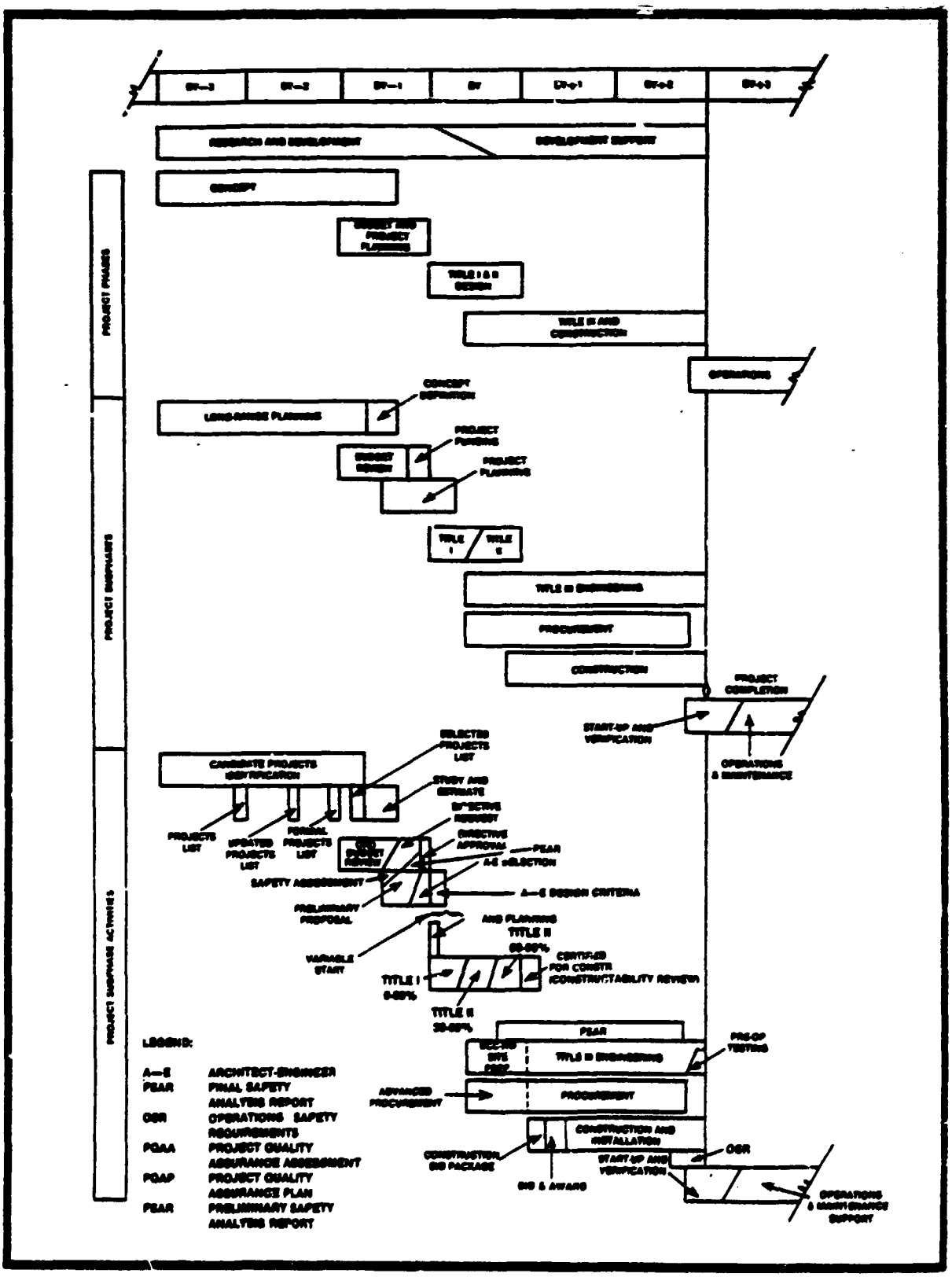

FIG. 5.14
GPP, EQUIPMENT AND EXPENSE DIRECTIVE PROJECT FLOW CHART

can run for about seven years from inception to completion. Figure 5.15 shows LI flow chart depicting the many activities required and the time periods. In Figure 5.16 an example of a LI project program management plan is shown.

From examination of these charts it is obvious that the response time for such a project is long and slow. This means that in an environment of changing regulations and enforcement activities the ability to respond with this funding process is cumbersome and untimely. In addition to the appearance of not responding to environmental demands, there is the real possibility that changing regulations can result in a project's becoming obsolete or inadequate before full funding or construction. In this case the data sheets and project descriptions are so rigidly defined that revisions to the project under the same budget authorization are almost impossible. If the project is halted or rescoped, funding may be lost and the long process repeated.

Multi-plant or centralized projects for Oak Ridge Operations (ORO) are another area of concern. Oak Ridge is a unique area considering the many DOE programs that are conducted here. This makes the formation of multi-site projects difficult, but it also allows for centralization of environmental projects to solve common problems. This approach allows for more efficient and cost-effective projects for all of the program areas. It can also provide for quicker response, optimum use of acceptable disposal options and resources (such as land for disposal sites), simplified regulatory interaction for permitting, and future compliance. In the same vein the need for cooperative funding for

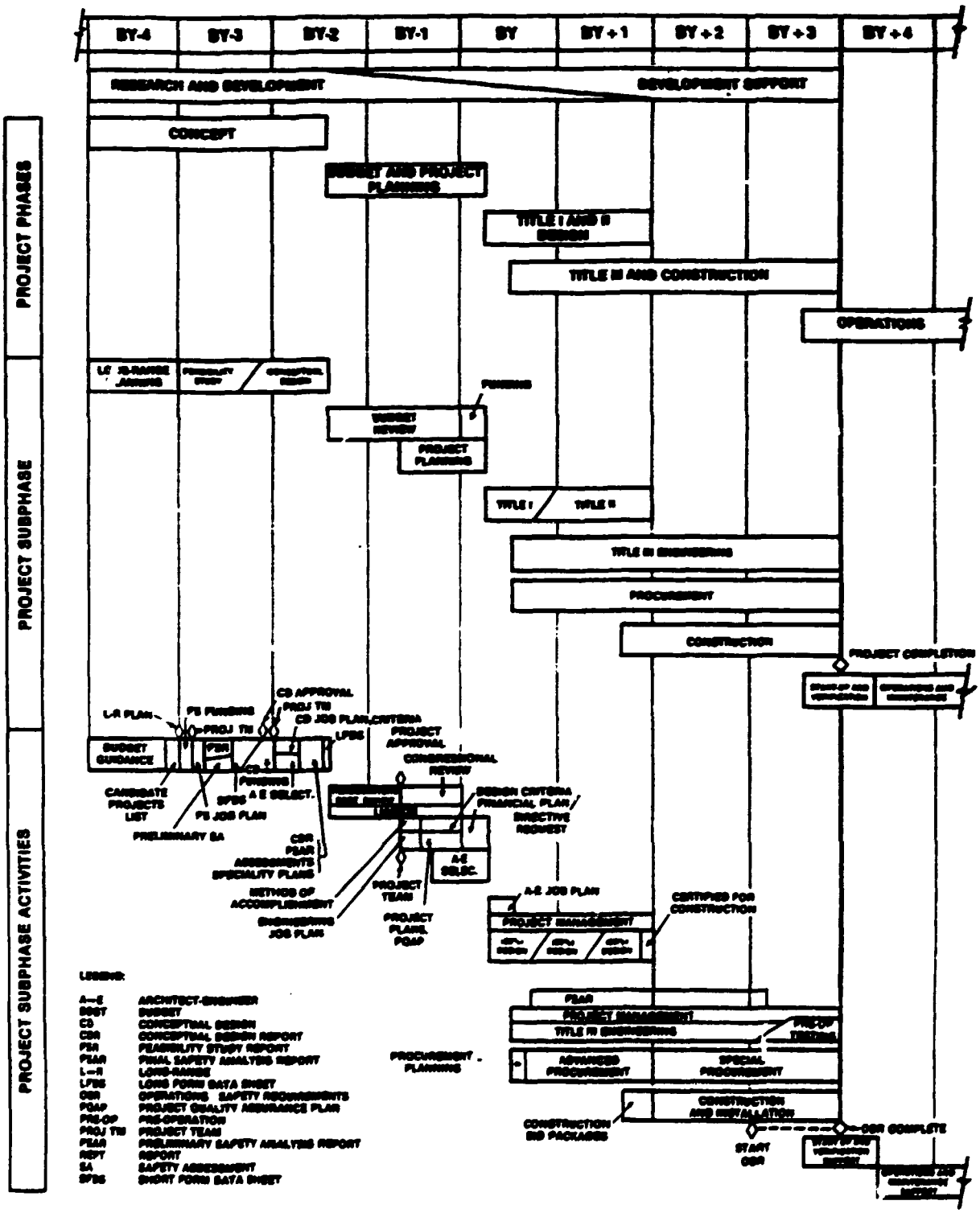

FIG. 5.15
LINE ITEM PROJECT FLOW CHART SEQUENCE

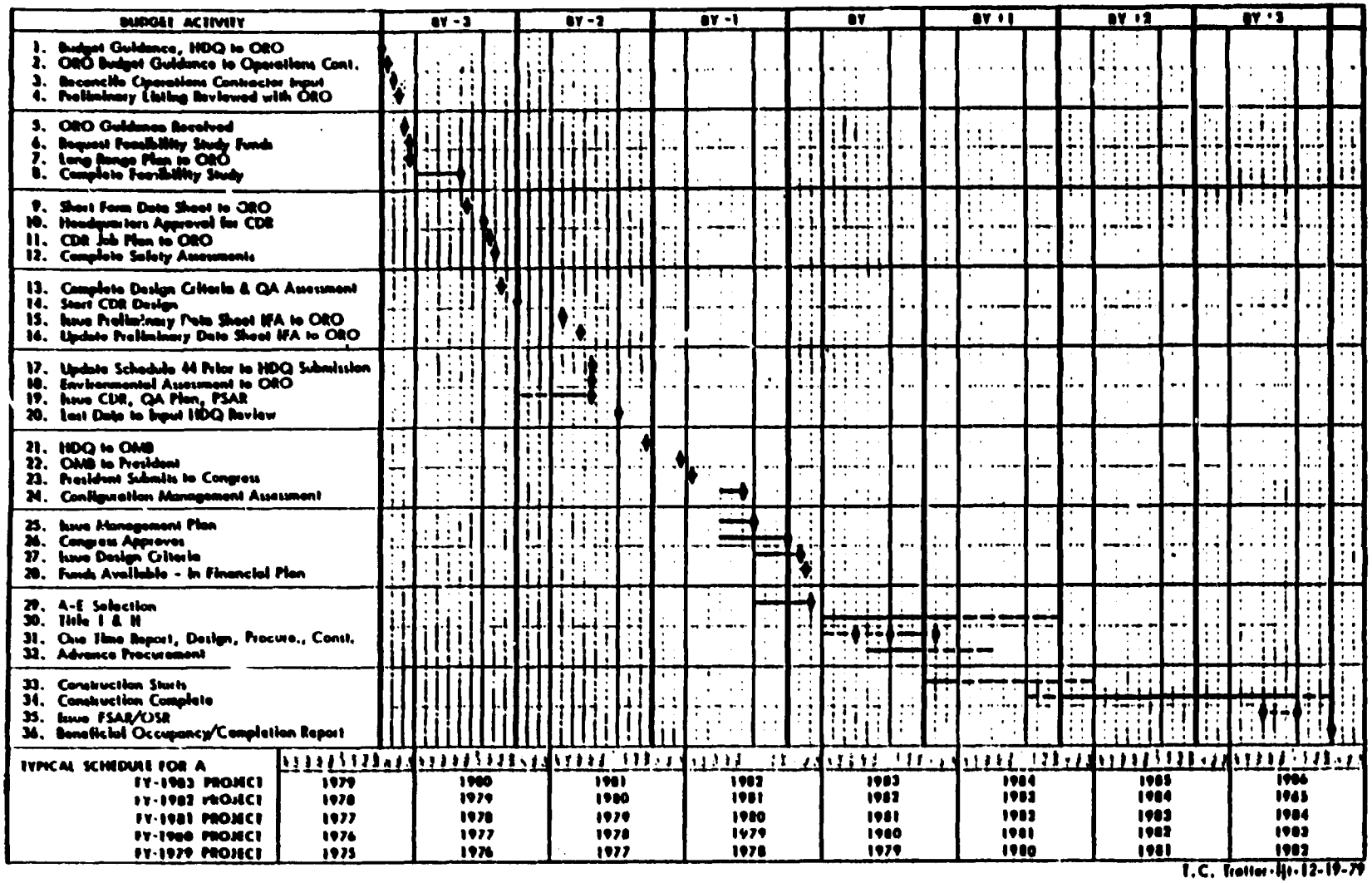

FIG. 5.16

AN EXAMPLE OF A LINE ITEM PROJECT PROGRAM MANAGEMENT SEVEN YEAR PLAN

centralized projects has many obstacles; the major ones are the approval process through the different branches of DOE and a lasting commitment to the funding process, especially in this period of severe pressures for budget reductions. Generally, these centralized projects are large projects funded as LIs. Because these are multi-site, the source of the funding is not clearly established which generally requires considerable inter-DOE program negotiations. Because of the programmatic constraints it is not clear that enrichment, weapons, energy, or other programs should be the funding source. Sometimes it is possible to put together a multi-programmatic funding package, but this can lead to project delays or cancellations when one program is not able to continue or carry through with its funding commitments. This has occurred in the past.

Although DOE-ORO is responsive and committed to solving the environmental needs of the Oak Ridge area, the solution to the funding problems are still real. Local ORO managers and CORs continually work to secure funding for the projects as they are presented. However, one area that seems to be lacking is a commitment to begin to secure funding and put together funding schemes for multi-site projects. This is an area where negotiations and interdepartmental agreements should be firmed up, in a general sense, long before a project is finalized. This is a process that should proceed in parallel with project studies and conceptualization. The general rule seems to be that this process is begun only after a project is firmed up. Additional time is thus lost in putting together the funding package, getting agreement, and presenting it to Congress in the budget cycle.

Another change in funding policy that would be most desirable would be to raise the budget limit for capital projects in the GPP class. Raising this budget level from $1 million to about $5 million would permit a more flexible and timely response to environmental problems and regulatory changes.

ORO should also be committing itself to establishing separate funding sources for commitment to centralized projects. These sources should be separate or generalized LI-type funding that would provide for these centralized facilities. Such funding could also be used for remedial action such as that required for White Oak Lake and East Fork Poplar Creek.

5.1.3. Operating Costs

The total costs projected in this plan for FY 1985-1989 have been given to be approximately $513 million excluding R&D and Expense Studies. These costs are for all environmental projects, which include new and remodeled facilities, equipment, studies, and some remedial action and/or cleanup/site closure. Large remedial action projects are still in the TBD funding category and may eventually run into the hundreds of millions of dollars. Unfortunately, these projects with TBD costs are shown as $0 dollars and thus do not project the true magnitude of this funding uncertainty.

Another area not directly focused upon in this or other environmental plans is the cost of operating the new and/or remodeled facilities built to control, destroy, or store wastes. Likewise, the

costs (operating costs) budgeted and spent for the operation of existing environmental control facilities or operations are not now shown. These costs are very real and may be a significant part of the operating budgets for various parts of the production operations for years to come. Some of these costs are already being budgeted in the current operations, but many will be new as new facilities come on-line. In addition, these costs may also have a significant impact on the overhead costs for the installations and will bear on the competitiveness of the programs.

It is estimated that the basic operating costs for the environmental facilities will be on the order of $40 to 60 million/year. Examples of costs associated with these facilities are many; these examples can be divided into those that are site(installation) specific and those that will have to be borne by all installations for the central facilities. Examples of the former are the treatment of Y-12 wastes at ORGDP. This operation currently costs about $2 million/year for transportation, analytical, record keeping, and treatment. With completion of the CPCF at Y-12 the transportation costs will likely decrease, but the treatment and analytical costs will likely increase with the complexity of the treatments and the increase in the variety of streams being processed. New facilities constructed for the treatment or control of process streams that have never been controlled before are examples of facilities that will have added budget impacts for operating costs.

Examples of central facilities are the TSCA Incinerator and the Central Sludge Fixation Facility, both being constructed at ORGDP, and the as yet to be redefined CWDF. These facilities will process wastes generated at all installations. Much discussion has been generated over the distribution of operating costs that will no doubt be significant. A probable solution to these questions will be a combination of a prorated base annual cost plus a charge for the actual waste processed. However, whether this combination, a flat fee, or a flat processing charge is agreed to, the bottom line is that the operating costs will have to be assumed by the installations. This in itself will result in increased budgeted operating costs and overhead rates.

With the prospect of continuing increases in operating costs due to inflation and the complexity and diversity of the local ORO installations, the impact on the long-term operations can be severe. For the future it is most important that ways be investigated to reduce the operating costs for these facilities. While the basic charges for maintaining the facilities will and must continue, the toll charges for processing the waste must be brought under tight control. This can be done in a number of ways including the substitution of new materials having less or no toxic or hazardous properties so that the waste can be handled more as a conventional waste; the change in a process to eliminate waste forms or the quantity of waste; the recycle process for the reuse or recovery of waste; the volume reduction of the waste form; the specific and novel treatment and/or destruction processes; and the administrative control over waste generation and the segregation of

wastes into various forms and hazardous and nonhazardous classifications. All of these will take effort, time, and money, but the application of any one to an installation's waste generation and waste disposal practices will in the long term provide for a more cost-effective operation.

The effect of increased or continuing high levels of operating costs and overhead can be readily applied to all of the ORO installations but at this time is particularly critical to the gaseous diffusion plants and the Oak Ridge National Laboratory (ORNL). With the ever-increasing drive to maintain minimum costs for separative work and the competitiveness in the world market for enrichment services, every increment adding to the SWU costs, whether in direct operating costs or in overhead, is vital to the well-being and continuing operation of the enrichment enterprise, no matter what the enrichment process.

ORNL faces a similar problem, but it is one that focuses on the quality and quantity of research programs derived from multiple funding sources, both within and outside DOE. The Laboratory is funded through various DOE programs and other agencies as a research institution. Funding for the operation of the installation does not come from any one budget; rather it is an overhead operation where each program is "taxed." These research budgets are already extremely austere, and any increase in the overhead charges to the research program jeopardizes the basic existence of these programs. The increasing emphasis on using expense funds for environmental programs, both for current on-going efforts and studies for remedial action is putting a heavy demand on the

esearch dollar. For the coming years, especially FY 1986 and beyond, there is considerable debate and increasing pressure to reduce federally sponsored R&D programs. If budget reductions are made and these should fall on some of the ORNL programs, there will be drastic effects on funding for the environmental programs. This effect will not only be felt in the expense funded areas but will also be most apparent in capital- and LI-funded programs.

However, if these R&D programs are to continue to use the facilities provided (i.e., ORNL or any other national installation) basis, then funding must be shared to provide programs to bring the facilities into compliance with existing environmental regulations and those that may be promulgated in the future. Increased operating costs will thus have significant impact on the competitiveness of the programs in years to come. Any proposed cuts in R&D funds will likewise cause a greater burden on the surviving programs because basic operating costs will remain relatively unchanged.

5.1.4 Central Activities of Environment, Safety, and Health

A number of tasks were recommended by the Environmental Strategy Team to correct apparent environmental shortcomings. These tasks involved questions of permitting and the need for regulatory variances, environmental audits and information systems, and waste management including groundwater protection. A series of corrective actions were proposed by ESH central and plant staff, reviewed by an ESH Environmental Strategy Project Team, and subsequently accepted for implementation by the Energy Systems Performance Improvement Committee.

Additional coordinating committees and task groups have been assembled to develop the plans for achieving the desired improvements. Several of these which are active today and their assignments are as follows:

a. Advisory Committee for Environment. An Energy Systems committee resulting from Gore/Lloyd hearings to review pollutant sources, evaluate planned remedial activities, assess fate and health effects of pollutants, and advise on program adequacy including public communications.

b. Advisory Committee for Treatment and Disposal of Mixed Wastes. To study alternative methods of treating and disposing of DOE facility wastes containing both hazardous and radioactive constituents, and to recommend the best management option. The focus is on sludges

and sediments, and evaluation criteria (and weighting factors) have been developed. Partial funding has been provided for this task.

c. Reservation Resource Management Committee. To provide information on the Oak Ridge Reservation (ORR) natural resources and to assist DOE and Energy Systems in planning and implementing plans in the optimal use and development of these resources. A 17 volume treatise on the subject has been completed.

d. Task Group on Groundwater Monitoring and Protection. An ad hoc task group considered the requirements for groundwater monitoring within the ORR, confirmed the need for a uniform and consistent monitoring strategy, developed on objective statement to achieve such a strategy, and referred to the Resource Management committee the task of preparing an appropriate plan.

e. Task Group on Regulatory Variances. To identify specific areas where variances from environmental regulations are needed and to formulate plans for obtaining these variances. For example, one area was identified in which a variance was required and subsequently obtained; this involved an extended storage time for PCBs and was handled via the EIS for the PCB incinerator at ORGDP.

f. Task Group on Innovative Waste Management Technologies. To ensure that wastes produced in the operations of DOE facilities by Energy Systems are efficiently managed in meeting present and future regulatory requirements. This group will consider the origin and

characteristics of the waste, plans for treating these wastes, and the potential for increasing treatment efficiency or modifying processes to reduce or modify the waste streams.

g. Task Group on Centralized Industrial Landfill. To determine if economic and regulatory considerations would favor the disposal of sanitary waste, construction debris, and special waste (e.g., fly ash, air filters, asbestos, etc.) from Y-12, ORNL, and ORGDP in a single industrial landfill. Analyses demonstrated the cost effective nature of a single landfill and regulatory approval for use of the Y-12 facility has been obtained.

h. Task Group on Silver Recovery. To determine if economic and regulatory considerations would favor on-site recovery of silver from photographic solutions at a single facility or the commercial sale of such solutions. Commercial sale of all photographic graphic solutions was determined to be the cost-effective option and the service of an approved vendor (processor) will need to be negotiated.

i. Task Group on EPA Environmental Audit. To determine how each recommendation made by EPA as related to analytical methodologies and field monitoring methodology should be handled; i.e., (1) agreement and corrective action taken or proposed, (2) disagreement agreement and justification of present practice, and (3) uncertainty and request for clarification. Schedules will be provided to ORO for review and transmittal to EPA.

j. Task Group on Oak Ridge Task Force. To support the ORTF in the assessment of potential public health risks associated with environmental contaminants in the Oak Ridge environs. This involves health risk assessments (exposure and risk estimation), environmental pathways analyses, cost benefit analyses, data base development and support to other task groups. This project is funded by DOE with approval of the ORTF.

Each of the committee/task group activities involve representation as appropriate from the operating plants, the engineering organization, and ESH. As assignments are completed, groups will either be disbanded or reconstituted depending on new assignments. Other groups can and will be formed if warranted by new problems or issues. One of the principal difficulties in implementing plans which are developed by a particular group is funding the necessary resources. It is not possible or feasible to use overhead accounts for all such activities, nor is it realistic to expect ongoing R&D programs to foot the bill. We are now exploring with ORO staff various ways to support these and other activities (such as the identified research needs in the waste management plan) including the development of Field Task Proposals for subsequent consideration by the program managers in DOE.

5.2 PERMITTING

A significant administrative function that must be included in the five-year plan is environmental permitting. In general this effort involves all the individual activities that ultimately result in approval by the appropriate regulatory agencies of environmental programs and projects. In addition to the resources expended on preparation of permit applications per se, significant resources must also be allocated for associated activities such as the development of compliance strategies, the collection of necessary information, the preparation of technical (required) reports, the review of draft permits, and extensive negotiations. Most of these functions are provided by Energy Systems personnel, but in some cases, the need for extensive manpower and/or special expertise may necessitate the use of outside consultants. The major permitting activities just completed as well as those planned for the next five years are summarized below.

5.2.1 Clean Air Act (CAA) Permits

Because of the almost continuous change in Energy Systems operations through additions, removals, and modifications to airborne effluent sources, there is a corresponding continuous need for maintaining up-to-date airborne effluent permits. These permits are administered by the states and are intended to ensure compliance with the State's Implementation Plans (SIPs) for meeting the requirements of the CAA.

In addition to maintaining up-to-date permits, which is accomplished through submission of the appropriate information on standard application forms, the individual installations must also maintain current records of all emission sources to allow for compliance with special requirements such as Prevention of Significant Deterioration (PSD) regulations.

In the past the Y-12 Plant has not satisfactorily maintained up-to-date airborne effluent permits or source inventories. Therefore, during the past year a significant effort has been undertaken to remedy the situation by (1) preparing and submitting permit applications for all the existing unpermitted facilities and (2) developing a management system that will ensure appropriate review and permitting of all new facilities. During 1984 and 1985 more than 190 new and modified airborne effluent permit applications will have been submitted to the State of Tennessee, which will bring the total for Y-12 to approximately 290. This effort should be essentially complete by September 1, 1984.

5.2.2 Clean Water Act Permit

The CWA is currently administered for DOE's Oak Ridge facilities by the EPA through the NPDES permitting program. The State of Kentucky has the authority for this activity for the Paducah Plant, and it is anticipated that Tennessee will obtain the same authority for the Oak Ridge installations in 1985.

During 1984 the primary NPDES-related efforts were focused on obtaining "second round" permits for both ORGDP and Y-12. The ORGDP permit was issued with no significant problems in March 1984, and in addition to providing a new five-year authorization for ORGDP discharges, it allowed for treatment and discharge of certain Y-12 aqueous wastes. On April 1, 1984, the Y-12 Plant submitted its application for the "second round" permit. After considerable negotiation with EPA and State personnel, a draft permit was issued for public comment on October 25, 1984. No significant comments were received from the public or the State. After incorporation of Energy Systems/DOE comments, it is anticipated that the EPA will issue a final permit during May 1985. This permit is very unusual in regard to ensuring maintenance of the State's stream quality criteria because it mandates (allows for) verification of the capability for supporting fish and aquatic life through biological monitoring rather than through the more conventional use of stringent numerical limits for discharges. The discharges will, in accordance with the CWA itself, have to meet prescribed BAT limitations, but the costs of doing so will be much less than for meeting stringent water quality limits.

During 1985 "An Evaluation of the Wastewater Treatment Technology at the Y-12 Plant," which described the systems to meet BAT requirements, will be submitted to the EPA as supplemental information for the Y-12 NPDES compliance strategy. I addition, engineering reports, as required by the State, will be submitted for all of the proposed new wastewater treatment facilities.

The "second round" NPDES permit application for ORNL was transmitted to the EPA from DOE on August 22, 1984. Additional information was supplied at later dates as requested by the EPA. ORNL personnel are currently in the process of preparing their compliance strategy report, which will be submitted to the EPA and State as a petition to allow for a permit similar to that issued for Y-12. One of the key issues, with regard to ORNL, will be similar to that for Y-12 - the need for a BAT-based permit with stream quality criteria being verified through biological monitoring. The other major issue is the regulation of radioactive releases, which will require considerable negotiations to reach an acceptable set of limits for all concerned. It is anticipated that the first draft of this permit will be available for DOE and Energy Systems review only by mid to late May 1985 and that a final ORNL permit will be issued by the end of September 1985.

As mentioned previously the PGDP NPDES permit will be issued by the State of Kentucky. This permitting activity will be a new experience for Energy Systems personnel because this is the first permit to be issued by a State. One meeting has been held with the permit writer and several potential concerns have been revealed, the most important being the State's intent to issue a water quality limited permit for PGDP rather than a BAT-limited permit such as that issued for Y-12.

A compliance strategy document is being prepared by PGDP personnel, and additional meetings will be held with the appropriate State people to resolve this problem in 1985.

5.2.3 Resource Conservation and Recovery Act Permits

During 1984 DOE/Energy Systems operations experienced significant changes in the permitting requirements for RCRA. Following Judge Taylor's April 13, 1984, decision that DOE operations are subject to RCRA regulations, several discussions were held with the EPA and the State to determine the permitting needs and the most appropriate means for meeting these needs. As a result of these discussions, agreements were reached on the submission of all necessary RCRA information in a timely fashion, including updated RCRA Part A and Part B permit applications. The revised Part A applications were submitted to DOE for transmittal to the EPA and the States in December, 1984. The Part B applications, in accordance with agreements reached with the EPA and the State, will be submitted in phases, with the first submissions due in March 1985 and the last due by November 9, 1985.

Because of the extensive efforts required to prepare these permits, Y-12, ORGDP, and ORNL will use outside consultants. The PGDP, because of the few facilities it has that require permits, has decided to prepare them in-house.

5.2.4 Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Activities

Although CERCLA activities do not include permitting as such, they do include formal communications of environmental evaluations and remedial action plans. During 1984 the primary emphasis was on the determination of potential CERCLA sites and on the development of remedial action plans for one specific site - the Bear Creek Valley

watershed. A listing of potential CERCLA sites was transmitted via DOE to the EPA in September 1984.

Data collection and preliminary remedial planning constituted the majority of this activity for the Bear Creek Valley effort in 1984. Several meetings were held with State and EPA personnel to provide regular status reports and to discuss program plans. A Remedial Action Alternative Report will be submitted to the State of Tennessee and EPA for approval by July 1, 1985.

A program will also be initiated in 1985 to prioritize the remaining candidate CERCLA sites and to assess the potential hazards of those sites showing significant contamination. Initial efforts will include development and implementation of monitoring programs, including groundwater monitoring, that will facilitate quantitative determination of environmental impacts. For those areas determined to be of significant environmental concern, recommendation will be submitted for interim remedial measures with final remedial actions planned for the 1987-1990 time frame.

The major concern relating to planning for CERCLA and RCRA activities is the current uncertainity as to which sites are to be handled under CERCLA and which sites are to be handled under RCRA. The closure plans for hazardous waste facilities necessarily vary significantly for the two, with CERCLA closures generally allowing for more flexible, cost-effective actions. Many of the areas around the installations contain both CERCLA and RCRA facilities that are adjacent

to each other and that have jointly contaminated the surrounding areas, with groundwater contamination being the single greatest concern. Because of the inability to differentiate between the contributions from the various sites, DOE petitioned the EPA to declare such areas to be CERCLA sites to allow for more flexibility in the corrective action selection and initial remedial plans were formulated to meet CERCLA requirements. No formal response to this request has been received, but initial verbal communications from EPA staff personnel have indicated that EPA may decide to classify these RCRA/CERCLA sites as RCRA, contrary to DOE's request. This could result in significant modifications to the existing Remedial Action Alternative Report.

5.2.5 Coordination of Permitting Activities

The need for a uniform and efficient strategy to achieve compliance with environmental regulations across Energy Systems was recognized during the phase-in period. A system to achieve consistency in permitting activities has been developed with the requirement to develop and implement a management system that will ensure adequate review and coordination of Energy Systems environmental permitting and compliance activities so as to effect compliance with all applicable environmental regulations and a consistent approach in dealing with regulatory agencies.

Strategy teams have been formed for each of the principal environmental acts (i.e., CAA, CWA, RCRA, and CERCLA). Each Energy Systems facility has a representative on each team.

The coordinating function for compliance and permitting activities has been defined on a set of relationships as follows:

1. DOE will have primary responsibility for dealing with regulatory agencies. Energy Systems will provide support to DOE and may contact agencies directly for the purpose of discussing technical issues only (MOU signed by Joe La Grone and Ken Jarmolow, dated April 3, 1984).

2. The Energy Systems Office of Permitting and Compliance (OP&C) will be the central point of contact for obtaining concurrence to communicate with regulatory agencies. Individuals who have received concurrence from the plant Environmental Coordinator to contact a regulatory agency should also obtain the concurrence of the appropriate OP&C manager designated in Item 3 and, upon completion of the contact, provide a written summary of the discussion to same.

3. OP&C will oversee the development of Energy Systems compliance strategies and interface with regulatory agencies to ensure consistency among the plants.

4. Each plant will designate one individual to serve as the official liaison for OP&C on each of the respective laws. The team formed by these representatives will advise the site Environmental Coordinator, who has primary responsibility for all site compliance activities. All changes in personnel will be communicated from the

appropriate site Environmental Coordinator to the appropriate OP&C manager, who will update these charts.

5. The development of Energy Systems compliance strategies will then be the responsibility of the team, led by the appropriate OP&C manager and composed of the site representatives.

6. The development of specific site compliance strategies and the selection and funding of projects to support these strategies will be the responsibility of the plant representative acting as an agent of the plant Environmental Coordinator and his/her site team members. The prime role of the OP&C manager is to provide input based on experience obtained in the permitting negotiations and to ensure consistence among sites.

7. All major permit applications (TSCA, RCRA, PSD, Ps, NPDES) must be reviewed by the appropriate OP&C manager to ensure consistency, and concurrence must be granted prior to submission to DOE.

8. Minor permit applications (airborne effluent, sanitary landfill, etc.) must be approved only by the site Environmental Coordinator prior to submission to DOE. An information copy should be sent to the appropriate OP&C manager.

9. All official negotiations with regulatory agencies should be coordinated by OP&C through DOE with presentations being made by persons determined by OP&C and the site representatives to be most appropriate. Recognizing that EPA and TDHE personnel may contact

individuals within the organization who are directly seeking information or advice, there must be sufficient flexibility to be responsive. In circumstances of this type, the person contacted should use discretion and follow up with a written summary of the discussion to OP&C as discussed in Item 2.

10. OP&C will serve as the focal point for communicating compliance activities. All interactions with regulators (EPA, TDHE, etc.) will be documented by OP&C and copies forwarded to site representatives and other appropriate managers.

11. Each site representative will maintain an information file containing the documentation provided in Item 10 for use in the implementation of their respective programs.

12. Any discharge permit violation or environmental incident, as defined in Procedure GP-13, should be reported at the time of its occurrence to the appropriate OP&C manager or any available representative of the Environment, Safety, and Health Office. Any anticipated permit compliance problems should be discussed with the appropriate OP&C manager before they occur.

13. The OP&C will assist site representatives in obtaining any needed legal advice and counsel through Leland Willis.

5.3 PRIORITIZATION

Several efforts have begun to prioritize environmental projects for purposes of funding and scheduling. The emphasis was on elimination of major environmental, health, and safety problems or potential problems. However, the efforts to date were limited to a particular plant and have not considered collectively the requirements across Energy Systems. Such limitations were inpart a result of the DOE request for funding information, made by individual program offices.

ORNL in its Five Year Plan (and supplement) identified projects to reduce environmental, health, and safety deficiencies.[1] These deficiencies involve both nuclear and non-nuclear technologies which result in a variety of radioactive and hazardous waste streams. New legislation also increased the requirements for monitoring, controlling, and reporting the fate and effects of many pollutants. Priorities were established as a function of funding category (operating costs, line items, general plant projects, and general purpose equipment and funding source Magnetic Fusion and Defense Waste Management). Subsequent reviews by DOE-ORO staff and DOE-HQ staff resulted in revisions in scheduling and funding of several projects.[2]

1. Oakes, T. W., Environmental Management at ORNL: Five Year Plan - FY 1985-1989, June 1984, ORNL/TM-9200 (July 1984) and Supplement.

2. H. Postma to J. A. Lenhard, "Transmittal of Field Task Proposal/Agreement (FTP/A) for ORNL Environmental Restoration and Upgrade, Phase I (FY 1985) and Phase II (FY 1986)", November 5, 1984.

Similarly, Y-12 has recently initiated a task of prioritization of environmental projects. In their efforts they will use a system to quantify the risks associated with a particular environmental problem as recommended by the Office of the Deputy Assistant Secretary for Military Applications, DOE. A risk score will be derived for each project based upon the consequences of a particular event, the probability that the consequences occur, and the likelihood and extent of exposure. The cost and degree of a corrective action will then be factored in and a justification or prioritization ranking derived.

A procedure of prioritization of projects to correct environmental, safety, and health deficiencies has also been developed and recommended for application by the Office of the Deputy Assistant Secretary for Environment, Safety, and Health, DOE.[3] Under the sponsorship of ESH, a pilot study was begun to rank a subset of environmental projects at ORNL using this technique. Participants represent Environmental and Occupational Safety Division, Operations Division, Health and Safety Research Division, Engineering Division, Central Management Offices and ESH. Criteria used in the ranking include public and occupational health and safety, damage to environment and government and private property, compliance with codes, public sentiment, and cost.

3. Adams, R. C., Imhoff, K. L., and Triplett, M. B., Working Paper on The Environmental, Safety, and Health Prioritization System, Pacific Northwest Laboratory, July 1984.

Upon completion of the above described activities, a determination will be made on the most suitable approach to prioritize environmental projects across Energy Systems facilities.

5.4 ENVIRONMENTAL PROGRAM MANAGEMENT PLAN DATA BASE (EPMP)

In addition to the Environmental Management Information System currently under development for the management of site environmental monitoring and control data, a management program data base is being developed under the direction of the Office of Management Systems of Central Staff. This data base and management information system was requested by DOE in March 1984 to help in tracking and maintaining common and consistent information on project and funding data as published in the Department of Energy Environmental Management Plan for Oak Ridge Reservation, February 29, 1984. As a part of the phase-in and contract negotiations for Energy Systems, the need for a similar management information system was recognized. During 1984 the development of such a data base has been under way with first phase implementation scheduled for January 1985.

The Environmental Program Management Plan (EPMP) data base is being designed and programmed as a management information system. In Phase I, the data base will contain project information and funding data applicable to all environmental projects for the Y-12, ORNL, and ORGDP environmental programs. Project information covers material such as title, various identifying numbers, waste category, etc., for which project proposed, project scope, justification, and facilities to be

provided. Funding data covers the total estimated cost (TEC), funding years and schedule, type of funding and budget activity (funding source). All of this information is input and output from the data base on the Project Summary Sheet (PSS). The PSS are given in Appendix D of this report for current projects.

Other information can be obtained from the EPMP data base in the form of project data, and project budget data. In this report, Appendix A and Appendix C contain this information and have been generated through the EPMP data base.

The data in a data base is only as good as the information that is input into the system. For t e EPMP data base, the input is current as of April 1, 1985. This information was supplied through much effort of the Environmental Coordinators and their personnel at each of the Oak Ridge installations, and personnel of the Engineering Division. The information represents the current planning basis for each plant and will be used in updating 5-year plans for each site.

A vital part of the EPMP data base is the on-line information system. This feature of the system allows the direct access to the data base through a prompting screen menu and permits the selection of records to provide data primarily concerning the funding information, and how it is spread over the different project areas; categories, plants, funding types, sources, and years and even the project titles. After record selection in this mode the information is summed and can be viewed on the screen or obtained as hard copy output. Information from

this part of the EPMP information system was used in the Funding Section of this report.

Documentation for the EPMP Data Base and Information System is scheduled for issue about April. Oral presentations to familiarize and train interested users will probably begin in May 1985.

Phase II of the EPMP Data Base and Information System development will involve several areas. The first area will involve getting the Paducah and Portsmouth gaseous diffusion plants' environmental project data into the data base (at time of publication of this report, Paducah projects have been incorporated). A second area will involve development of data base management for permitting and scheduling activities pertaining to the various projects in the data base. A third area of considerable interest is an associated data base containing information, especially permits, on the various waste treatment and storage facilities at the installation sites; and a data base containing information on the current and projected waste streams for all the installations.

APPENDIX A

ENVIRONMENTAL ACTIVITIES

APPENDIX A

TABLE A.1 Y-12 Environmental Activities

4/03/1985

CATEGORY/PROJECT	SCOPE	FUNDING/ STATUS ($ x 1000)	FACILITIES PROVIDED	JUSTIFICATION
1.1. Radioactive Waste				
Funded Activities				
2 Uranium Oxide Storage Vault	Above-ground, concrete vaults in which to store all depleted bulk uranium metal and uranium oxide.	$300 FY85 LI	Aboveground completely enclosed, water proof concrete structure with ventilation and filtration for exhaust air.	In order to cease disposal of depleted uranium chips in the Bear Creek Burial Grounds, a facility to reduce their volume and render them nonhazardous is being provided. The treated uranium can then be stored in a retreivable manner in above ground concrete storage vaults.
3 Process Exhaust Equipment Restoration	Facilities to remove radionuclides from selected airborne effluents to ensure compliance with numerical NESHAPS standards for radionuclides. Subproject of production capabilities restoration.	$3000 FY82 LI	Stack modifications and emission controls.	This project is in keeping with DOE's ALARA program. In addition EPA has also issued final radionuclide regulations. This project should reduce the radiological dose from the Y-12 Plant to ensure continued compliance with radionulide regulations
4 Air Emissions Control	Process modifications to process stacks to reduce emission of radionuclides.	$14000 FY85 LI	Stack modifications	This project is in keeping with DOE's ALARA Program. EPA has also issued final radionuclide regulations. This project should further reduce the radiological dose from the Y-12 Plant to ensure continued compliance with radiological dose limitations.
7 Uranium Chip Oxidizers	Oxidizers (burners) will reduce the volume of uranium chips and convert them to a non-pyrophoric state	$950 FY84 GPP	Six (6) uranium chip oxidizers and offgas treatment system consisting of 55% prefilter, HEPA filter, draft fan and 15 foot stack. Each oxidizer will have uranium chip handling and oxide removal capabilities.	In order to cease disposal of depleted uranium chips in the Bear Creek Burial Grounds, a facility to reduce their volume and render them nonhazardous must be provided. The treated uranium can then be stored in a retrievable manner in above ground concrete storage vaults.

APPENDIX A

TABLE A-1 Y-12 Environmental Activities
4/03/1985

CATEGORY/PROJECT	SCOPE	FUNDING/ STATUS ($ x 1000)	FACILITIES PROVIDED	JUSTIFICATION
Funding Requested				
6 Modifications to Salvage Yard Contaminated Scrap Metal Storage Area/Y12	An existing area of the Salvage Yard will be provided with a water impermeable pad for storing uranium contaminated metal. The pad will be curbed	$400 FY86 GPP	A concrete pad with a surface area of approximately 2 acres will be provided under the contaminated scrap pile. The pad will include curbing and sloped to a sump for collection, sampling, and discharging rainfall runoff.	Facility will preclude the possibility of radioactive runoff from uranium-contaminated scrap metal reaching surface or ground waters, and provide a cleaner more efficient operation
8 Uranium Oxide Storage Vaults	Above-ground, completely enclosed, water-proof, concrete vaults in which to store depleted uranium metal and uranium oxide. Structures include ventilation and filtration for exhaust air. A total of 4 are projected at present.	$690 FY88 GPP	Above-ground completely enclosed, water proof concrete structures each with volume of 32,000 cubic feet. Vaults will be fitted with access ports, ventilation equipment to maintain a slight negative pressure inside, and filtration for exhaust air.	In order to cease disposal of depleted uranium chips in the Bear Creek Burial Grounds, a facility to reduce their volume and render them nonhazardous must be provided. The oxidized depleted uranium turnings and uranium solids be stored in a retrievable manner in above ground concrete storage vaults.
13 Enriched Uranium Exhaust Systems	This project is to make modifications of enriched uranium operations stacks to reduce air-borne radionuclides emissions as low as reasonably achievably (ALARA).	$900 FY88-91 LI	Install best available technology (BAT) on major enriched uranium radionuclide emission sources.	This project is in keeping with DOE's ALARA program. In addition, the EPA has also issued final radionuclide regulations. This project should further reduce the Y-12 Plant radiological dose and ensure continued compliance with radionuclide regulations.
14 Depleted Uranium Exhaust Systems	This project is to make extensive modifications of depleted uranium operations stacks to reduce air-borne radionuclides emissions as low as reasonably achievably (ALARA).	$5400 FY88-91 LI	Install best available technology (BAT) on major depleted uranium radionuclide emission sources.	This project is in keeping with DOE's ALARA program. In addition

APPENDIX A
TABLE A.1 Y-12 Environmental Activities
8/03/1985

CATEGORY/PROJECT	SCOPE	FUNDING/ STATUS ($ x 1000)	FACILITIES PROVIDED	JUSTIFICATION
1.2. Hazardous Waste				
Funded Activities				
2 Waste Coolant Processing Facility	Facility to treat water-soluble machine coolants. Effluent from the facility will be discharged directly into East Fork Poplar Creek under a NPDES permitted outfall until which time as it can be polished in the West End Treatment Facility.	$845 FY83 GPP	Small, commercial, biological wastewater treatment plant; consists of extended aeriation system, clarification, oil-water sludge collection and processing equipment.	To replace the existing inadequate waste coolant facility which originated as a Pilot Plant. Waste oil and coolants were, at one time, disposed of in the Bear Creek Burial Grounds and Oil Landfarm. This material is currently being stored on-site with minimal processing and some disposition by public sale. Facilities are required for improved storage and treatment for minimization of contamination and increased salability.
4 Spill Prevention Program - Main Plating Shop	Facilities to provide secondary containment for hazardous material storage and transfer as required by Clean Water Act and the Resources Conservation and Recovery Act.	$250 FY84 GPP	This GPP will provide new acid waste storage tanks and associated diking. Portable containers for the storage of cyanide and acid contaminated wastewaters will also be provided.	The Clean Water Act and EPA regulations which implement the Act require that "best management practices" be used to prevent all unnecessary pollutant discharges to the nation's waterways. Included as one of these practices is provision of containment around areas were oils and hazardous materials are stored and/or transferred. Not having such containment features poses an environmental hazard
12 Plating Rinse Water Treatment Facility	This facility will provide a package treatment to remove trace amounts of metals, cyanides and organics from 8,700,000 gal of plating shop rinse water per year.	$2100 FY85 LI	Plating rinsewater treatment plant will be installed on third flood of the Central Pollution Control Facility.	Several Y-12 plant process waste streams have, for many years, been directed into Upper East Fork Poplar Creek (UEFPC). However, compliance with the Tennessee Water Quality Act makes this practice unacceptable.

APPENDIX A
TABLE A.1 Y-12 Environmental Activities
4/03/1985

CATEGORY/PROJECT	SCOPE	FUNDING/ STATUS ($ x 1000)	FACILITIES PROVIDED	JUSTIFICATION
13 East End Waste Facility	Facilities to treat 1,500,000 gal/year of waste water from the Plant's paint spray booths as well as 52,000 gal/year of water with detergent, oil, and dirt from vehicle and equipment maintenance activities in the plant garage. Liquid streams from 9720-6 addition will be recycled, remaining hazardous sludge will be disposed of properly. The waste stream from the vehicle and equipment maintenance facilities will be transported to ORGDP for treatment and	$185 FY84 GPP	A packaged treatment unit providing oil skimmer, solid/liquid separator, liquid storage and feed tanks will comprise spray paint booth addition in 9720-6. A new storage tank, sump pump and partial dike will be provided for 9712 garage.	Several Y-12 Plant process waste streams have, for many years, been directed into EFA. To comply w/the Clean Water Act, these wastewaters must either be treated or discontinued from discharging the EFPC.
14 Oil & Coolant Storage Facility	A building will be constructed for housing sedimentation tanks and filter presses for processing coolant used to machine BeO materials. The BeO sludges will be removed from the coolant collected for commercial recycle or disposal allowing reuse of the filtered coolants.	$720 FY84 GPP		An existing system does an inadequate job of filtering the coolant, usually resulting in an unsuitable product for reuse as machine coolant. This, therefore, results in an added waste quantity requiring commerical disposal. The improved system will reduce waste quantity and permit a longer coolant life before disposal becomes necessary.

APPENDIX A
TABLE A.1 Y-12 Environmental Activities
4/03/1985

CATEGORY/PROJECT	SCOPE	FUNDING/ STATUS ($ x 1000)	FACILITIES PROVIDED	JUSTIFICATION
3 HS-Contaminated Soils Storage Area	Four separate concrete pads	$800 FY86 GPP	Four separate pads each with a 1,500 cubic yard capacity will be provided. Lighting fencing, diking, run-on control ditching, diking and an impervious botton will be past of this facility.	Y-12 is currently faced with the need to dispose of contaminated soils from the City of Oak Ridge as well as from the Y-12 site. These soils must be stored while they are sampled and arrangements are made to ship them off site for commercial disposal. A facility complying with the requirement of the Resource Conservation and Recovery Act is required.
19 Waste Oil/Solvent Storage Facility	New tanks must be purchased and installed above ground.	$1200 FY85 LI	Facility consist of a concrete diked area with five 40,000-gallon capacity steel tanks pumps and auxiliary piping, instrumentation, and heat tracing systems to prevent freezing.	PCB-Contaminated Oil Storage Capacity must be increased to phase out one 20,000 gal and one 10,000 gal underground storage tank. Underground storage of hazardous materials is likely to be precluded in the future by the State of Tennessee. $86 million Envir. LI, FY-85 - Sub Proj - Waste Oil/Solvent Storage Criteria to engr => 5-40,000 gallon stg tanks, transfer piping/pumps, dikes, loading & off-loading areas, tank construct in accord ASME/API, Sp Grco & construct consistent w/PCB's, Chl Solv.

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TABLE A.1 Y-12 Environmental Activities
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CATEGORY/PROJECT	SCOPE	FUNDING/ STATUS ($ x 1000)	FACILITIES PROVIDED	JUSTIFICATION
18 Flammable Liquid Waste Storage Facility	This project will address the storage of ignitible RCRA hazardous wastes (except acetonitrile) storage tanks and drums will be provided, conforming to environmental and fire protection regulations.	$500 FY85 GPP	This project will provide storage capability, tanks and drums, for ignitible liquid wastes.	DOE Order 5480.2 establishes hazardous waste management procedures for facilities operated under authority of the Atomic Energy Act of 1954, as amended. This present facility is not in compliance with 5480.2 standards. Project will provide for storage of materials and solvents which by RCRA definition are characteristically hazardous (ignitability). Materials can also be contaminated as low-level radioactive Waste Facility will comply with EPA/TN hazardous waste storage requirements and DOE order applicable to LLRW storage. Project may also incorporate treatment wing incineration.
21 Replacement of PCB Transformers	Replacement of PCB Transformers, in environmentally vulnerable locations, with non-PCB equipment is required for continued compliance with TSCA. Other PCB transformers will be replaced in subsequent years (FY86-D-123, Environmental Hazardous Elimination).	$500C FY85 LI		Continued Compliance with the Toxic Substance Control Act requires elimination of PCB Transformers.

Funding Requested

APPENDIX A
TABLE A.1 Y-12 Environmental Activities
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CATEGORY/PROJECT	SCOPE	FUNDING/ STATUS ($ x 1000)	FACILITIES PROVIDED	JUSTIFICATION
22 Spill Prevention Program	Facilities to provide secondary containment for hazardous material storage and transfer as required by Clean Water Act and the Resource Conservation and Recovery Act	$1000 FY85 LI	The LI project is providing: five diked stations for transfer of hazardous chemicals and chemical wastes between tank trailers, railroad tank cars, fixed storage tanks, and portable containers; a tank farm facility with four 10,000 gal tanks diked for spill containment, for waste solution collection prior to transfer to treatment facilities; and a storage tank for collection of acetonitrile prior to incineration.	The Clean Water Act and EPA regulations which implement the Act require that "best management practices" be used to prevent all unnecessary pollutant discharges to the nation's waterways. Included as one of these practices is provision of containment around areas where oils and hazardous materials are stored and/or transferred. Not having such containment features poses a real environmental hazard, because the likelihood of a spill is high when materials are being transferred from one container to another.
23 Replacement of PCB Transformers	Replacement of PCB Transformers	$760C FY86 LI		Continued Compliance with the Toxic Substance Control Act requires elimination of PCB Transformers.
1.3. Mixed or Co-contaminated Waste				
Funded Activities				
1 Processing Y-12 Wastes at ORGDP	Treat liquid waste at ORGDP that formerly went to the S-3 ponds, discharge some through K-25 NPDES permit. Return some for storage and further treatment in west end tank farm/west end treatment facility.	$630C FY84-86 EXP		In order to close and discontinue use of the S-3 Ponds, alternative treatment methods must be provided for the waste streams that have historically been placed there. The interim plan is to collecte these waste solutions at the Y-12 Plant and transport them via tank trailers and approved transport containers to ORGDP for treatment. The long-term plan for handling wastes that previously went to the S-3 ponds consists of collection and transport of nitrate wastes to the west end treatment facility and non-nitrate wastes to the new central pollution control facility.

APPENDIX A
TABLE A.1 Y-12 Environmental Activities
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CATEGORY/PROJECT	SCOPE	FUNDING/ STATUS ($ x 1000)	FACILITIES PROVIDED	JUSTIFICATION
2 West Tank Farm - Storage	Provide Storage and treatment for nitrate waste streams from within the plant and returning from ORGDP neutralization.	$6100 FY83-84 GPE	Nine 500,000 gallon steel tanks in concrete diked basin and all associated equipment (pumps, valves, piping) loadning and unloading systes.	These tanks are necessary as temporary storage and treatment vessels while other facilities are being completed, since waste disposal to the S-3 Ponds has ceased.
3 Central Pollution Control Facility (CPCF)-I	Physical-Chemical treatment facility to provide primary treatment to Plant acid, caustic, HF scrubber solution, plating shop floor and mop water wastes in amounts of 2,000,000 gallons per year.	$5300 FY81 LI	New building housing waste storage, neutralization, treatment and dewatering equipment as well as chromate reduction unit.	The long-term plan for handling wastes now going to the S-3 Ponds consists of collection and transport of nitrate wastes to the West End Treatment Facility and non-nitrate wastes to a new Central Pollution Control Facility (CPCFI).
4 Classified Waste Storage Facility	Above ground storage facilities are to be sited and constructed adjacent to existing security pits. Facilities will include two buildings, fencing, and material handling equipment for storage of classified waste (hazardous and non-hazardous) in containers or bales pending selection and construction of disposal facilities. Monitoring wells will be provided around existing burial pits for groundwater evaluation.	$900 FY85 GPP	Project criteria to Engr for storage above ground. Will use common facil. for storage/processing/disposal of Haz & Class disp.	The existing facility does not meet land disposal requirements of RCRA for burial of hazardous or radioactive wastes.
5 Central Pollution Control Facility (CPCF-II)	Provide treatment for nitrate-contaminated waste waters after receiving preliminary head-end treatment and neutralization at Oak Ridge Gaseous Diffusion Plant. Also provides insitu biological denitrification, dewatering and effluent	$2500 FY81 LI	Installation of rotary vacuum filter, s -olids pit, equilization and chlorination basins, associated piping and a double ended substation.	To provide treatment for nitrate bearing waste streams until the West End Treatment Facility comes on line.

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TABLE A.1 Y-12 Environmental Activities
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CATEGORY/PROJECT	SCOPE	FUNDING/ STATUS ($ X 1000)	FACILITIES PROVIDED	JUSTIFICATION
	polishing.			
6 West End Treatment Facilities	Project to provide treatment facilities for nitrate contaminated wastes. Subproject of Environmental Improvements line Item.	$6600 FY85 LI		There is a possibility that an Expansion of West Tank Farm will be required in future years.
7 RCRA and Mixed Waste Storage and Staging Facility	Facility to properly store (meeting RCRA requirements) wastes awaiting shipment to disposal sites.	$770 FY84 GPP		Large quantities of solid RCRA hazardous wastes co-contaminated with uranium have historically been disposed of in the Bear Creek Burial Grounds. Since this area is no longer to be used, it is planned to store these co-contaminated solid wastes in a temporary warehouse (Building 9720-9) until the design and construction of the RCRA and Co-Contaminated Liquid and Solid Waste Storage Facility is completed.
9 Environmental Support Facilities	This project will provide buildings and tankor fleet terminal facilities esential to safe operation of new treatment facilities. Limited space will be available to relocate personnel from contaminated areas.	$570C FY84 LI	Changehouse facilities, office space, field laboratory, working space for equipment maintenance, storage space and safe parking space for waste transport trucks will be provided.	This project will provide support facilities essential to the operation of Y-12's new waste water collection and treatment system to facilitate safe and efficient operation.

Funding Requested

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TABLE A.1 Y-12 Environmental Activities
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CATEGORY/PROJECT	SCOPE	FUNDING/ STATUS ($ x 1000)	FACILITIES PROVIDED	JUSTIFICATION
8 Hazardous Waste Disposal Facility/Y-12 - Planning Studies only	Engineering studies are now underway to define this facility	$500C FY87 LI		Sludges and soils from remedial action projects as well as sludges from wastewater treatment facilities that cannot be fixed and delisted will not be able to be disposed in commercial facilities because of the presence of radioactivity. Some long-term solution is required for such wastes from the Oak Ridge facilities.
10 Classified Waste Processing Facility	A closed, sheet metal building over a concrete pad, utilities, and a waste compactor/baler. Facility must be located inside the security exclusion area.	$850 FY87 GPP	Project provides for above ground storage of low-level radioactive and/or hazardous waste contaminated classified waste in a prefabricated metal building. Facility will provide for pretreatment	Large quantities of compactable, classified wastes are generated at Y-12. These must be disposed of in special, secure facilities, separate from the regular disposal facilities. Installation and operation of this facility will result in more efficient use of classified disposal facility space.
11 RCRA and Mixed Waste Storage and Staging Facility	Facility to properly store (meeting RCRA requirements) wastes awaiting shipment to disposal sites.	$900 FY87 GPP		Large quantities of solid RCRA hazardous wastes co-contaminated with uranium have historically been disposed of in the Bear Creek Burial Grounds. Since this area is no longer to be used

1.4. Conventional Waste

Funded Activities

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TABLE A.1 Y-12 Environmental Activities
4/03/1985

CATEGORY/PROJECT	SCOPE	FUNDING/ STATUS ($ K 1950)	FACILITIES PROVIDED	JUSTIFICATION
3 Steam Plant Improvements - Emissions Control	Installation of fabric filters (baghouses) to effect the control of particulates (fly ash) from the Steam Plant.	$13500 FY82-83 LI		On April 14, 1982, DOE signed a Federal Facilities Compliance Agreement with the EPA which placed the Y-12 Steam Plant on a plan and schedule to obtain compliance with the Clean Air Act and the State Implementation Plan for Tennessee. The Steam Plant Improvements project includes the installation of fabric filters (baghouses) to effect the control of particulates.
4 H-Wing Coolant Changeout	Piping and process equipment necessary to convert from perchloroethylene to water-soluble coolant	$3800 FY81 LI		Perchloroethylene is considered a health hazard and possible carcinogen, making it necessary to replace it as a standard process material. The H-Wing Coolant Changeout project is ready to begin and will replace the machine coolant with a propylene glycol-water mixture.
5 HF Scrubbers	Scrubbers for Buildings 9212 and 9206 to reduce HF emissions.	$1100 FY81 LI		Hydrogen fluoride emissions are almost exclusively from chemical processing operations in Buildings 9212 and 9206. Recent and projected increases in production will significantly increase emissions, to levels above State of Tennessee control limits. Process controls to minimize the necessity for use of excess HF in the chemical operation are being installed. In addition, an HF Scrubbers project is expected to be funded in FY 1985; it should essentially eliminate these operations as air pollution sources.

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TABLE A.1 Y-12 Environmental Activities
4/03/1985

	CATEGORY/PROJECT	SCOPE	FUNDING/ STATUS ($ X 1000)	FACILITIES PROVIDED	JUSTIFICATION
9	Source Collection and Treatment Facilities	Treatment Facilities will provide collection tanks with curbs, pumps, piping, and truck loading stations to allow for transport of each of the wastes to the appropriate treatment facility.	$3600 FY85 LI	Collection Tanks properly diked with pumps and piping necessary to transfer waste to trucks.	The majority of liquid waste streams from the Y-12 Plant facilities/operations must be diverted from direct discharge to Upper East Fork Poplar Creek to an acceptable treatment system prior to the release in order to meet the State Water Quality Criteria.
10	Steam Plant Wastewater Treatment Facility	Water treatment facility for Steam Plant Coalpile runoff, blowdown, and demineralizer generation wastes.	$4600 FY85 LI	Flow equalization basin and treatment equipment necessary for neutralization, sedimentation and NPDES discharge monitoring.	Approximately 3 million gal per year of acidic runoff results from rainfall contacting and percolating through the Y-12 Plant coal yard, located next to the Steam Plant. The runoff, containing suspended coal fines, a pH range of 2 to 3, and metal contaminants (Fe, Mn, As, and others) is subsequently discharged to the EFPC. About 20 million gal per year of ion-exchange regeneration acid having a pH range of 1.5 to 4.5 and 20 million gal per year of boiler blow-down typically having a pH of about 11 and elevated temperature are also released to the Creek. The Steam Plant Wastewater Treatment Facility provides for the treatment of these acid and caustic discharges.

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TABLE A.1 Y-12 Environmental Activities
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CATEGORY/PROJECT	SCOPE	FUNDING/ STATUS ($ x 1000)	FACILITIES PROVIDED	JUSTIFICATION
11 Trash and Scrap Monitoring Facility	Radiation detectors to be used in monitoring dumpsters of sanitary waste prior to the waste's being disposed in Sanitary Landfill #2. The second facility will monitor scrap metal.	$940 FY84,86 GPP		Because of the high potential for inadvertently mixing uranium-contaminated materials in with sanitary wastes, a Trash and Scrap Monitoring Facility is to be built. This project will provide radiation detectors to ensure that no radioactive wastes are placed in the Sanitary Landfill #2. The second facility is required to assure that contaminated scrap metals are not sold to the public.
Funding Requested				
1 New Hope Pond Sediment Removal	Removal of sediment from New Hope Pond, the distribution channel and EFPC just upstream of New Hope Pond.	$145 FY86 EXP		The primary functions of New Hope Pond and pH adjustment (through flow equalization) and settling of insoluble materials, such as sediment which may be contaminated with uranium and mercury. In 1973, the pond sediment was removed and transferred to a dry basin on top of Chestnut Ridge, south of the pond. Recent evaluations of pond capacity have indicated continued sedimentation and a need for another New Hope Pond Sediment Removal project.

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TABLE A.1 Y-12 Environmental Activities
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CATEGORY/PROJECT	SCOPE	FUNDING/ STATUS ($ K 1000)	FACILITIES PROVIDED	JUSTIFICATION
6 Salvage Yard Relocation	Relocate clean scrap metal yard. Criteria given to engr. site select process underway. [Metal is typically collected & sold w/no uran cont.] Cont Metal will remain on extg yard until proj #1 is funded or in-house shredding equipment can be used for vol red. and subseq. stg @ Y-12. This latter activity will begin in late FY-85.	$800 TBD FY85 GPP		Studies are underway in conjunction with ORNDP to devise mechanisms for disposal or recycling of scrap metal contaminated with uranium. Options to be explored include on-site smelting and contracting with an outside firm to smelt the material. Problems involved include the lack of a de minimis level for enriched uranium so that anyone buying scrap contaminated at all with enriched uranium must have an NRC license.
8 Process Systems Upgrade	Conventional pollution control	$420C FY87 LI		Repermitting of Y-12 Plant air pollution sources has identified a significantly larger number of pollution sources than previously recorded. Conventional controls will be required to reduce emissions to allowable levels.
1.5. Monitoring				
Funded Activities				
1 Biological Monitoring/Treatment Project	Contractor (Oak Ridge Research Institute) will develop bacteriological methods for monitoring	$400 FY85 EXP		To support biological monitoring programs as required by the Environmental Protection Agency; and to develop technology in monitoring and treating pollutants as needed in DOE's overall waste management program.
2 Refurbish and Expand Plant Laboratory Facilities	Expansion of plant lab to allow analysis resulting from major increase in workload due to increased emphasis on Environmental Protection. This is subproject #15 of the Environmental Improvements Line Item.	$200C FY84-85 LI	This project will refurbish existing laboratory spaces and establish approximately 8000 square feet of additional space in an existing building to support environmental laboratory activities.	The tremendous increase in monitoring requirements due to the new NPDES permit has led to a large increase in the workload for the Y-12 Plant laboratory. Although such work has been placed w/outside laboratories, the demand will likely increase.

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TABLE A.1 Y-12 Environmental Activities
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CATEGORY/PROJECT	SCOPE	FUNDING/ STATUS ($ x 1000)	FACILITIES PROVIDED	JUSTIFICATION
3 NPDES Monitoring/Sampling Stations	Install water quality and flow monitoring stations with sample collection capabilities at a number of Y-12 Plant storm sewer locations and in East Fork Poplar Creek.	$200C FY85 LI	TBD	Additional NPDES Monitoring/Sampling Stations will be required because of expected changes in the new Y-12 Plant NPDES permit, to be issued in FY 1985. This project will be an integral part of the Y-12 Plant's Best Management Practices (BMP) plan that will be mandated by the NPDES permit.
5 Meteorological Towers	Prepare site and relocate towers from CRBRP to Y-12 and install electronics for collection of meteorological data at various elevations.	$250 FY84 GPP	100 meter and 60 meter towers with automated data collection and solid state telemetry data transfer to computer.	To enhance Y-12's ability to manage its air emissions, two Meteorological Towers are to be installed on the Y-12 site. Site-specific meteorological data is required for computer modeling studies and to predict the effects of various air emissions. This information is essential if a PSD (Prevention of Significant Deterioration) Review is required by the State for any air pollutant.
Funding Requested				
4 Biological Monitoring/Treatment Project	Contractor (Oak Ridge Research Institute) will develop bacteriological methods for monitoring	$120C FY86 EXP		To support biological monitoring programs as required by the Environmental Protection Agency; and to develop technology in monitoring and treating pollutants as needed in DOE's overall waste management program.
6 Sampling Systems	Provides for isokinetic sampling of radionuclide emissions and automated particulate and gaseous emissions sampling of non-radioactive process emissions.	$350C FY87 LI		Provide means to ascertain that the radionuclide exhaust system improvements made to the Y-12 Plant are performing properly and demonstrate compliance with EPA radionuclide regulations.

APPENDIX A
TABLE A.1 Y-12 Environmental Activities
4/03/1985

CATEGORY/PROJECT	SCOPE	FUNDING/ STATUS ($ x 1000)	FACILITIES PROVIDED	JUSTIFICATION
7 Support Systems	Provides a mobile ambient air monitoring trailer for Y-12 Plant perimeter.	$100C FY87 LI		Improve monitoring ability of Y-12 Plant emissions and possess capability to monitor the mass transfer of pollutants in the air across Y-12 Plant boudries.
1.6. Remedial Action & Decommissioning				
Funded Activities				
1 Closeout of S-3 Ponds	Treatment and disposal of liquids in S-3 ponds. Further actions will be dependent upon the recommendations of the Bear Creek Valley Remedial Action Environmental Impact Statement	$420C FY84,85 EXP		S-3 Ponds are a source of contamination to Bear Creek and UEFPC and must be closed out to meet the Tennessee Water Quality Act.
3 Bear Creek Watershed Remedial Action Planning/Studies/Y-12	Provides for evaluation of sites which will lead to design and construction of facilities to control sources of pollution, intercept contaminants moving through ground and surface waters or at points of discharge to streams, and provide treatment systems for contaminated waters or solids. Includes installation of wells and groundwater monitoring surface sampling, inventories, evaluation of waste sites, engineering studies,	$980C FY84-87 EXP		Requirement of the TDHE Commissioner's Complaint and Order, Draft Order DOE 5480, and the CERCLA (if enforced by EPA on a DOE site).

APPENDIX A
TABLE A.1 Y-12 Environmental Activities
4/03/1985

	CATEGORY/PROJECT	SCOPE	FUNDING/ STATUS ($ x 1000)	FACILITIES PROVIDED	JUSTIFICATION
12	East Fork Poplar Creek Watershed Remedial Action Studies Exclusive of the Y-12 Plant Area/Y-12	Provides for technical evaluation of the off-site impact of Y-12 Plant operations by various agencies and special study groups. Includes, but not limited to evaluation of ground and surface water contamination, biological studies, soils and vegetation sampling, transport studies, risk assessment.	$400C FY84 EXP		The Memorandum of Understanding between DOE, EPA, and TDHE directed formation of an Interagency Task Force to evaluate the off-site impact of Y-12 Plant operations and to formulate a remedial plan if it is determined by EPA, DOE, and TDHE that one is necessary.
15	Bear Creek Watershed Remedial Actions/Y-12	Specific plans are still to be determined, but will provide for design and construction of facilities to control sources of pollution, intercept contaminants moving through ground and surface waters or at points of discharge to streams, and provide treatment systems for contaminated water or solids.	$12000 FY85 LI TBD		Tennessee Water Quality Act, CERCLA, and RCRA all require remedial actions for the Bear Creek Burial Grounds to reduce ground and surface water contaminants from past disposal practices. The TDHE Commissioner's Complaint and Order direct Y-12 to perform remedial action on the Bear Creek Watershed area. Requirement of Draft DOE Order 5480.
16	Mercury Source Identification and Remedial Action Planning	Investigations to identify existing sources of mercury in the Y-12 Plant that are contaminating East Fork Poplar Creek. Planning for construction project to mitigate these sources.	$900 FY85-88 EXP		To meet Tennessee Stream Guidelines for mercury in EFPC. Non-point sources of mercury contaminants may not be able to be cleaned up.
18	Reduction of Mercury in Plant Effluents (Air and Water Pollution Control Line Item)	This project provides for the reduction of mercury in Y-12 liquid effluents through segregation and isolation of known mercury sources and the collection and treatment of mercury-contaminated wastewaters discharging from outfalls or natural drainage into EFPC.	$15000 FY85 LI		To meet Tennessee Stream Guidelines for mercury in EFPC. Non-point sources of mercury contaminants may not be able to be cleaned up. East Fork Poplar Creek currently contains mercury in excess of existing Tennessee Water Quality limits due to discharges from Y-12.

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TABLE A.1 Y-12 Environmental Activities
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CATEGORY/PROJECT	SCOPE	FUNDING/ STATUS ($ x 1000)	FACILITIES PROVIDED	JUSTIFICATION
Funding Requested				
2 Bear Creek Watershed EIS/Y-12	Prepare Environmental Impact Statement for Bear Creek Watershed Remedial Actions.	$150C FY85-86 EXP		The DOE has determined that an EIS is required to meet NEPA regulations.
6 Special Studies and Short-Term Remedial Actions in City of Oak Ridge/Y-12	Special studies including sampling of soils and vegetables from Oak Ridge homes. Cleanup activities include removal and disposition of contaminated soils from various locations around the City in areas that pose a special hazard to human health and in advance of long-term remedial studies and actions. Long-term actions are identified as separate projects.	$130C FY84-87 EXP		Areas of the City of Oak Ridge that have been contaminated as a result of Y-12's discharges to East Fork Poplar Creek and are identified as special hazard to human health will have to be evaluated for clean up immediately by DOE.
8 East Fork Poplar Creek Watershed and Bethel Valley Remedial Action Studies - Y-12 Plant Area/Y-12	Studies must be performed on all of Y-12's inactive waste facilities to determine what, if any, CERCLA remedial actions are required. Provides for evaluation of sites which lead to possible construction of facilities to control sources of pollution from CERCLA sites, interception of contaminants moving through ground and surface waters or at points of discharge to streams, provide treatment systems for contaminated water or	$240C FY87 EXP		DOE Order 5480 requires that such remedial evaluations be performed to establish remedial action requirements.

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TABLE A.1 Y-12 Environmental Activities
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	CATEGORY/PROJECT	SCOPE	FUNDING/ STATUS ($ X 1000)	FACILITIES PROVIDED	JUSTIFICATION
9	East Fork Poplar Creek Watershed and Bethel Valley EIS-Y-12 Plant Area/Y12	Prepare an Environmental Impact Statement for the East Fork Poplar Creek and Bethel Valley Remedial Actions - inside the Y-12 Plant area.	$1750 FY87-88 EXP		Remedial actions which affect human environment may require preparation of an EIS to meet NEPA requirements.
10	East Fork Poplar Creek Watershed and Bethel Valley Remedial Actions - Y-12 Plant Area/Y-12	Specific plans are still to be determined	$0 FYTBD TBD		Draft Order DOE 5480 requires such remedial actions.
13	East Fork Poplar Creek Watershed EIS Exclusive of Y-12 Plant Area/Y-12	Prepare an environmental Impact Statement for the East Fork Poplar Creek Watershed Remedial actions.	$150C FY86-87 EXP		The DOE has determined that an EIS is required to meet the NEPA regulations.
19	Studies on Decommissioning of Lithium Isotope Facilities/Y-12	Dismantling	$660C FY84-87 EXP	Upgraded ventilation for environmental control	Residual mercury contamination remains in the building structure and old process equipment must be decontaminated to remove potential for major mercury releases to the environment (as with a fire).
21	Mercury Roaster/Y-12	This project provides for a large oven, exhaust system, and emission control to affect the removal and collection of mercury from process equipment, demolition material, soils and sludges.	$0 FYTBD LI		A facility is required to remove mercury contamination from equipment, soils, and other debris so that they can be disposed of as non-hazardous waste. Classification considerations and uranium contamination preclude full use of commercial facilities.
22	Decommissioning of Lithium Isotope Facilities/Y-12	Specific plans are still to be developed on dismantling	$0 FYTBD EXP		Residual mercury contamination remains in the building structure and old process equipment. Must be decontaminated to remove potential for major mercury releases to the environment (as with a fire).

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TABLE A.1 Y-12 Environmental Activities
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	CATEGORY/PROJECT	SCOPE	FUNDING/ STATUS ($ x 1000)	FACILITIES PROVIDED	JUSTIFICATION
23	East Fork Poplar Creek Watershed Remedial Actions Exclusive of the Y-12 Plant Area/Y-12	Actions that will be required are yet to be determined	$0 FYTBD LI		The TDHE Commissioner's Complaint and Order requires that plans be developed for the East Fork Poplar Creek's watershed area

APPENDIX A

TABLE A.2 ORNL Environmental Activities
4/03/1985

CATEGORY/PROJECT	SCOPE	FUNDING/ STATUS ($ x 1000)	FACILITIES PROVIDED	JUSTIFICATION
2.1. Radioactive Waste				
Funded Activities				
2 Upgrade PWTP Evaporator System	Equipment to lower nitrate concentration in the PWTP effluent to an acceptable level and increase nitric acid recovery at the PWTP Evaporator System.	$430 FY85 GPP	Larger capacity evaporator	Significant amount of nitrates in excess of State regulations are released into White Oak Creek from PWTP operations. In addition
3 Process Waste Treatment Plant Site Improvements	Protect the storm drain system from overflow from the Process Waste Treatment Plant caustic storage tanks.	$60 FY84 GPP	Dyke and catch basin to contain an accidental spill or leak from the PWTP caustic storage tanks.	Overflow or leakage from the PWTP caustic storage tanks will drain into the storm drains, which discharge to White Oak Creek without treatment. This would result in a release of radioactivity to WOC.
4 Central LLW Collection System	Upgrade LLW drain system between Building 3019 and the evaporator storage tanks.	$900 FY83 GPP	New double-contained stainless steel LLW lines and associated valving and monitoring systems.	This portion of the LLW system has only single containment and does not comply with the requirements of ORNL radiation protection procedures and result in the potential for a release of contamination.

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TABLE A.2 ORNL Environmental Activities
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CATEGORY/PROJECT	SCOPE	FUNDING/ STATUS ($ x 1000)	FACILITIES PROVIDED	JUSTIFICATION
5 LLW Drain Line, Building 3517	Install approximately 450 ft of new doubly contained stainless steel line to replace LLW line between FPDL and the existing doubly contained LLW collection header. Both cathodic protection and a leak detection system will be provided. A new valve pit will be installed to provide necessary valving and tie-ins.	$400 FY84 GPP	An LLW drain line which is in complete compliance with requirements.	This portion of the ILW system has only single containment, and is therefore not in compliance with the requirements of the ORNL Health Physics Manual (Procedure 1.3: "Radiation Protection in the Design of Experiments and Plant Operations"). Due to the advanced age of the present singly contained ILW system components, an increasing potential for release of contaminants to the environment exists. Failure to make these and future improvements to the ILW system would risk continued increasing potential for the release of contamination which could adversely impact both on-site health and safety and the continued operation of hot cell operations in the FPDL.
6 Central Waste Disposal Facility	Establish a shallow land burial facility for LLW generated by the 3 facilities located on the Oak Ridge Reservation.	$7500 FY86 LI	A LLW disposal facility for use by ORNL, Y-12, and ORGDP which will accomodate the needs of these sites for about 40 years.	The shallow land burial site used in the past by Y-12 and ORGDP was found unsuitable for continued use by the State of Tennessee Department of Health and Environment. Continued accomplishment of the important missions of these sites requires a means of LLW disposal. The SWSA 6 facility at ORNL has space for about 5 more years of operation at current ORNL generation rates. Use of SWSA 6 by all 3 Oak Ridge plants would deplete SWSA 6 very quickly. A new site for shallow land burial is therefore required by mid-FY 1985.
		$500 FY85 EXP		

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TABLE A.2 ORNL Environmental Activities
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CATEGORY/PROJECT	SCOPE	FUNDING/ STATUS ($ x 1000)	FACILITIES PROVIDED	JUSTIFICATION
12 Prefilter and Drain System Building 3517	This project will provide wash-down prefilter capability and a drainage collection system for the Bldg. 3517 cell ventilation system.	$340 FY85 GPP	Stainless steel nova cloy filters and double contained stainless steel LLW lines.	Groundwater in-leakage into the cell ventilation ductwork at Bldg. 3517 is currently collected and discharged from a below grade filter pit. This filter pit has been in service since 1950 and has experienced significant structural degradation from past operations. Adequate containment of this slightly contaminated water cannot be assured over the long term due to this degradation
21 Cask Tool Storage	Certain special tools must be constructed in order to accomplish the Beryllium change out at HFIR. The project proposed will provide a storage areas for these special tools such that they can be saved for future work.	$100 FY85 GPP	A new tool storage facility will be provided	The new facility is required to provide needed storage space
22 Secondary Contamination and Containment Control	Containment control measures will consist of a black wall and air leak arrangement rear cell 1 & 2 in Building 3019. Also	$85 FY85 GPP	A new air lack containment arrangement will be provided.	The additional containment and contamination control measures are needed to ensure that the radioactive naturals are contained to the extend possible.
23 Liquid Waste Systems - West End Area - 3019	The project will upgrade the liquid low level waste (LLW) and the process drain system in the laboratory area	$750 FY85 GPP	Upgraded drainage line for the process wastewater and the low level drainage systems will be provided	The process drain system in the west end of Building 3019 has become contaminated. This contamination has been a source of radon release to the laboratory area in the west end of the building. Also

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TABLE A.2 ORNL Environmental Activities
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CATEGORY/PROJECT	SCOPE	FUNDING/ STATUS ($ x 1000)	FACILITIES PROVIDED	JUSTIFICATION
Funding Requested				
8 Shielded TRU Waste Storage	Construct in SWSA 5 an array of approximately 20 stainless steel lined vertical holes, 15 ft deep, and ranging in diameter from 8 to 30 in. Each hole will be sealed with a 3 ft thick stepped concrete plug	$350 FY86 GPP	Increased storage capacity for TRU contaminated waste with high beta/gamma background.	This TRU waste storage will be used for stainless steel drums and capsules containing waste contaminated with transuranics with high levels of beta and gamma radiation. Remote handling is required for movement of these containers into and out of isolated storage. Based on current waste generation rates, additional retrievable shielded storage is required to avoid disruption on ongoing operations. Eventually the TRU waste will be shipped to a central repository, but it will be at least 5 years until the repository is ready to accept waste.
10 Replace LLW System Phase I	The ILW waste collection and transfer system consists of 23 collection tanks with a total capacity of about 320 cubic meters (operating capacity is 218 cubic meters) and about 3 miles of stainless steel underground piping. Both collection tanks and most of the piping are singly contained and not in compliance with new regulations. This project will include new stainless steel tanks and double contained piping.	$40000 FY88 LI	An LLW collection and transfer system which is in compliance with requirements. Each tank and some pieces of auxiliary equipment will be enclosed in a concrete vault for weather protection, radiation shielding, and containment of potential leaks. A ventilation system with HEPA filters will service each tank. Where appropriate, charcoal absorbers will be included.	The existing system has been in service for over 27 years and does not meet existing requirements for containment of radioactive material. The continuous demand for this system as well as the increasing potential for leakage (and subsequent environmental problems) dictate early replacement.

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CATEGORY/PROJECT	SCOPE	FUNDING/ STATUS ($ x 1000)	FACILITIES PROVIDED	JUSTIFICATION
11 Upgrade Process Waste Collection System	Installation of new doubly contained stainless steel LLW lines between facilities and the existing, doubly contained LLW collection header. Both cathodic protection and a leak detection system will be provided. One or more new valve pits will be installed in the Isotope area to provide the necessary valving and tie-ins.	$900 FY86 GPP	An LLW drain line which is in compliance with requirements.	See item (4) above.
14 Volume Reduction Modifications to PWTP	To reduce hydraulic loading on the process waste treatment plant due to nonradioactive sources of wastewater.	$400 FY85 GPP	Isolate nonradioactive lines.	Needed to allow efficient treatment of radioactive wastewater by the process waste treatment plant (Bldg. 3544).
17 Replace ILW System Phase II	The ILW waste collection and transfer system consists of 23 collection tanks with a total capacity of about 320 cubic meters (operating capacity is 218 cubic meters) and about 3 miles of stainless steel underground piping. Both collection tanks and most of the piping are singly contained and not in compliance with new regulations. This project will include new stainless steel tanks and double contained piping.	$8000 FY89 LI	An ILW collection and transfer system which is in compliance with requirements. Each tank and some pieces of auxiliary equipment will be enclosed in a concrete vault for weather protection	The existing system has been in service for over 27 years and does not meet existing requirements for containment of radioactive material. The continuous demand for this system as well as the increasing potential for leakage (and subsequent environmental problems) dictate early replacement.
19 Glass Melter	Volume reduction system for ORNL low-level solid wastes.	$900 FY87 GPP	Joule-heated furnace and off-gas treatment facilities.	Processing of several waste types (cellulosic waste
25 LLW Line Replacement (3019 Area)		$950 FY86 GPP		
26 LLW Line Replacement (3026)		$875 FY87 GPP		

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CATEGORY/PROJECT	SCOPE	FUNDING/ STATUS ($ x 1000)	FACILITIES PROVIDED	JUSTIFICATION
27 Sludge Storage Tank (PWTP)	Sludge storage tanks for process waste treatment sludge at PWTP.	$300 FY87 GPP		Process changes in PWTP will result in sludge generation which will be stored in tanks until final disposition.
2.2. Hazardous Waste				
Funded Activities				
2 Chemical Waste Storage Facility	Provide a facility for packing and storing chemical waste.	$350 FY84 GPP	New pre-engineered building will be erected.	Building will provide for safe storage of incompatible chemicals in accordance with NFPA and RCRA requirements.
3 Improvements to PCB Transformer Dikes, ORNL Facility at Y-12	Improve containment dikes around ORNL PCB contaminated transformers at Y-12.	$100 FY84 EXP	Upgraded dikes around existing ORNL transformers at Y-12 will be provided.	To provide for containment of PCB contaminated materials in accordance with TSCA.
19 Chemical Spill Trailer	Provide a new trailer equipment for response to chemical spills at ORNL.	$50 FY85 GPE	A new trailer will be provided.	A new trailer is required to ensure effective and timely response.
20 Two Tanker Trucks	Provide two new tanker trucks for hauling watewater.	$80 FY85 GPE	Two new tanker trucks.	Trucks needed to support wastewater treatment activities.
Funding Requested				
1 Hazardous Waste Storage Facility	Provide a dedicated facility for storage of RCRA waste.	$225 FY82 GPP	New pre-engineered building will be erected.	Building will provide for safe storage of hazardous waste in compliance with RCRA regulations.
4 Improvements to Hazardous Waste Management Area	Provide support facilities for personnel working in ORNL's hazardous waste management area.	$250 FY86 GPP	New building will be provided to house the necessary support facilities.	To provide the necessary facilities for personnel at the waste management area as required by OSHA.
6 Collection/Cleanup Operations - Solvents and Plating Solutions	Provide for collection and cleanup of various solvents and plating solutions waste streams at ORNL. These waste streams will then be routed to recovery facilities.	$100 FY86 GPE	New equipment will be procured and installed to provide for collection and cleanup of solvents and plating solutions.	To provide collection and cleanup facilities where needed.

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	CATEGORY/PROJECT	SCOPE	FUNDING/ STATUS ($ x 1000)	FACILITIES PROVIDED	JUSTIFICATION
7	Collection/Cleanup Operations - Mercury	Provide for collection and cleanup operation of mercury waste streams at ORNL.	$100 FY86 GPE	New equipment will be procured and installed to provide for collection and cleanup of mercury.	To provide collection and cleanup operations where needed.
8	Collection/Cleanup - Scintillation Fluids	Provide collection and cleanup operations of scintillation fluid waste streams at ORNL.	$100 FY86 GPE	New equipment will be procured and installed to provide for collection and cleanup of scintillation fluid.	To provide collection and cleanup operations where needed.
9	Isotope Separations Facility Wastewater Collection System	Provide the required tankage to collect ORNL's calcutron facility wastewater. Wastewater will be shipped to a Y-12 treatment facility for handling.	$185 FY84 GPP	New process wastewater collection equipment will be procured and installed.	To provide the best available technology treatment of wastewater from the Calcutron Facility as required by the Clean Water Act (CWA).
10	Hazardous Waste Staging Area for ORNL Facilities at Y-12	Provide building space at Y-12 for temporary storage of ORNL hazardous waste prior to shipment to ORNL.	$500 FY86 GPP	New pre-engineered building will be provided for the temporary storage.	To provide for adequate storage of various waste materials including temporary RCRA waste storage to enhance spill protection.
11	Replacement of PCB Transformers, Phase I, II, III, & IV	Replacement or rework of PCB contaminated transformers	$3050 FY86-89 GPP	New or upgraded transformers which utilize non-PCB contaminted dielectric fluid.	To eliminate the use of PCB contaminated transformers and meet the requirements of TSCA.
12	Explosive/Shock Sensitive Chemical Waste Disposal Facility	Provide a facility where excess explosive/shock sensitive chemicals can be detonated safely.	$100 FY86 GPP	New structure will be built which will allow safe storage and detonation of Explosive/Shock Sensitive Chemicals.	To provide for increased personnel safety in the disposal of explosive materials.
13	Gas Cylinder Disposal Facility	Provide a facility where damaged gas cylinders can be vented safely to the atmosphere through appropriate emission control equipment.	$200 FY87 GPP	New pre-engineered building will be erected and the necessary gas cylinder disposal equipment procured and installed.	To provide increased personnel safety and to provide discharge of various gases in accordance with RCRA and CAA.
14	Emergency Spill Response Storage Facility	Provide a separate facility for the storage of the various emergency spill response equipment maintained by ORNL.	$250 FY87 GPP	A new storage facility will be provided.	A central storage facility is required to ensure a timely response to emergency spill situations.

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CATEGORY/PROJECT	SCOPE	FUNDING/ STATUS ($ x 1000)	FACILITIES PROVIDED	JUSTIFICATION
16 Non-Radiological Waste Volume Reduction Facility	Provide a facility to house the various non-radiological waste volume reduction equipment.	$350 FY86 GPP	A new facility will be provided for Glass	A central facility is required to house the equipment and to ensure effective operation of the volume reduction process for glass
17 Trace Metals Protection System - Phase I	Provide the needed isolation and rehabilitation work required to eliminate discharges trace metals.	$445 FY87 GPP	A piping and lined pipes in addition to pre-treatment systems will be provided.	The process drainage system at ORNL is the source of trace metal contamination in the wastewater. The system must be upgraded to ensure the elimination of trace metals discharges to the extent possible.
18 Trace Metals Pretreatment System, Phase II	Provide the needed isolation and rehabilitation work required to eliminate discharges of trace metals.	$920 FY88 GPP	Upgraded drainage piping and new pretreatment systems will be provided.	The process drainage system at ORNL is the source of trace metal contamination in the wastewater. The system therefore must be upgraded to ensure the elimination of trace metals discharges to the extent possible.
21 Spill Equipment	Procure new spill equipment required to support ORNL spill response program.	$75 FY86 GPE	New spill response equipment will be provided.	Needed to support the ORNL spill response program.
23 Upgrade Process Waste Collection System - 2000 and 7000 Area	The integrity of the Process Waste System piping in West Bethel Valley will be improved where infiltration and inflow are identified.	$800 FY87 GPP	The integrity of the piping system will be improved by a combination of the following methods: 1. in-situ form liner	The Process Waste System consists of mostly vitrified clay pipe which was installed between 1940 and 1960. Literature review and operating experience indicates that as much as 70% of the system may be leaking. Further
25 Upgrade Process Waste System	Complete corrective measures on the process waste system and support GPP's related to upgrade or rehabilitation of system.	$26100 FY85-91 EXP	Upgrade and rehabilitation of process wastewater drainage system.	Funds needed to bring ORNL into compliance with Clear Water Act regulations.

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CATEGORY/PROJECT	SCOPE	FUNDING/ STATUS ($ x 1000)	FACILITIES PROVIDED	JUSTIFICATION
26 Improve Management of Hazardous and Toxic Materials	Certain existing facilities will be cleaned up	$36250 FY85-91 EXP	New and upgraded facilities will be provided as a result of this project.	Project funds needed to bring ORNL into compliance with the various environmental regulation.
28 Deep Monitoring Wells to Knox Formation	The provide will provide deep monitoring wells to the Knox formation. Data obtained will help define the extend and movement of any groundwater contamination.	$800 FY86 GPP	New deep monitoring wells will be provided.	Deep wells to the Knox formation are required to provide data on possible groundwater contamination and movement.
30 Isotope Area Contaminated Groundwater Control System	Provide a system to reduce the amount of radioactivity in groundwater by diverting it away from contaminated areas and by treatment of contaminated water.	$950 FY87 GPP	A new groundwater control system will be provided	The control system is needed to minimize problems with contaminated groundwater.
31 Chemical Destruction System for Mixed Waste	Construct a new chemical destruction system to breakdown various types of mixed waste.	$900 FY89 GPP	A new facility will be provided to provide for chemical destruction of various hazardous waste streams.	New facilities required to ensure proper handlings of various hazardous waste.
32 Liquid Hazardous Materials Collection System	Procure the necessary equipment to provide efficient liquid hazardous waste collection waste.	$150 FY89 GPP	New collection facilities will be provided for certain hazardous waste	Collection facility needed to provide efficient collection of hazardous waste.
2.3. Mixed or Co-contaminated Waste				
Funded Activities				
2 Scintillation Vial Crusher	Provide equipment for removal of scintillation fluid from the numerous small scintillation vials.	$40 FY85 GPE	Procure and isstall a machine to shred and/or break scintillation vials generated at ORNL.	To provide method to remove RCRA controlled scintillation fluid from small vials prior to treatment in a cost-effective manner.

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CATEGORY/PROJECT	SCOPE	FUNDING/ STATUS ($ x 1000)	FACILITIES PROVIDED	JUSTIFICATION
Funding Requested				
3 Long-Term Hazardous Waste Storage Facility	Provide a dedicated facility for long-term storage of ORNL's co-contaminated wastes.	$325 FY85 GPP	New pre-engineered building will be erected.	To provide for long-term storage of co-contaminated waste until acceptable RCRA treatment and disposal methods are developed.
4 Spill Prevention Control and Countermeasures Improvements, Phase I, II, and III	Improve containment for spill sources at ORNL and provide facilities for effective countermeasures.	$2700 FY86-88 GPP	Interceptor systems for storm sewer systems and a spill containment area downstream of ORNL.	To provide best management practices in accordance with Clean Water Act (CWA) requirements.
2.4. Conventional Waste				
Funded Activities				
1 Improvements to Existing Sewage Treatment System	Replacement of ORNL's existing sewage treatment plant.	$1500 FY84 LI	New package extended aeration sewage treatment plant.	Required to achieve compliance with present and proposed NPDES requirements in accordance with the CWA.
2 Corrections to ORNL Sanitary Sewers to Prevent Inflow/Infiltration	Correct deficiencies in ORNL sanitary sewers by lining various lines that have significant inflow/infiltration	$265 FY84 GPP	Upgraded or new sanitary sewer drainage lines.	To reduce the amount of sanitary wastewater requiring treatment and to eliminate possible contamination of sanitary.....
3 Coal Yard Runoff Treatment System Improvements	Improve Coal Yard Runoff Treatment System to provide better pH adjustment, sludge handling and process control.	$750 FY84 GPP	Equipment for lime addition, for sludge handling and for process control at the Coal Yard Runoff Treatment System.	Required to achieve compliance with present and proposed NPDES requirements in accordance with the CWA.
4 Steam Plant Wastewater Treatment System	Provide improvements to eliminate settling of ash hopper solids in the Coal Yard Runoff Upper Basin.	$400 FY86 GPP	Equipment installed to provide for alternate method of handling ash hopper solids.	To provide for more efficient handling of ash hopper solids and to eliminate probles in the upper basin at the Coal Yard Runoff Treatment Area.
5 1505 Area Transfer Piping	Provide for transportation by pipeline of wastewater from 1500 area to 190 Ponds for monitoring and treatment.	$315 FY85 GPP	New transfer piping and valves.	Needed to help ensure compliance with anticipated new NPDES permit limits in accordance with the CWA.

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CATEGORY/PROJECT	SCOPE	FUNDING/ STATUS ($ x 1000)	FACILITIES PROVIDED	JUSTIFICATION
6 2000 Area Transfer Piping	Provide isolation of drains and reroute wastewater discharge from the 2000 area. This instant will be routed to 190 pond area.	$255 FY85 GPP	New process piping.	Needed to help ensure compliance with anticipated new NPDES permit limits in accordance with the CWA.
7 Biology Area Wastewater Isolation System	Provide capability of isolate process wastewater from area storm drainage and to collect process wastewater.	$685 FY84 GPP	New process wastewater drainage lines required to isolate the Biology Area Wastewater.	Needed to help ensure compliance with anticipated new NPDES permit limits in accordance with the CWA.
8 Process Pipe Lining	Provide isolation of Hg contamination in Building 9201-2.	$60 FY84 RXP	Lining of process pipes.	Needed to control mercury contamination from process piping in Building 9201-2.
9 TV System for Pipe Survey	Provide TV system for survey of ORNL drainage piping. This will be utilized to determine inflow and infiltration.	$37 FY85 GPE	A new TV system will be procured.	The ORNL drainage system must be kept upgraded to eliminate inflow and infiltration to ensure an effective wastewater drainage system.
13 Drum Crusher	Provide the necessary equipment required to crush used drums.	$75 FY85 GPE	New drum crushing equipment will be provided.	Equipment is required to reduce the volume of used drums requiring disposal.
15 Glass Crusher	Glass crusher equipment will be procured for the ORNL plant.	$100 FY85 GPE	Glass crusher equipment will be provided.	Required to reduce volume of glass prior to disposal at Y-12 landfill. Also
21 Biology Area Wastewater Collection System	Provide a collection system for the biology area wastewater drainage.	$500 FY85 GPP	A new wastewater collection system will be provided.	The new NPDES permit for Y-12 requires that the discharge of pollutants from the Biology area be reduced. This project is part of the overall system to accomplish the required reduction.

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CATEGORY/PROJECT	SCOPE	FUNDING/ STATUS ($ x 1000)	FACILITIES PROVIDED	JUSTIFICATION
Funding Requested				
11 Sewer System Inflow/Infiltration, Phase II	Rehabilitate or replace leaking sections of ORNL's sanitary sewer system which have been contaminated with radioactivity.	$600 FY85 GPP	Upgraded or new sanitary drainage lines.	To reduce the amount of sanitary wastewater requireing treatment and to eliminate possible radioactive contamination of sanitary wastewater.
12 Nonradiological Wastewater Treatment Project	Provide for the necessary nonradiological treatment of ORNL's process wastewater prior to discharge.	$23000 FY86 LI	New building will be constructed and new process treatment will be procured and installed.	Needed to ensure compliance with proposed new NPDES discharge limits in accordance with the CWA.
14 Biology Area Wastewater Treatment System	Installation of a treatment system to process Biology area wastewater prior to discharge.	$940 FY86 GPP	New wastewater treatment equipment reguried to treat the Biology area wastewater and structures as required to house the new equipment.	Needed to help ensure compliance with anticipated new NPDES permit limits in accordance with the CWA.
16 Sump Oil Separation for ORNL Facilities at Y-12	Provide the capability to remove oil from the sump discharges of Blds. 9201-2 and 9204-3.	$100 FY86 GPP	New oil separation equipment required to handle sump wastewater prior to discharge.	Needed to help ensure compliance with anticipated new NPDES permit limits in accordance with the CWA.
19 Remote Area-Process Wastewater Pretreatment Phase I, II	Provide treatment required by EPA and the State of Tennessee for air and water discharges determined to be out of compliance.	$1900 FY87-88 GPP	To be determined.	Needed to meet compliance orders from the EPA and/or State of Tennessee.
20 Wastewater/Storm Drain Isolation, Phase I, II	To isolate process drains.	$1800 FY87-88 GPP	To be determined.	To isolate process drains to allow treatment under CWA to meet BAT.
22 Upgrade of Storm Sewer System	Complete corrective measures on the storm sewer system at ORNL and provide for support of various GPP's related to the upgrade of this system.	$6170 FY85-91 EXP	New and rehabilitated storm sewer lines will be provided	Funds required to bring the ORNL dischargee into compliance with the regulations of the CWA
23 Improvements to Sewage Treatment Plant and Sanitary Sewer System	Provide the necessary and support to GPP's related to sanitary sewer system and provide various general upgrade and rehabilitations to system	$2110 FY85-88 EXP	Upgrade and rehabilitation of the sanitary sewer system will be provided as a result of this project.	Project required to bring ORNL facilities into compliance with the Clean Water Act regulations.

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CATEGORY/PROJECT	SCOPE	FUNDING/ STATUS ($ x 1000)	FACILITIES PROVIDED	JUSTIFICATION
24 Process Waste System Inflow and Infiltration	Provide rework of process wastewater drainage lines to climate source of inflow and infiltration	$950 FY86 GPP	New and reworked process drainage lines will be provided.	Rework of drainage lines required to ensure proper drainage
25 Wastewater Piping Replacement - 4500 Area	Replace or rehabilitate process drainage lines in the 4500 Area	$920 FY87 GPP	New or reworked process drainage lines will be provided	Rework of drainage lines needed to ensure adequate drainage of process wastewater.
2.5. Monitoring				
Funded Activities				
1 Upgrade 7911 Stack Monitoring System	Provide capability to perform representative sampling and real-time monitoring for the gaseous emissions from the 7911 Stack.	$350 FY84 GPE	Spoolpieces inserted in each duct leading to 7911 which will provide isokinetic sampling capability, real-time monitors for activity being emitted and an instrument shelter.	Needed to comply with DOE Order requirements (5480.1 and 5484.1) with proposed EPA NESHAP regulations, and with FEMA requirements.
2 Water Quality Monitors	EGCR east, EGCR west, and 1st creek monitor stations.	$350 FY84 GPP	Waste Monitoring Stations	Monitoring stations required to determine water quality at specific sites around ORNL.
3 Hydrostatic Head Monitoring Station, Trench Area	Development of information about the deep groundwater flow system in and around ORNL disposal areas and related facilities.	$220 FY84 GPP	A system of wells to measure hydrostatic head at three depths (40, 200, and 400 ft below ground surface.)	This work is coupled to the FY 1987 milestone requiring long-term stabilization of the burial grounds. Information about the horizontal and vertical flow patterns of the groundwater are required to plan effective measures for preventing groundwater from coming into contact with buried waste.
4 Environmental and Effluent Data Computer System	Provide the capability to store and to reduce data being transmitted from ORNL's monitoring networks and to use that data in predicting environmental consequences for normal and emergency operations.	$198 FY83 GPE	Virtual memory computer tied to ORNL's monitoring networks and modifications to Building 2016 to house the computer.	Needed to comply with DOE Order requirements (5480.1 and 5484.1) with proposed EPA NESHAP regulations, and with FEMA requirements.

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CATEGORY/PROJECT	SCOPE	FUNDING/ STATUS ($ x 1000)	FACILITIES PROVIDED	JUSTIFICATION
28 Background Water Data Measuring Stations	Provide the necessary water quality measuring stations on the Clinch River and on White Oak Creek upstream of ORNL to measure background water quality.	$244 FY85 GPE	Two new water measuring stations will be provided.	Background water quality data is needed to determine the relative level of pollution caused by ORNL facilities to the area waters.
30 Bar Code System	A new bar code system will be procured to track environmental samples.	$17 FY85 GPE	A new bar code system will be procured.	A overall tracking system is required to ensure effective tracking of environmental samples. This tracking system will assist in ensuring the Q.A. of the sampling program.
35 STP Influent Radiation Monitor/Microprocessor	This project will provide a new monitor for the inlet to the sewage treatment plant to monitor for radiation.	$60 FY85 GPE	A new radiation monitoring system will be installed	Due to problem in certain areas
36 Monitoring System Outlet to STP	The project will include the installation of a new monitoring system on the outlet of ORNL's new sewage treatment plant.	$55 FY85 GPE	A new monitoring system will be provided.	The new system is required to provide accurate monitoring of the sewage treatment plant outlet.
43 Groundwater Mon[illegible]ng-Ponds		$376 FY85 GPP		
Funding Requested				
5 Pressurized Gas Sampler Systems	Sample collection system will be provided. The new system will provide 150-fold enhancement of stack gas or environmental air samples.	$69 FY85 GPE	A new sample collection system will be provided.	Collection system required to provide monitoring of releases from ORNL.
6 Environmental Monitoring Systems Upgrade Phase I, II	Replace existing vacuum tube electronics with commercially available solid-state units.	$850C FY85-86 LI	New solid-state monitoring and sampling equipment will be procured and installed as required.	Needed to ensure adequate data is obtained on the various environmental discharges from ORNL and Oak Ridge Reservation in accordance with DOE Orders 5480.1 and 5484.1.

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	CATEGORY/PROJECT	SCOPE	FUNDING/ STATUS ($ x 1000)	FACILITIES PROVIDED	JUSTIFICATION
7	Process Waste Segregation System	Upgrading of an obsolete sampling and monitoring system by replacing 15 monitoring stations.	$930 FY85 GPP	An upgraded sampling and monitoring system for the low-level radioactive liquid waste collection and transfer system.	Reduction of quantities of misclassified waste, resulting in more efficient operation of PWTF, and better characterization of ORNL waste streams.
8	Process Waste Monitoring System	Upgrading of an obsolete sampling and monitoring system by replacing 15 monitoring stations.	$550 FY86 GPP	An upgraded sampling and monitoring system for the low-level radioactive liquid waste collection and transfer system.	Reduction of quantities of misclassified waste, resulting in more efficient operation of PWTF, and better characterization of ORNL waste streams.
9	New NPDES Monitors at ORNL	Provide new monitors and sampling equipment at new NPDES points at ORNL. FY-85 is design only, FY-86 construction.	$300 FY85 GPP	New flow monitoring and sampling equipment will be installed at the various new NPDES discharge points.	Orders 5480.1 and 5484.1. Needed to ensure compliance with proposed new NPDES permit limits in accordance with the CWA.
10	New NPDES Monitors at Y-12	Provide new monitors and sampling equipment at new NPDES points for facilities at Y-12.	$250 FY84 GPP	New flow monitoring and sampling equipment will be installed at the various new NPDES discharge points.	Needed to ensure compliance with proposed new NPDES permit limits in accordance with the CWA.
11	Hydrostatic Head Measuring Station, SWSA #6	Development of information about the deep groundwater flow system in and around ORNL disposal areas and related facilities.	$300 FY85 GPP	A system of wells to measure hydrostatic head at three depths (40, 200, and 400 ft below ground surface).	This work is coupled to the FY 1987 milestone requiring long-term stabilization of the burial grounds. Information about the horizontal and vertical flow patterns of the groundwater are required to plan effective measures for preventing groundwater from coming into contact with buried waste.
12	Hydrostatic Head Measuring Station, SWSA #5	Development of information about the deep groundwater flow system in and around ORNL disposal areas and related facilities.	$600 FY86 GPP	A system of wells to measure hydrostatic head at three depths (40, 200, and 400 ft below ground surface).	This work is coupled to the FY 1987 milestone requiring long-term stabilization of the burial grounds. Information about the horizontal and vertical flow patterns of the groundwater are required to plan effective measures for preventing groundwater from coming into contact with buried waste.

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	CATEGORY/PROJECT	SCOPE	FUNDING/ STATUS ($ x 1000)	FACILITIES PROVIDED	JUSTIFICATION
13	Groundwater Monitoring Network, Phases I, II, III, and IV	Provide state of the art sampling and monitoring of groundwater in and around the solid waste disposal and operation areas at ORNL.	$2550 FY86-89 GPP	A permanent groundwater monitoring system to provide both a comprehensive spatial distribution of strategically placed wells to ensure well construction that meets modern standards for groundwater sampling.	Regulatory guidelines for monitoring well construction and placement requires major upgrading of the system currently in use in the ORNL solid waste disposal areas. This project will permit ORNL to keep pace with developing regulatory requirements.
14	Environmental Management and Monitoring Center	Provide a new structure to house the various new environmental monitoring computer equipment and personnel in a central location.	$900 FY86 GPP	New building will be constructed to house the personnel and computer equipment.	Needed to ensure adequate facilities are available for new NPDES and CAA monitoring equipment, computers, and personnel.
15	Environmental Monitoring/Management Equipment, Phases I, II, III, IV, V	Provide equipment for environmental monitoring/management activities for the ORNL area.	$626C FY85-89 GPE	Equipment needed to provide adequate monitoring/management capabilities.	Equipment required to meet required monitoring activities.
17	Groundwater Sampling System	A new mobile well logger will be procured. The logger will be equipped for use on conjunction with the various groundwater monitoring wells required.	$92 FY85 GPE	A new mobile well logger will be procured.	The logger is required to support the required groundwater monitoring program at ORNL.
18	Four Wheel Drive Vehicles	Procure four wheel drive vehicles equipped for sampling in remote areas.	$21 FY85 GPE	New four wheel drive vehicles will be procured.	The vehicles are required to required support sampling in remote areas where a standard vehicle could provide access.
19	Aquatic Life Sampling System	A work boat system consisting of sediment sampling boat and support/biological sampling boat will be procured.	$40 FY85 GPE	A new boat/trailer system will be procured.	System is required to support increased sampling requirements for sediment and biological items.
20	TLD Reader	Provide an automated TLD reader capable of evaluating approximately 50 chips in sequence.	$29 FY85 GPE	A new TLD reader will be provided.	Required to support increase TLD monitoring requirements.

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	CATEGORY/PROJECT	SCOPE	FUNDING/ STATUS ($ x 1000)	FACILITIES PROVIDED	JUSTIFICATION
32	Hydrostatic Head Measuring Station, SWSA 3	Development of information about the deep groundwater flow system in and around ORNL disposal areas and related facilities.	$300 FY86 GPP	A system of wells to measure hydrostatic head at three depths (40-	This work is coupled to the FY 1987 milestone requiring long term stabilization of the burial grounds. Information about the horizontal and vertical flow patterns of the groundwater is required to plan effective measures for preventing groundwater from coming into contact with buried waste.
33	Upgrade 10 Area Air Monitoring Systems	Provide the necessary monitoring	$500 FY85 GPE	Ten (10) upgraded area air monitoring stations and associated equipment.	Upgrade of monitoring equipment necessary to ensure compliance with regulations.
34	Portable Spectral Detection System	A new portable spectral detection system will be procured	$47 FY85 GPE	A new portable spectral detection system will be provided.	Portable detection system required to support the overall ORNL environmental monitoring program.
37	Real Time Environmental Data Analysis System	Procure a new environmental analysis system to handle environmental data generated	$147 FY85 GPE	A new data analysis system will be procured and installed	New data analysis system required to handled environmental data at the Oak Ridge Reservation.
39	Automatic Sample Analyzer	Provide new automatic sample analyzer equipment	$20 FY87 GPE	New sampler analyzer equipment will be provided.	Sample analyzer equipment will be provided.
40	14 Rain Gauges for Disposal Areas	This project is required to provide the rainfall data for the various ORNL disposal areas	$112 FY87 GPE	New rain gauges will be provided	Rain fall data is required to determine the flow of water and discharges through the various ORNL waste disposal areas.
41	Data Concentrators	Provide data concentrator equipment of the various environmental monitoring points around ORNL.	$490 FY87 GPE	New data concentrate equipment will be provided.	The data handling equipment is required to ensure that the overall ORNL monitoring system work in an efficient and effective manner.
42	10 Gross Gamma Monitors	Provide 10 gross gamma monitors for use in environmental monitoring at ORNL	$120 FY87 GPE	New gross gamma monitoring equipment will be provided	Equipment is required to support environmental monitoring activities at ORNL>

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CATEGORY/PROJECT	SCOPE	FUNDING/ STATUS ($ X 1000)	FACILITIES PROVIDED	JUSTIFICATION
21 Disk Drive for Spectrometer	Provide disk drive to increase data handling capability of an existing remote data acquisition system.	$13 FY85 GPE	A new disk drive will be provided.	The new capability is required to provide needed access to the data at the remote area.
22 Scan/Calibration Van	Provide a van equipped for scanning of various areas around ORNL. Also	$121 FY85 GPE	A new van will be provided.	Van is required to ensure that the proper level of monitoring at ORNL is maintained.
23 Portable Gross Gamma Monitor	Procure new gross gamma monitor for various areas at ORNL.	$11 FY85 GPE	New gross gamma monitor will be provided.	New gamma monitor is needed to support monitoring activities at ORNL.
25 Portable Water Samplers	New portable water samplers will be procured.	$75 FY86 GPE	New portable water samplers will be provided.	New portable water samplers are required to support increased monitoring requirements.
26 Data Concentrators	Procure and install new data concentrator.	$490 FY86 GPE	New data concentrators will be procured and installed.	The new data concentrator are required to tie into the updated environmental monitoring system.
27 Flow Measuring System for Sewage Lines	A new flow measuring system for the sewer drainage system will be procured and installed.	$350 FY86 GPE	A new flow measuring system will be procured.	The new system is required to ensure that the drainage system is monitored of inflow and infiltration.
28 H-3 Stack Monitoring System	Procure and install a new H-3 stack monitoring system.	$200 FY86 GPE	A new monitoring system will be procured and installed.	New monitoring system is required to ensure adequate monitoring is maintained.
29 MSRE Stack Monitoring System	Procure and install a new monitoring system for the MSRE stack.	$250 FY86 GPE	A new monitoring system will be procured and installed.	New monitoring system is required to insure adequate monitoring.
31 Monitoring Wells, Bethel Valley	Development of data collection on contaminated groundwater flow in Bethel Valley.	$700 FY87 GPP	A system of wells to measure hydrostatic head	This work is being performed in conjunction with the Groundwater Monitoring Network cited in the "Environmental Management at ORNL, Five Year Project Plan" and provide identification and monitoring of radioactively contaminated groundwater migration in specific areas.

APPENDIX A
TABLE A.2 ORNL Environmental Activities
8/03/1985

CATEGORY/PROJECT	SCOPE	FUNDING/ STATUS ($ x 1000)	FACILITIES PROVIDED	JUSTIFICATION
2.6. Remedial Action & Decommissioning				
Funded Activities				
1 Engineered Groundwater Barriers, Trench 7	Intercept groundwater upgredient from Trench 7 and route groundwater to reduce contact with waste.	$400 FY84 GPP	Diversion drains.	Prevent groundwater from reaching disposal trench.
2 Metal Recovery Facility		$410 FY85-88 GPE		
4 Fission Product Development Laboratory	Decontaminate and decommission Fission Product Development Laboratory	$3100 FY84 EXP		Decontamination and decommissioning of facility is needed in support of ORNL's Surplus Facilities Management Program.
5 Site Corrective Measures Program		$39715 FY84 EXP		
7 Site Corrective Measures Program		$2734 FY84-91 GPE		
12 Environmental Restoration		$880C FY84-91 GPE		
Funding Requested				
3 Metal Recovery Facility	Decontaminate inactive support structures to levels that allow facility reuse; fuel handling canal and dissolver pit will be entombed.	$620C FY84 EXP	Upon project completion, seven associated operating areas will be avaiable for other Laboratory programs.	Building containment is inadequate to radioactivity.
6 Process Ponds Remedial Actions	Provide final disposition of process waste ponds when taken out of service. Ponds 3539, 3540, 7905, 7906, 7907, 7908, 7852 and 3513.	$57110 FY85-91 EXP	None	Ponds contain contaminated sludge and water in an environmentally unacceptable location on the floodplain of White Oak Creek.

APPENDIX A
TABLE A.2 ORNL Environmental Activities
4/03/1985

CATEGORY/PROJECT	SCOPE	FUNDING/ STATUS ($ X 1000)	FACILITIES PROVIDED	JUSTIFICATION
8 White Oak Creek Watershed	Stabilize or remove residual radioactivity associated with the White Oak Creek watershed.	$62700 FY87-91 EXP	None	Watershed is contaminated due to past ORNL activities and should be stabilied to reduce the long-term release of radioactivity from the Oak Ridge Reservation.
9 Old Hydrofracture Facility	Perform decommissioning of contaminated facilities associated with the original shale fracture equipment.	$3110 FY87 EXP	None	Facilities are highly contaminated and require routine HPS; open pond is an environmental concern due to location in White Oak Creek floodplain.
10 Homogeneous Reactor Experiment	Decontaminate and decommission the 7500 area (Homogenous Reactor Experiment)	$14500 FY89 EXP	A clean area will be provided	Facilities need to be decontaminated and decommissioned due to the radioactive contamination present.
11 Waste Tanks	Decontaminate and decommission Waste Tanks	$8500 FY89 EXP	A clean area will be provided	Facilities need to be decontaminated and decommissioned due to the radioactive contamination present.
13 Spill Site Remedial Action	This project will provide the funds required to characterize and imporve the various spill sites in and around ORNL.	$26600 FY85-91 EXP	Cleanup and rehabilitated facilities will be provided as a result of the project	Characterization and improvements of spill site areas is required to meet the various environmental regulations under RCRA

APPENDIX A
TABLE A.3 OKGDP Environmental Activities
4/03/1985

CATEGORY/PROJECT	SCOPE	FUNDING/ STATUS ($ x 1000)	FACILITIES PROVIDED	JUSTIFICATION
3.1. Radioactive Waste				
Funded Activities				
1 Scrap Metal Management	Determine a plan for disposal of contaminated scrap metal. 80,000 tons of ferrous and non-ferrous scrap at 3 Plant sites and to provide for decommissioning of scrap yards.	$3800 FY84-85 EXP	Sub-contractor to provide equipment as part of contract for metal segregation and size reduction at OKGDP.	Location of stored contaminated metals does not meet requirements of DOE Order 5820 for sites that are to be used for disposal of LLW. Material is stored in 100-year flood plan of Clinch River.
2 Central Sludge Fixation Facility	Fix contaminated and co-contaminated sludge in concrete prior to land burial.	$8800 FY84 LI	Cement batch plant including dry solids storage tanks, transfer and mixing equipment, liquid waste storage tanks, and transit mix trucks.	DOE Order 5820 EPA 40 CFR Subchapter I, Solid Wastes
3 Central Neutralization Facility	Treat effluents for K-1401, 1420, and 1501 areas. (Metal preparation, U-decon and recovery, and steam plant).	$1200 FY84 LI	Tanks, pumps, piping, instrumentation, mixes, and chemical feed equipment.	For better compliance with the NPDES permits, and the Clean Water Act.
4 Floor Pan and Cylinder Cleaning	To collect and treat radioactive effluents from K-1420 decontamination areas, specially to remove Tc-99 to meet ALARA intent.	$1000 FY84 LI	Collection tanks, chemical treatment equipment, and ion exchange columns.	DOE, ALARA regulations
5 Scrap Metal Smelting	Recover scrap metal in K-25 scrapyard by melting and pour into ingots. These ingots will be stored for future use within other government facilities.	$6400 FY85 EXP	Subcontractor to provide equipment as part of contract for smelting.	To either comply with DOE ORder 5820 or provide a material (metal ingots) suitable for reuse at DOE facilities.
6 Classified Burial Ground Expansion	Expansion of existing burial ground.	$700 FY87 GPP	Provision of additional acreage (approx 20 acres) for burial of classified waste.	To provide needed additional capacity at OKGDP for disposal of classified wastes.

APPENDIX A
TABLE A.3 ORGDP Environmental Activities
4/03/1985

CATEGORY/PROJECT	SCOPE	FUNDING/ STATUS ($ x 1000)	FACILITIES PROVIDED	JUSTIFICATION
3.2. Hazardous Waste				
Funded Activities				
1 Chromate Sludge Collection	To dewater chromium sludges generated by electrolytic reduction of cooling tower blowdown.	$1500 FY84 LI	Laminar settlers for sludge collection, centrifuges for sludge dewatering; solids disposal in Y-12 central landfill.	Clean Water Act, NPDES, resuspended solids transported over weir 1-2 times/yr. (<0.1 mg/L)
Funding Requested				
2 Lithium Hydroxide Containment	Undefined	$0 FYTBD TBD	Undefined	Twenty-two million pounds of LiOH are being stored in deteriorating fiber drums in the basement of the K-25 Building. The building's sprinkler system affords potential for accidental release to Poplar Creek which could result in fish kills and remedial regulatory action.
3 PCB Contaminated Outside Transformers	Undefined	$0 FYTBD TBD	Undefined	Toxic Substance Control Act
4 Nickel Treatment Facility	To remove nickel from the plating baths at K-1420 before discharging	$750 FYTBD GPP	Not scoped	Clean Water Act
3.3. Mixed or Co-contaminated Waste				
Funded Activities				
1 Compliance with TSCA Phase I	To dispose of PCB and other organic hazardous wastes contaminated with radioactivity.	$31900 FY83 LI	High temperature incinerator with offgas, liquid waste, and solid waste handling equipment.	Toxic Substance Control Act, Resource Conservation and Recovery Act, and Atomic Energy Act.
2 Waste Oil Storage Facility	Provide storage capacity to handle waste oils pending status of TSCA Incineration	$715 FY81 GPP	Building and four 22,500 gal tanks to provide storage capacity.	Toxic Substance Control Act and RCRA.

APPENDIX A
TABLE A.3 ORGDP Environmental Activities
4/01/1985

CATEGORY/PROJECT	SCOPE	FUNDING/ STATUS ($ K 1Q$Q)	FACILITIES PROVIDED	JUSTIFICATION
3.4. Conventional Waste				
Funded Activities				
1 Coal Pile Runoff Treatment	Collection of coal pile runoff and ash handling system water washer blowdown, both to be collected in two new holding ponds located just south of K-1407-B pond. Treatment in existing K-1407-A pit.	$290 FY83 GPP	Two holding ponds and associated pumps and piping to transfer material K-1407-A pit.	Clean Water Act, NPDES violations - 31 pH violations/2 yrs. with pH <4 for several days at a time.
3 Contractors Disposal Area Closure	The existing eleven acres of the ORGDP spoil area located north of ORGDP will be graded, capped, seeded, and slit fenced	$310 FY84 GPP	ORGDP Contractors Disposal Area.	Alterations to the ORGDP Contractors Disposal Area will provide the upgrading necessary to comply with Tennessee regulations as to the abandonment of solid waste disposal areas.
Funding Requested				
4 Old Contractors Disposal Area Closure	The existing old contractors spoil area of ORGDP will be graded	$300 FY86 GPP	Old contractors disposal area	To comply with Tennessee regulations as to the abandonment of solid waste disposal areas.
3.5. Monitoring				
Funded Activities				
1 Groundwater Protection Program	Provide a two part groundwater protection at the U.S. DOE K-25 site. Part 1 will be a groundwater protection program for regulated RCRA	$2015 FY85 EXP	K-1407B, K-1407C, K-901A, K-1232, K-1407A, K-1413, K-1099A, K-1064G, K-1615F, K-1085, K-1070D, K-1070A, K-1070B, K-1070G, K-770, K-1515	To meet RCRA requirements and CERCLA requirements.
3.6. Remedial Action & Decommissioning				
Funding Requested				
1 Inactive Burial Areas	Undefined	$0 FYTBD TBD	Undefined	Potential for migration of radionuclides and hazardous chemicals to surface and subsurface waters from inactive/closed disposal areas.

APPENDIX A
TABLE A.3 OHGDP Environmental Activities
4/03/1985

	CATEGORY/PROJECT	SCOPE	FUNDING/ STATUS ($ x 1000)	FACILITIES PROVIDED	JUSTIFICATION
2	K-901-A Holding Pond	Undefined	$0 FITBD Undefined TBD		The lagoon is unlined and does not provide a 2 ft. freeboard as is required by the State of Tennessee. Lagoon is used to collect trivalent chromium sludge. New sludge basins will be built and the 901-A lagoon will have to be decommissioned.
3	K-25 Building Decommissioning	Undefined	$0 FITBD Undefined TBD		Process equipment in the K-25 Building contains unknown quantities of fissile uranium and technetium-99. Decommissioning will require addressing special environmental, health physics, and criticality concerns.
4	Powerhouse Decommissioning	Undefined	$0 FITBD Undefined TBD		Buildings in the Powerhouse area were used for work involving beryllium. Demolition and disposal of wastes will require addressing special environmental, health physics, and industrial hygiene concerns.

APPENDIX A
TABLE A.4 PGDP Environmental Activities
4/03/1985

CATEGORY/PROJECT	SCOPE	FUNDING/ STATUS ($ x 1000)	FACILITIES PROVIDED	JUSTIFICATION
4.2. Hazardous Waste				
Funded Activities				
1 Nitric Acid Dike Replacement	Project to provide a new dike to replace existing spill containment dike.	$40 FY84 GPP	Replacement dike for C-407	
2 Environmental Protection and Safety Modifications	This project provides spill containment facilities at C.	$1736 FY84 LI	This project provides spill containment facilities at C-616	
4.4. Conventional Waste				
Funding Requested				
1 Storage Tank Mixer	Storage tank mixer for RCW blowdown wastewater treatment.	$15 FY85 CE		
2 C-615 Chlorinator	Replacement for C-615 chlorinator	$5 FY85 CE		
3 Improvements to Comply with KPDES Permits	TBD	$250 FY86 GPP		
4 C-615 Circulating Pumps	Circulating pumps for C-615 Sewage Treatment Facility.	$8 FY86 CE		
5 C-615 Digester Heating Unit	Digester heating unit for C-615 Sewage Treatment Facility.	$35 FY87 CE		
6 pH Monitor/Control System	pH monitor and control system for C-616 Recirculating Wastewater Treatment.	$15 FY87 CE		
7 ORP Meter C-616		$10 FY87 CE		
4.5. Monitoring				

APPENDIX A

TABLE A.4 PGDP Environmental Activities
4/03/1985

CATEGORY/PROJECT	SCOPE	FUNDING/ STATUS ($ x 1000)	FACILITIES PROVIDED	JUSTIFICATION
Funded Activities				
1 Ground Water Monitoring	Project will provide additional groundwater monitoring wells to complete ground water monitoring system.	$55 FY85 GPP		
2 Vent Stack UF6 Monitors	To provide vent stack UF6 monitors at C-310.	$100 FY85 CE	Vent stack monitors at C-310	

APPENDIX B

Appendix B has been omitted from this report.

In programming the EPMP, Appendix B was planned as an area for listing R&D Activities as was done in the Department of Energy Environmental Management Plan for the Oak Ridge Reservation, February 29, 1984. This part of the EPMP Data Base is undergoing extensive revision and will be eliminated, as such, from future reports. Since these printouts are produced from the EPMP Data Base, the revision of the program code has not been made to change the titles. Information previously included in this section will be included in future plans as one of the main program categories.

APPENDIX C

ENVIRONMENTAL PROTECTION PROJECTS

APPENDIX C

TABLE C.1 Y-12 Environmental Protection Projects (Excluding R&D)

4/03/1985

CATEGORY/PROJECT	FUNDING YEAR(S)	FUNDING TYPE	FUNDING SOURCE	TEC* ($ x 1000)	COMPLETION DATE	FUNDING NEEDS** ($ x 1000) FY-85	FY-86	FY-87	FY-88	FY-89
1.1. Radioactive Waste										
Funded Activities										
2 Uranium Oxide Storage Vault	85	LI	GE	300	12/86	0	300	0	0	0
3 Process Exhaust Equipment Restoration	82	LI	GE	3000	85	0	0	0	0	0
4 Air Emissions Control	85	LI	GE	14000	12/88	1800	6400	5800	0	0
7 Uranium Chip Oxidizers	84	GPP	GE	950	9/85	0	0	0	0	0
FUNDED TOTALS				18250		1800	6700	5800	0	0
Funding Requested										
6 Modifications to Salvage Yard Contaminated Scrap Metal Storage Area/Y12	86	GPP	GE	400	88	0	400	0	0	0
8 Uranium Oxide Storage Vaults	88	GPP	GE	690	90	0	0	0	330	0
13 Enriched Uranium Exhaust Systems	88-91	LI	GE	900	91	0	0	0	100	500
14 Depleted Uranium Exhaust Systems	88-91	LI	GE	5400	91	0	0	0	900	2800
UNFUNDED TOTALS				7390		0	400	0	1330	3300
CATEGORY TOTALS				25640		1800	7100	5800	1330	3300
1.2. Hazardous Waste										
Funded Activities										
2 Waste Coolant Processing Facility	83	GPP	GE	845	85	0	0	0	0	0
4 Spill Prevention Program - Main Plating Shop	84	GPP	GE	250	85	150	100	0	0	0
12 Plating Rinse Water Treatment Facility	85	LI	GE	2100	86	1800	300	0	0	0
13 East End Waste Facility	84	GPP	GE	185	86	0	0	0	0	0
14 Oil & Coolant Storage Facility	84	GPP	GE	720	86	0	0	0	0	0
18 Flammable Liquid Waste Storage Facility	85	GPP	GE	500	87	500	0	0	0	0
21 Replacement of PCB Transformers	85	LI	GE	5000	09/88	2000	2500	500	0	0
FUNDED TOTALS				9600		4450	2900	500	0	0
Funding Requested										
3 HG-Contaminated Soils Storage Area	86	GPP	GE	400	88	0	400	0	0	0
19 Waste Oil/Solvent Storage Facility	85	LI	GE	1200	3/87	200	800	200	0	0
22 Spill Prevention Program	85	LI	GE	1000	12/86	200	500	300	0	0
23 Replacement of PCB Transformers	86	LI	GE	7600	89	0	3700	3900	0	0
UNFUNDED TOTALS				10200		400	5400	4400	0	0
CATEGORY TOTALS				19800		4850	8300	4900	0	0

APPENDIX C

TABLE C.1 Y-12 Environmental Protection Projects (Excluding R&D)
4/01/1985

CATEGORY/PROJECT	FUNDING YEAR(S)	FUNDING TYPE	FUNDING SOURCE	TEC* ($ x 1000)	COMPLETION DATE	FUNDING NEEDS** ($ x 1000) FY-85	FY-86	FY-87	FY-88	FY-89
1.3. Mixed or Co-contaminated Waste										
Funded Activities										
1 Processing Y-12 Wastes at ORGDP	84-86	EXP	GE	6300	86	2200	1800	0	0	0
2 West Tank Farm - Storage	83-84	GPE	GE	6100	83-87	2500	0	0	0	0
3 Central Pollution Control Facility (CPCF)-I	81	LI	GE	5300	06/85	1400	0	0	0	0
4 Classified Waste Storage Facility	85	GPP	GE	900	85-90	900	0	0	0	0
5 Central Pollution Control Facility (CPCF-II)	81	LI	GE	2500	85	2400	0	0	0	0
6 West End Treatment Facilities	85	LI	GE	6600	85-89	6000	600	0	0	0
7 RCRA and Mixed Waste Storage and Staging Facility	84	GPP	GE	770	86	0	0	0	0	0
9 Environmental Support Facilities	84	LI	GE	5700	87	200	4200	1100	0	0
		FUNDED TOTALS		34170		15600	6600	1100	0	0
Funding Requested										
8 Hazardous Waste Disposal Facility/Y-12 - Planning Studies only	87	LI	GE	5000	90	0	0	2500	2500	0
10 Classified Waste Processing Facility	87	GPP	GE	850	89	0	0	850	0	0
11 RCRA and Mixed Waste Storage and Staging Facility	87	GPP	GE	900	87	0	0	900	0	0
		UNFUNDED TOTALS		6750		0	0	4250	2500	0
		CATEGORY TOTALS		40920		15600	6600	5350	2500	0
1.4. Conventional Waste										
Funded Activities										
3 Steam Plant Improvements - Emissions Control	82-83	LI	GE	13500	85	0	0	0	0	0
4 M-Wing Coolant Changeout	81	LI	GE	3800	6/85	0	0	0	0	0
5 HF Scrubbers	81	LI	GE	1100	84	0	0	0	0	0
9 Source Collection and Treatment Facilities	85	LI	GE	3600	87	400	2900	400	0	0
10 Steam Plant Wastewater Treatment Facility	85	LI	GE	4600	3/88	4000	600	0	0	0
11 Trash and Scrap Monitoring Facility	84,86	GPP	GE	940	86	0	800	0	0	0
		FUNDED TOTALS		27540		4400	4200	400	0	0
Funding Requested										
1 New Hope Pond Sediment Removal	86	EXP	GE	145	86	0	75	0	0	0
6 Salvage Yard Relocation	85	GPP	GE	800	TBD	800	0	0	0	0
9 Process Systems Upgrade	87	LI	GE	4200	90	0	0	0	700	2100
		UNFUNDED TOTALS		5145		800	75	0	700	2100

APPENDIX C

TABLE C.1 Y-12 Environmental Protection Projects (Excluding R&D)

4/03/1985

CATEGORY/PROJECT	FUNDING YEAR(S)	FUNDING TYPE	FUNDING SOURCE	TEC* ($ x 1000)	COMPLETION DATE	FUNDING NEEDS** ($ x 1000) FY-85	FY-86	FY-87	FY-88	FY-89
CATEGORY TOTALS				32685		5200	4275	400	700	2100
1.5. Monitoring										
Funded Activities										
1 Biological Monitoring/Treatment Project	85	EXP	GE	400	85	400	0	0	0	0
2 Refurbish and Expand Plant Laboratory Facilities	84-85	LI	GE	2000	85	300	900	800	0	0
3 NPDES Monitoring/Sampling Stations	85	LI	GE	2000	87	1600	400	0	0	0
5 Meteorological Towers	84	GPP	GE	250	86	0	0	0	0	0
FUNDED TOTALS				4650		2300	1300	800	0	0
Funding Requested										
4 Biological Monitoring/Treatment Project	86	EXP	GE	1200	88	0	400	400	400	0
6 Sampling Systems	87	LI	GE	3500	90	0	0	0	500	1900
7 Support Systems	87	LI	GE	1000	90	0	0	0	300	500
UNFUNDED TOTALS				5700		0	400	400	1200	2400
CATEGORY TOTALS				10350		2300	1700	1200	1200	2400
1.6. Remedial Action & Decommissioning										
Funded Activities										
1 Closeout of S-3 Ponds	84,85	EXP	GE	4200	85	2900	0	0	0	0
3 Bear Creek Watershed Remedial Action Planning/Studies/Y-12	84-87	EXP	GE	9800	87	3500	2000	1300	0	0
12 East Fork Poplar Creek Watershed Remedial Action Studies Exclusive of the Y-12 Plant Area/Y-12	84	EXP	GE	4000	87	1700	1200	0	0	0
15 Bear Creek Watershed Remedial Actions/Y-12	85	LI	GE	12000	87	0	4000	4700	3200	0
16 Mercury Source Identification and Remedial Action Planning	85-88	EXP	GE	900	85-90	300	200	200	0	0
18 Reduction of Mercury in Plant Effluents (Air and Water Pollution Control Line Item)	85	LI	GE	15000	12/88	4000	8000	3000	0	0
FUNDED TOTALS				45900		12400	15400	9200	3200	0
Funding Requested										
2 Bear Creek Watershed EIS/Y-12	85-86	EXP	GE	1500	86	500	1000	0	0	0
6 Special Studies and Short-Term Remedial Actions in City of Oak Ridge/Y-12	84-87	EXP	GE	1300	88	150	500	550	0	0
8 East Fork Poplar Creek Watershed and Bethel Valley Remedial Action Studies - Y-12 Plant Area/Y-12	87	EXP	GE	2400	88	0	0	2400	0	0

APPENDIX C

TABLE C.1 Y-12 Environmental Protection Projects (Excluding R&D)

4/03/1985

	CATEGORY/PROJECT	FUNDING YEAR(S)	FUNDING TYPE	FUNDING SOURCE	TEC* ($ x 1000)	COMPLETION DATE	FUNDING NEEDS** ($ x 1000) FY-85	FY-86	FY-87	FY-88	FY-89
9	East Fork Poplar Creek Watershed and Bethel Valley EIS-Y-12 Plant Area/Y12	87-88	EXP	GE	1750	89	0	0	750	1000	0
10	East Fork Poplar Creek Watershed and Bethel Valley Remedial Actions - Y-12 Plant Area/Y-12	TBD	TBD	GE	0	TBD	0	0	0	0	0
13	East Fork Poplar Creek Watershed EIS Exclusive of Y-12 Plant Area/Y-12	86-87	EXP	GE	1500	88	0	750	750	0	0
19	Studies on Decommissioning of Lithium Isotope Facilities/Y-12	84-87	EXP	GE	6600	87	1100	2000	2000	0	0
21	Mercury Roaster/Y-12	TBD	LI	GE	0	TBD	0	0	0	0	0
22	Decommissioning of Lithium Isotope Facilities/Y-12	TBD	EXP	GE	0	TBD	0	0	0	0	0
23	East Fork Poplar Creek Watershed Remedial Actions Exclusive of the Y-12 Plant Area/Y-12	TBD	LI	GE	0	TBD	0	0	0	0	0
	UNFUNDED TOTALS				15050		1750	4250	6450	1000	0
	CATEGORY TOTALS				60950		14150	19650	15650	4200	0
	PLANT TOTALS				190345		43900	47625	33300	9930	7800

* TEC is the total estimated cost for the activity. The TEC may not be equal to the sum of the funding years, because some activities are partially funded or are funded prior to or beyond the current five year period.

** Tentative split in funding may change during criteria development.

APPENDIX C

TABLE C.2 ORNL Environmental Protection Projects (Excluding R&D)
4/03/1985

CATEGORY/PROJECT	FUNDING YEAR(S)	FUNDING TYPE	FUNDING SOURCE	TEC* ($ x 1000)	COMPLETION DATE	FUNDING NEEDS** ($ x 1000) FY-85	FY-86	FY-87	FY-88	FY-89
2.1. Radioactive Waste										
Funded Activities										
2 Upgrade PWTP Evaporator System	85	GPP	AE	430	12/87	430	0	0	0	0
3 Process Waste Treatment Plant Site Improvements	84	GPP	AE	60	86	0	0	0	0	0
4 Central LLW Collection System	83	GPP	AE	900	85	0	0	0	0	0
5 LLW Drain Line, Building 3517	84	GPP	AE	400	86	0	0	0	0	0
6 Central Waste Disposal Facility	86	LI	AE	7500	87	0	7500	0	0	0
8	85	EXP	AT	500		0	0	0	0	0
12 Prefilter and Drain System Building 3517	85	GPP	AE	340	12/87	340	0	0	0	0
21 Cask Tool Storage	85	GPP	AT	100	87	100	0	0	0	0
22 Secondary Contamination and Containment Control	85	GPP	AT	85	87	85	0	0	0	0
23 Liquid Waste Systems - West End Area - 3019	85	GPP	AT	750	87	750	0	0	0	0
FUNDED TOTALS				11065		1705	7500	0	0	0
Funding Requested										
8 Shielded TRU Waste Storage	86	GPP	AE	350	87	0	350	0	0	0
10 Replace LLW System Phase I	88	LI	AE	40000	91	0	0	0	40000	0
11 Upgrade Process Waste Collection System	86	GPP	AE	900	88	0	900	0	0	0
14 Volume Reduction Modifications to PWTP	85	GPP	AE	400	87	400	0	0	0	0
17 Replace ILW System Phase II	89	LI	AE	8000	92	0	0	0	0	8000
19 Glass Melter	87	GPP	AE	900	12/90	0	0	900	0	0
25 LLW Line Replacement (3019 Area)	86	GPP	RG	950	87	0	950	0	0	0
26 LLW Line Replacement (3026)	87	GPP	RG	875	88	0	0	875	0	0
27 Sludge Storage Tank (PWTP)	87	GPP	AE	300		0	0	300	0	0
UNFUNDED TOTALS				52675		400	2200	2075	40000	8000
CATEGORY TOTALS				63740		2105	9700	2075	40000	8000
2.2. Hazardous Waste										
Funded Activities										
2 Chemical Waste Storage Facility	84	GPP	AT	350	86	0	0	0	0	0
3 Improvements to PCB Transformer Dikes, ORNL Facility at Y-12	84	EXP	AT	100	86	0	0	0	0	0
19 Chemical Spill Trailer	85	GPE	AT	50	87	50	0	0	0	0
20 Two Tanker Trucks	85	GPE	AT	80		80	0	0	0	0
FUNDED TOTALS				580		130	0	0	0	0
Funding Requested										
1 Hazardous Waste Storage Facility	82	GPP	AT	225		0	0	0	0	0
4 Improvements to Hazardous Waste	86	GPP	AT	250	88	0	250	0	0	0

APPENDIX C

TABLE C.2 ORNL Environmental Protection Projects (Excluding R&D)
4/03/1985

CATEGORY/PROJECT	FUNDING YEAR(S)	FUNDING TYPE	FUNDING SOURCE	TEC* ($ x 1000)	COMPLETION DATE	FUNDING NEEDS** ($ x 1000) FY-85	FY-86	FY-87	FY-88	FY-89
Management Area										
6 Collection/Cleanup Operations - Solvents and Plating Solutions	86	GPE	AT	100	88	0	100	0	0	0
7 Collection/Cleanup Operations - Mercury	86	GPE	AT	100	88	0	100	0	0	0
8 Collection/Cleanup - Scintillation Fluids	86	GPE	AT	100	88	0	100	0	0	0
9 Isotope Separations Facility Wastewater Collection System	84	GPP	AT	185	86	0	0	0	0	0
10 Hazardous Waste Staging Area for ORNL Facilities at Y-12	86	GPP	KG	500	88	0	500	0	0	0
11 Replacement of PCB Transformers, Phase I, II, III, & IV	86-89	GPP	KG	3050	87-92	0	950	800	700	600
12 Explosive/Shock Sensitive Chemical Waste Disposal Facility	86	GPP	AT	100	88	0	100	0	0	0
13 Gas Cylinder Disposal Facility	87	GPP	AT	200	88	0	0	200	0	0
14 Emergency Spill Response Storage Facility	87	GPP	AT	250	88	0	0	250	0	0
16 Non-Radiological Waste Volume Reduction Facility	86	GPP	AT	350	88	0	350	0	0	0
17 Trace Metals Protection System - Phase I	87	GPP	KG	445	88	0	0	445	0	0
18 Trace Metals Pretreatment System, Phase II	88	GPP	KG	920	89	0	0	0	920	0
21 Spill Equipment	86	GPE	AT	75	88	0	75	0	0	0
23 Upgrade Process Waste Collection System - 2000 and 7000 Area	87	GPP	AT	800	12/89	0	0	800	0	0
25 Upgrade Process Waste System	85-91	EXP	KG	26160	91	1715	1075	1370	5500	5500
26 Improve Management of Hazardous and Toxic Materials	85-91	EXP	KG	36250	89	725	1375	4450	6700	7000
28 Deep Monitoring Wells to Knox Formation	86	GPP	KG	800	88	0	800	0	0	0
30 Isotope Area Contaminated Groundwater Control System	87	GPP	AT	950	89	0	0	950	0	0
31 Chemical Destruction System for Mixed Waste	89	GPP	AT	900	91	0	0	0	0	900
32 Liquid Hazardous Materials Collection System	89	GPP	AT	150	91	0	0	0	0	150
UNFUNDED TOTALS				72860		2440	5775	9265	13820	14150
CATEGORY TOTALS				73440		2570	5775	9265	13820	14150
2.3. Mixed or Co-contaminated Waste										
Funded Activities										
2 Scintillation Vial Crusher	85	GPE	AT	40	85	40	0	0	0	0
FUNDED TOTALS				40		40	0	0	0	0
Funding Requested										
3 Long-Term Hazardous Waste Storage	85	GPP	AT	325	87	325	0	0	0	0

APPENDIX C

TABLE C.2 ORNL Environmental Protection Projects (Excluding R&D)

4/03/1985

CATEGORY/PROJECT	FUNDING YEAR(S)	FUNDING TYPE	FUNDING SOURCE	TEC* ($ x 1000)	COMPLETION DATE	FUNDING NEEDS** ($ x 1000) FY-85	FY-86	FY-87	FY-88	FY-89
Facility										
4 Spill Prevention Control and Countermeasures Improvements, Phase I, II, and III	86-88	GPP	KG	2700	86-91	0	900	900	900	0
UNFUNDED TOTALS				3025		325	900	900	900	0
CATEGORY TOTALS				3065		365	900	900	900	0
2.4. Conventional Waste										
Funded Activities										
1 Improvements to Existing Sewage Treatment System	84	LI	AT	1500	87	0	0	0	0	0
2 Corrections to ORNL Sanitary Sewers to Prevent Inflow/Infiltration	84	GPP	AT	265	84	0	0	0	0	0
3 Coal Yard Runoff Treatment System Improvements	84	GPP	AT	750	86	0	0	0	0	0
4 Steam Plant Wastewater Treatment System	86	GPP	AT	400	88	0	400	0	0	0
5 1505 Area Transfer Piping	85	GPP	AT	315	86	315	0	0	0	0
6 2000 Area Transfer Piping	85	GPP	AT	255	88	255	0	0	0	0
7 Biology Area Wastewater Isolation System	84	GPP	AT	685	86	0	0	0	0	0
8 Process Pipe Lining	84	EXP	AT	60	86	0	0	0	0	0
9 TV System for Pipe Survey	85	GPE	AT	37	87	37	0	0	0	0
13 Drum Crusher	85	GPE	AT	75	87	75	0	0	0	0
15 Glass Crusher	85	GPE	AT	100	86	100	0	0	0	0
21 Biology Area Wastewater Collection System	85	GPP	AT	500	87	500	0	0	0	0
FUNDED TOTALS				4942		1282	400	0	0	0
Funding Requested										
11 Sewer System Inflow/Infiltration, Phase II	85	GPP	AT	600	87	600	0	0	0	0
12 Nonradiological Wastewater Treatment Project	86	LI	KG	23000	90	0	23000	0	0	0
14 Biology Area Wastewater Treatment System	86	GPP	AT	940	88	0	940	0	0	0
16 Sump Oil Separation for ORNL Facilities at Y-12	86	GPP	AT	100	87	0	100	0	0	0
19 Remote Area-Process Wastewater Pretreatment Phase I, II	87-88	GPP	KG	1900	89-91	0	0	950	950	0
20 Wastewater/Storm Drain Isolation, Phase I, II	87-88	GPP	AT	1800	88	0	0	900	900	0
22 Upgrade of Storm Sewer System	85-91	EXP	KG	6170	91	410	760	1000	1000	1000
23 Improvements to Sewage Treatment Plant and Sanitary Sewer System	85-88	EXP	KG	2110	89	20	220	950	300	0
24 Process Waste System Inflow and Infiltration	86	GPP	AT	950	88	0	950	0	0	0
25 Wastewater Piping Replacement - 4500	87	GPP	AT	920	89	0	0	920	0	0

APPENDIX C

TABLE C.2 ORNL Environmental Protection Projects (Excluding R&D)

4/03/1985

CATEGORY/PROJECT	FUNDING YEAR(S)	FUNDING TYPE	FUNDING SOURCE	TEC* ($ x 1000)	COMPLETION DATE	FUNDING NEEDS** ($ x 1000) FY-85	FY-86	FY-87	FY-88	FY-89
Area										
UNFUNDED TOTALS				38490		1030	26590	4720	3150	1000
CATEGORY TOTALS				43432		2312	26990	4720	3150	1000
2.5. Monitoring										
Funded Activities										
1 Upgrade 7911 Stack Monitoring System	84	GPE	A1	350	86	0	0	0	0	0
2 Water Quality Monitors	84	GPP	A1	350	86	0	0	0	0	0
3 Hydrostatic Head Monitoring Station, Trench Area	84	GPP	A1	220	86	0	0	0	0	0
4 Environmental and Effluent Data Computer System	83	GPE	A1	198	85	0	0	0	0	0
24 Background Water Data Measuring Stations	85	GPE	A1	244	87	244	0	0	0	0
30 Bar Code System	85	GPE	A1	17	87	17	0	0	0	0
35 STP Influent Radiation Monitor/Microprocessor	85	GPE	A1	60	87	60	0	0	0	0
36 Monitoring System Outlet to STP	85	GPE	A1	55	87	55	0	0	0	0
43 Groundwater Monitoring-Ponds	85	GPP	A1	376	86	376	0	0	0	0
FUNDED TOTALS				1870		752	0	0	0	0
Funding Requested										
5 Pressurized Gas Sampler System	85	GPE	A1	69	87	69	0	0	0	0
6 Environmental Monitoring Systems Upgrade Phase I, II	85-86	LI	A1	8500	86-89	1000	3500	4000	0	0
7 Process Waste Segregation System	85	GPP	A1	930	87	930	0	0	0	0
8 Process Waste Monitoring System	86	GPP	A1	550	88	0	550	0	0	0
9 New NPDES Monitors at ORNL	85	GPP	A1	300	87	40	260	0	0	0
10 New NPDES Monitors at Y-12	84	GPP	A1	250	86	0	0	0	0	0
11 Hydrostatic Head Measuring Station, SWSA 06	85	GPP	A1	300	87	300	0	0	0	0
12 Hydrostatic Head Measuring Station, SWSA 05	86	GPP	A1	600	88	0	600	0	0	0
13 Groundwater Monitoring Network, Phases I, II, III, and IV	86-89	GPP	A1	2550	88-92	0	850	700	700	350
14 Environmental Management and Monitoring Center	86	GPP	K6	900	88	0	900	0	0	0
15 Environmental Monitoring/Management Equipment, Phases I, II, III, IV, V	85-89	GPE	A1	6260	85-92	500	500	2000	1680	1580
17 Groundwater Sampling System	85	GPE	A1	92	87	92	0	0	0	0
18 Four Wheel Drive Vehicles	85	GPE	A1	21	87	21	0	0	0	0
19 Aquatic Life Sampling System	85	GPE	A1	40	87	40	0	0	0	0
20 TLD Reader	85	GPE	A1	29	87	29	0	0	0	0
21 Disk Drive for Spectrometer	85	GPE	A1	13		13	0	0	0	0
22 Scan/Calibration Van	85	GPE	A1	121	87	121	0	0	0	0
23 Portable Gross Gamma Monitor	85	GPE	A1	11	87	11	0	0	0	0
25 Portable Water Samplers	86	GPE	A1	75	88	0	75	0	0	0
26 Data Concentrators	86	GPE	A1	490	88	0	490	0	0	0

APPENDIX C

TABLE C.2 ORNL Environmental Protection Projects (Excluding R&D)
4/03/1985

	CATEGORY/PROJECT	FUNDING YEAR(S)	FUNDING TYPE	FUNDING SOURCE	TEC* ($ x 1000)	COMPLETION DATE	FUNDING NEEDS** ($ x 1000) FY-85	FY-86	FY-87	FY-88	FY-89
27	Flow Measuring System for Sewage Lines	86	GPE	AT	350	88	0	350	0	0	0
28	H-3 Stack Monitoring System	86	GPE	AT	200	88	0	200	0	0	0
29	HSRE Stack Monitoring System	86	GPE	AT	250	88	0	250	0	0	0
31	Monitoring Wells, Bethel Valley	87	GPP	AB	700	12/89	0	0	700	0	0
32	Hydrostatic Head Measuring Station, SWSA 3	86	GPP	AB	300	12/89	0	300	0	0	0
33	Upgrade 10 Area Air Monitoring Systems	85	GPE	AT	500	87	500	0	0	0	0
34	Portable Spectral Detection System	85	GPE	AT	47	87	47	0	0	0	0
37	Real Time Environmental Data Analysis System	85	GPE	AT	147	87	147	0	0	0	0
39	Automatic Sample Analyzer	87	GPE	AT	28	89	0	0	28	0	0
40	14 Rain Gauges for Disposal Areas	87	GPE	AT	112	89	0	0	112	0	0
41	Data Concentrators	87	GPE	AT	490		0	0	490	0	0
42	10 Gross Gamma Monitors	87	GPE	AT	120	89	0	0	120	0	0
			UNFUNDED TOTALS		25345		3860	8825	8150	2380	1930
			CATEGORY TOTALS		27215		4612	8825	8150	2380	1930
2.6.	Remedial Action & Decommissioning										
	Funded Activities										
1	Engineered Groundwater Barriers, Trench 7	84	GPP	AB	400	86	0	0	0	0	0
2	Metal Recovery Facility	85-88	GPE	AB	410	88	260	100	25	25	0
4	Fission Product Development Laboratory	84	EXP	AB	3100	89	625	615	680	560	0
5	Site Corrective Measures Program	84	EXP	AB	39715		850	2370	5500	7130	7370
7	Site Corrective Measures Program	84-91	GPE	AB	2734	91	234	200	350	450	500
12	Environmental Restoration	84-91	GPE	RG	8800	TBD	0	1000	2600	1300	1300
			FUNDED TOTALS		55159		1969	4285	9155	9465	9170
	Funding Requested										
3	Metal Recovery Facility	84	EXP	AB	6200	88	855	1190	1460	1550	0
6	Process Ponds Remedial Actions	85-91	EXP	RG	57110	91	430	1480	10200	23000	21000
8	White Oak Creek Watershed	87-91	EXP	RG	62700	91	500	4400	3800	1500	3540
9	Old Hydrofracture Facility	87	EXP	AB	3110	91	100	165	175	310	1085
10	Homogeneous Reactor Experiment	89	EXP	AB	14500	95	0	0	0	0	14500
11	Waste Tanks	89	EXP	AB	8500	95	0	0	0	0	8500
13	Spill Site Remedial Action	85-91	EXP	RG	26600	91	400	2970	6230	5000	5000
			UNFUNDED TOTALS		178720		2285	10205	21865	31360	53585
			CATEGORY TOTALS		233879		4254	14490	31020	40825	62755
			PLANT TOTALS		449771		16218	66680	56130	101075	97835

* TEC is the total estimated cost for the activity. The TEC may not

APPENDIX C

TABLE C.2 ORNL Environmental Protection Projects (Excluding R&D)

4/03/1985

CATEGORY/PROJECT	FUNDING YEAR(S)	FUNDING TYPE	FUNDING SOURCE	TEC* ($ x 1000)	COMPLETION DATE	FUNDING NEEDS** ($ x 1000) FY-85	FY-86	FY-87	FY-88	FY-89

be equal to the sum of the funding years, because some activities are partially funded or are funded prior to or beyond the current five year period.

** Tentative split in funding may change during criteria development.

APPENDIX C

TABLE C.3 ORGDP Environmental Protection Projects (Excluding R&D)
4/03/1985

CATEGORY/PROJECT	FUNDING YEAR(S)	FUNDING TYPE	FUNDING SOURCE	TEC* ($ x 1000)	COMPLETION DATE	FUNDING NEEDS** ($ x 1000) FY-85	FY-86	FY-87	FY-88	FY-89
3.1. Radioactive Waste										
Funded Activities										
1 Scrap Metal Management	84-85	EXP	AB	3800	84-88	1300	0	0	0	0
2 Central Sludge Fixation Facility	84	LI	CI	8800	85	5000	2300	400	0	0
3 Central Neutralization Facility	84	LI	CI	1200	87	200	950	0	0	0
4 Floor Pan and Cylinder Cleaning	84	LI	CI	1000	86	250	700	0	0	0
5 Scrap Metal Smelting	85	EXP	AB	6400	88	2000	4400	0	0	0
6 Classified Burial Ground Expansion	87	GPP	CI	700	87	0	0	700	0	0
FUNDED TOTALS				21900		8750	8350	1100	0	0
CATEGORY TOTALS				21900		8750	8350	1100	0	0
3.2. Hazardous Waste										
Funded Activities										
1 Chromate Sludge Collection	84	LI	CI	1500	87	200	1050	200	0	0
FUNDED TOTALS				1500		200	1050	200	0	0
Funding Requested										
2 Lithium Hydroxide Containment	TBD	TBD		0		0	0	0	0	0
3 PCB Contaminated Outside Transformers	TBD	TBD	CI	0		0	0	0	0	0
4 Nickel Treatment Facility	TBD	GPP	CI	750		0	200	400	150	0
UNFUNDED TOTALS				750		0	200	400	150	0
CATEGORY TOTALS				2250		200	1250	600	150	0
3.3. Mixed or Co-contaminated Waste										
Funded Activities										
1 Compliance with TSCA Phase I	83	LI	CI	31900	86	7000	7700	3200	0	0
2 Waste Oil Storage Facility	81	GPP	CI	715	3/85	0	0	0	0	0
FUNDED TOTALS				32615		7000	7700	3200	0	0
CATEGORY TOTALS				32615		7000	7700	3200	0	0
3.4. Conventional Waste										
Funded Activities										
1 Coal Pile Runoff Treatment	83	GPP	CI	290	84	50	0	0	0	0
3 Contractors Disposal Area Closure	84	GPP	CI	310	84	0	0	0	0	0
FUNDED TOTALS				600		50	0	0	0	0
Funding Requested										
4 Old Contractors Disposal Area	86	GPP	CI	300	86	0	300	0	0	0

APPENDIX C

TABLE C.3 ORGDP Environmental Protection Projects (Excluding D&D)

9/01/1985

CATEGORY/PROJECT	FUNDING YEAR(S)	FUNDING TYPE	FUNDING SOURCE	TEC* ($ x 1000)	COMPLETION DATE	FUNDING NEEDS** ($ x 1000) FY-85	FY-86	FY-87	FY-88	FY-89
Closure										
UNFUNDED TOTALS				300		0	300	0	0	0
CATEGORY TOTALS				900		50	300	0	0	0
3.5. Monitoring										
Funded Activities										
1 Groundwater Protection Progras	85	EXP	CC	2015	12/87	760	590	665	0	0
FUNDED TOTALS				2015		760	590	665	0	0
CATEGORY TOTALS				2015		760	590	665	0	0
3.6. Remedial Action & Decommissioning										
Funding Requested										
1 Inactive Burial Areas	TBD	TBD	CC	0		0	0	0	0	0
2 K-901-A Holding Pond	TBD	TBD		0		0	0	0	0	0
3 K-25 Building Decommissioning	TBD	TBD		0		0	0	0	0	0
4 Powerhouse Decommissioning	TBD	TBD		0		0	0	0	0	0
UNFUNDED TOTALS				0		0	0	0	0	0
CATEGORY TOTALS				0		0	0	0	0	0
PLANT TOTALS				59680		16760	18190	5565	150	0

* TEC is the total estimated cost for the activity. The TEC may not be equal to the sum of the funding years, because some activities are partially funded or are funded prior to or beyond the current five year period.

** Tentative split in funding may change during criteria development.

APPENDIX C

TABLE C.4 PGDP Environmental Protection Projects (Excluding R&D)

4/03/1985

CATEGORY/PROJECT	FUNDING YEAR(S)	FUNDING TYPE	FUNDING SOURCE	TEC* ($ x 1000)	COMPLETION DATE	FUNDING NEEDS** ($ x 1000) FY-85	FY-86	FY-87	FY-88	FY-89
CATEGORY TOTALS				0		0	0	0	0	0
4.2. Hazardous Waste										
Funded Activities										
1 Nitric Acid Dike Replacement	84	GPP	CI	40	2/85	22	0	0	0	0
2 Environmental Protection and Safety Modifications	84	LI	CI	1736	8/86	484	767	15	0	0
FUNDED TOTALS				1776		506	767	15	0	0
CATEGORY TOTALS				1776		506	767	15	0	0
CATEGORY TOTALS				0		0	0	0	0	0
4.4. Conventional Waste										
Funding Requested										
1 Storage Tank Mixer	85	CE	CI	15	87	0	0	15	0	0
2 C-615 Chlorinator	85	CE	CI	5	85	5	0	0	0	0
3 Improvements to Comply with KPDES Permits	86	GPP	CI	250	87	0	250	0	0	0
4 C-615 Circulating Pumps	86	CE	CI	8		0	8	0	0	0
5 C-615 Digester Heating Unit	87	CE	CI	35	85	35	0	0	0	0
6 pH Monitor/Control System	87	CE	CI	15	87	0	0	15	0	0
7 ORP Meter C-616	87	CE	CI	10	87	0	0	10	0	0
UNFUNDED TOTALS				338		40	258	40	0	0
CATEGORY TOTALS				338		40	258	40	0	0
4.5. Monitoring										
Funded Activities										
1 Ground Water Monitoring	85	GPP	CI	55	85	55	0	0	0	0
2 Vent Stack UF6 Monitors	85	CE	CI	100	85	100	0	0	0	0
FUNDED TOTALS				155		155	0	0	0	0
CATEGORY TOTALS				155		155	0	0	0	0
CATEGORY TOTALS				0		0	0	0	0	0
PLANT TOTALS				2269		701	1025	55	0	0

* TEC is the total estimated cost for the activity. The TEC may not be equal to the sum of the funding years, because some activities are partially funded or are funded prior to or beyond the current five year period.

** Tentative split in funding may change during criteria development.

APPENDIX D

ENVIRONMENTAL PROGRAM MANAGEMENT PLAN

PROJECT SUMMARY SHEETS

PROJECT: Uranium Oxide Storage Vault

PLANT: Y-12 EPMP PROJECT NO: 1.1.2 CATEGORY: Radioactive Waste TEC($x1000): 300

FUNDING YEARS: 85 FUNDING TYPE: LI FUNDING STATUS: FUNDED FUNDING SOURCE: GB

ENG. PROJECT NO: 84-D-124 SCH. COMP. DATE: 12/86 LAST UPDATE: 4/02/85 CONTACT: P. A. Tabor

OMB-A-106 NO: OR-Y-12026 ENVIR. MEDIA: Radiation STATUTORY REQ: DOE

PROGRAM CATEGORY: Solid Waste Management

SCOPE: Above-ground, concrete vaults in which to store all depleted bulk uranium metal and uranium oxide.

JUSTIFICATION: In order to cease disposal of depleted uranium chips in the Bear Creek Burial Grounds, a facility to reduce their volume and render them nonhazardous is being provided. The treated uranium can then be stored in a retreivable manner in above ground concrete storage vaults.

FACILITIES: Aboveground completely enclosed, water proof concrete structure with ventilation and filtration for exhaust air.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	300	0	0	300	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Process Exhaust Equipment Restoration

PLANT: Y-12 **EPMP PROJECT NO:** 1.1.3 **CATEGORY:** Radioactive Waste **TEC($x1000):** 3000

FUNDING YEARS: 82 **FUNDING TYPE:** LI **FUNDING STATUS:** FUNDED **FUNDING SOURCE:** GB

ENG. PROJECT NO: 82-D-107 **SCH. COMP. DATE:** 85 **LAST UPDATE:** 3/29/85 **CONTACT:**

CMB-A-106 NO: OR-Y-12032 **ENVIR. MEDIA:** Air **STATUTORY REQ:** CAA

PROGRAM CATEGORY: Air Pollution Control

SCOPE: Facilities to remove radionuclides from selected airborne effluents to ensure compliance with numerical NESHAPS standards for radionuclides. Subproject of production capabilities restoration.

JUSTIFICATION: This project is in keeping with DOE's ALARA program. In addition EPA has also issued final radionuclide regulations. This project should reduce the radiological dose from the Y-12 Plant to ensure continued compliance with radionulide regulations

200

FACILITIES: Stack modifications and emission controls.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	3000	3000	0	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS: Funding for this project was obligated in FY82. Dsn & construction are occurring in FY84-85.

PROJECT: Air Emissions Control

PLANT: Y-12 EPMP_PROJECT_NO: 1.1.4 CATEGORY: Radioactive Waste TEC($x1000): 14000

FUNDING_YEARS: 85 FUNDING_TYPE: LI FUNDING_STATUS: FUNDED FUNDING_SOURCE: GB

ENG._PROJECT_NO: 85-D-121 SCH._COMP._DATE: 12/88 LAST_UPDATE: 3/29/85 CONTACT:

OMB-A-106_NO: OR-Y-12052 ENVIR._MEDIA: Air STATUTORY_REQ: CAA

PROGRAM_CATEGORY: Air Pollution Control

SCOPE: Process modifications to process stacks to reduce emission of radionuclides.

JUSTIFICATION: This project is in keeping with DOE's ALARA Program. EPA has also issued final radionuclide regulations. This project should further reduce the radiological dose from the Y-12 Plant to ensure continued compliance with radiological dose limitations.

201

FACILITIES: Stack modifications

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	14000	0	1800	6400	5800	0	0	0

PERMITS:
PROJECT_STATUS:
REMARKS: (AWPC LI Project)

PROJECT: Modifications to Salvage Yard Contaminated Scrap Metal Storage Area/Y12

PLANT: Y-12 EPMP_PROJECT_NO: 1.1.6 CATEGORY: Radioactive Waste TEC($x1000): 400

FUNDING_YEARS: 86 FUNDING_TYPE: GPP FUNDING_STATUS: UNFUNDED FUNDING_SOURCE: GB

ENG._PROJECT_NO: SCH._COMP._DATE: 88 LAST_UPDATE: 4/02/85 CONTACT:

OMB-A-106_NO: ENVIR._MEDIA: Sol Waste STATUTORY_REQ: DOE

PROGRAM_CATEGORY: Solid Waste Management

SCOPE: An existing area of the Salvage Yard will be provided with a water impermeable pad for storing uranium contaminated metal. The pad will be curbed

JUSTIFICATION: Facility will preclude the possibility of radioactive runoff from uranium-contaminated scrap metal reaching surface or ground waters, and provide a cleaner more efficient operation

FACILITIES: A concrete pad with a surface area of approximately 2 acres will be provided under the contaminated scrap pile. The pad will include curbing and sloped to a sump for collection, sampling, and discharging rainfall runoff.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	400	0	0	400	0	0	0	0

PERMITS:
PROJECT_STATUS:
REMARKS:

PROJECT: Uranium Chip Oxidizers

PLANT: Y-12 EPMP PROJECT NO: 1.1.7 CATEGORY: Radioactive Waste TEC($x1000): 950

FUNDING YEARS: 84 FUNDING TYPE: GPP FUNDING STATUS: FUNDED FUNDING SOURCE: GB

ENG. PROJECT NO: SCH. COMP. DATE: 9/85 LAST UPDATE: 4/02/85 CONTACT: S. P. DuMont

OMB-A-106 NO: OR-Y-12023 ENVIR. MEDIA: Radiation STATUTORY REQ: DOE

PROGRAM CATEGORY: Solid Waste Management

SCOPE: Oxidizers (burners) will reduce the volume of uranium chips and convert them to a non-pyrophoric state

JUSTIFICATION: In order to cease disposal of depleted uranium chips in the Bear Creek Burial Grounds, a facility to reduce their volume and render them nonhazardous must be provided. The treated uranium can then be stored in a retrievable manner in above ground concrete storage vaults.

FACILITIES: Six (6) uranium chip oxidizers and offgas treatment system consisting of 95% prefilter, HEPA filter, draft fan and 15 foot stack. Each oxidizer will have uranium chip handling and oxide removal capabilities.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	950	950	0	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Uranium Oxide Storage Vaults

PLANT: Y-12 **EPMP PROJECT NO:** 1.1.8 **CATEGORY:** Radioactive Waste **TEC($x1000):** 690

FUNDING YEARS: 88 **FUNDING TYPE:** GPP **FUNDING STATUS:** UNFUNDED **FUNDING SOURCE:** GB

ENG. PROJECT NO: **SCH. COMP. DATE:** 90 **LAST UPDATE:** 4/02/85 **CONTACT:** S. P. DuMont

ONP-A-106 NO: OR-Y-12015 **ENVIR. MEDIA:** Radiation **STATUTORY REQ:** DOE

PROGRAM CATEGORY: Solid Waste Management

SCOPE: Above-ground, completely enclosed, water-proof, concrete vaults in which to store depleted uranium metal and uranium oxide. Structures include ventilation and filtration for exhaust air. A total of 4 are projected at present.

JUSTIFICATION: In order to cease disposal of depleted uranium chips in the Bear Creek Burial Grounds, a facility to reduce their volume and render them nonhazardous must be provided. The oxidized depleted uranium turnings and uranium solids be stored in a retrievable manner in above ground concrete storage vaults.

FACILITIES: Above-ground completely enclosed, water proof concrete structures each with volume of 32,000 cubic feet. Vaults will be fitted with access ports, ventilation equipment to maintain a slight negative pressure inside, and filtration for exhaust air.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	690	0	0	0	0	330	0	360

PERMITS:
PROJECT STATUS:
REMARKS: Project completed

PROJECT: Enriched Uranium Exhaust Systems

PLANT: Y-12 EPMP PROJECT NO: 1.1.13 CATEGORY: Radioactive Waste TEC($x1000): 900

FUNDING YEARS: 88-91 FUNDING TYPE: LI FUNDING STATUS: UNFUNDED FUNDING SOURCE: GB

ENG. PROJECT NO: 87-OR-GB SCH. COMP. DATE: 91 LAST UPDATE: 3/29/85 CONTACT: C. E. Buttram

CMR-A-106 NO: OR-Y-12052 ENVIR. MEDIA: Air STATUTORY REQ: CAA

PROGRAM CATEGORY: Air Pollution Control

SCOPE: This project is to make modifications of enriched uranium operations stacks to reduce air-borne radionuclides emissions as low as reasonably achievably (ALARA).

JUSTIFICATION: This project is in keeping with DOE's ALARA program. In addition, the EPA has also issued final radionuclide regulations. This project should further reduce the Y-12 Plant radiological dose and ensure continued compliance with radionuclide regulations.

FACILITIES: Install best available technology (BAT) on major enriched uranium radionuclide emission sources.

SCHEDULE: FUNDING $x1000	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
	900	0	0	0	0	100	500	300

PERMITS:
PROJECT STATUS:
REMARKS: (HS&E Improvements LI)

PROJECT: Depleted Uranium Exhaust Systems

PLANT: Y-12 EPMP PROJECT NO: 1.1.14 CATEGORY: Radioactive Waste TEC($x1000): 5400

FUNDING YEARS: 88-91 FUNDING TYPE: LI FUNDING STATUS: UNFUNDED FUNDING SOURCE: GB

ENG. PROJECT NO: 87-OR-GB SCH. COMP. DATE: 91 LAST UPDATE: 3/29/85 CONTACT: C. E. Buttram

CMR-A-106 NO: OR-Y-12052 ENVIR. MEDIA: Air STATUTORY REQ: CAA

PROGRAM CATEGORY: Air Pollution Control

SCOPE: This project is to make extensive modifications of depleted uranium operations stacks to reduce air-borne radionuclides emissions as low as reasonably achievably (ALARA).

JUSTIFICATION: This project is in keeping with DOE's ALARA program. In addition

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FACILITIES: Install best available technology (BAT) on major depleted uranium radionuclide emission sources.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	5400	0	0	0	0	900	2800	1700

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Waste Coolant Processing Facility

PLANT: Y-12 FPMP PROJECT NO: 1.2.2 CATEGORY: Hazardous Waste TEC($x1000): 345

FUNDING YEARS: 83 FUNDING TYPE: GPP FUNDING STATUS: FUNDED FUNDING SOURCE: GB

ENG. PROJECT NO: SCH. COMP. DATE: 85 LAST UPDATE: 3/29/85 CONTACT: S. P. DuMont

ONR-A-106 NO: OR-Y-12028 ENVIR. MEDIA: Water STATUTORY REQ: CWA

PROGRAM CATEGORY: Water Pollution Control

SCOPE: Facility to treat water-soluble machine coolants. Effluent from the facility will be discharged directly into East Fork Poplar Creek under a NPDES permitted outfall until which time as it can be polished in the West End Treatment Facility.

JUSTIFICATION: To replace the existing inadequate waste coolant facility which originated as a Pilot Plant. Waste oil and coolants were, at one time, disposed of in the Bear Creek Burial Grounds and Oil Landfarm. This material is currently being stored on-site with minimal processing and some disposition by public sale. Facilities are required for improved storage and treatment for minimization of contamination and increased salability.

FACILITIES: Small, commercial, biological wastewater treatment plant; consists of extended aeration system, clarification, oil-water sludge collection and processing equipment.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	345	0	0	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: HG-Contaminated Soils Storage Area

PLANT: Y-12 EPMP PROJECT NO: 1.2.3 CATEGORY: Hazardous Waste TEC($x1000): 400

FUNDING YEARS: 86 FUNDING TYPE: GPP FUNDING STATUS: UNFUNDED FUNDING SOURCE: GB

ENG. PROJECT NO: SCH. COMP. DATE: 88 LAST UPDATE: 4/02/85 CONTACT:

OMB-A-106 NO: ENVIR. MEDIA: Sol Waste STATUTORY REQ: MISC

PROGRAM CATEGORY: Solid Waste Management

SCOPE: Four separate concrete pads

JUSTIFICATION: Y-12 is currently faced with the need to dispose of contaminated soils from the City of Oak Ridge as well as from the Y-12 site. These soils must be stored While they are sampled and arrangements are made to ship them off site for commercial disposal. A facility complying with the requirement of the Resource Conservation and Recovery Act is required.

FACILITIES: Four separate pads each with a 1,500 cubic yard capacity will be provided. Lighting fencing, diking, run-on control ditching, diking and an impervious bottom will be past of this facility.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	400	0	0	400	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Spill Prevention Program - Main Plating Shop

PLANT: Y-12 EPMP PROJECT NO: 1.2.4 CATEGORY: Hazardous Waste TEC($x1000): 250

FUNDING YEARS: 84 FUNDING TYPE: GPP FUNDING STATUS: FUNDED FUNDING SOURCE: GB

ENG. PROJECT NO: SCH. COMP. DATE: 85 LAST UPDATE: 4/02/85 CONTACT: S.P. DuMont

OMB-A-106 NO: OR-Y-12017 ENVIR. MEDIA: Water STATUTORY REQ: CWA

PROGRAM CATEGORY: Water Pollution Control

SCOPE: Facilities to provide secondary containment for hazardous material storage and transfer as required by Clean Water Act and the Resources Conservation and Recovery Act.

JUSTIFICATION: The Clean Water Act and EPA regulations which implement the Act require that "best management practices" be used to prevent all unnecessary pollutant discharges to the nation's waterways. Included as one of these practices is provision of containment around areas were oils and hazardous materials are stored and/or transferred. Not having such containment features poses an environmental hazard

FACILITIES: This GPP will provide new acid waste storage tanks and associated diking. Portable containers for the storage of cyanide and acid contaminated wastewaters will also be provided.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	250	0	150	100	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Plating Rinse Water Treatment Facility

PLANT: Y-12 **EPMP PROJECT NO:** 1.2.12 **CATEGORY:** Hazardous Waste **TEC($x1000):** 2100

FUNDING YEARS: 85 **FUNDING TYPE:** LI **FUNDING STATUS:** FUNDED **FUNDING SOURCE:** GB

ENG. PROJECT NO: 84-D-124 **SCH. COMP. DATE:** 86 **LAST UPDATE:** 4/02/85 **CONTACT:** S. P. DuMont

OMB-A-106 NO: OR-Y-12021 **ENVIR. MEDIA:** Water **STATUTORY REQ:** CWA

PROGRAM CATEGORY: Water Pollution Control

SCOPE: This facility will provide a package treatment to remove trace amounts of metals, cyanides and organics from 8,700,000 gal of plating shop rinse water per year.

JUSTIFICATION: Several Y-12 plant process waste streams have, for many years, been directed into Upper East Fork Poplar Creek (UEFPC). However, compliance with the Tennessee Water Quality Act makes this practice unacceptable.

FACILITIES: Plating rinsewater treatment plant will be installed on third flood of the Central Pollution Control Facility.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	2100	0	1800	300	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: East End Waste Facility

PLANT: Y-12 EPMP PROJECT NO: 1.2.13 CATEGORY: Hazardous Waste TEC($x1000): 185

FUNDING YEARS: 84 FUNDING TYPE: GPP FUNDING STATUS: FUNDED FUNDING SOURCE: GB

ENG. PROJECT NO: SCH. COMP. DATE: 86 LAST UPDATE: 4/02/85 CONTACT: S.P. DuMont

CNP-A-106 NO: OR-Y-12019 ENVIR. MEDIA: Water STATUTORY REQ: RCRA

PROGRAM CATEGORY: Solid Waste Management

SCOPE: Facilities to treat 1,500,000 gal/year of waste water from the Plant's paint spray booths as well as 52,000 gal/year of water with detergent, oil, and dirt from vehicle and equipment maintenance activities in the plant garage. Liquid streams from 9720-6 addition will be recycled, remaining hazardous sludge will be disposed of properly. The waste stream from the vehicle and equipment maintenance facilities will be transported to ORGDP for treatment and discharge.

JUSTIFICATION: Several Y-12 Plant process waste streams have, for many years, been directed into EFA. To comply w/the Clean Water Act, these wastewaters must either be treated or discontinued from discharging the EFPC.

FACILITIES: A packaged treatment unit providing oil skimmer, solid/liquid separator, liquid storage and feed tanks will comprise spray paint booth addition in 9720-6. A new storage tank, sump pump and partial dike will be provided for 9712 garage.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	185	185	0	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Oil & Coolant Storage Facility

PLANT: Y-12 EPMP PROJECT NO: 1.2.14 CATEGORY: Hazardous Waste TEC($x1000): 720

FUNDING YEARS: 84 FUNDING TYPE: GPP FUNDING STATUS: FUNDED FUNDING SOURCE: GB

ENG. PROJECT NO: SCH. COMP. DATE: 86 LAST UPDATE: 3/01/85 CONTACT: A.R. Medley

OMB-A-106 NO: OR-Y-12020 ENVIR. MEDIA: Sol Waste STATUTORY REQ: MISC

PROGRAM CATEGORY: Solid Waste Management

SCOPE: A building will be constructed for housing sedimentation tanks and filter presses for processing coolant used to machine BeO materials. The BeO sludges will be removed from the coolant collected for commercial recycle or disposal allowing reuse of the filtered coolants.

JUSTIFICATION: An existing system does an inadequate job of filtering the coolant, usually resulting in an unsuitable product for reuse as machine coolant. This, therefore, results in an added waste quantity requiring commerical disposal. The improved system will reduce waste quantity and permit a longer coolant life before disposal becomes necessary.

FACILITIES:

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	720	720	0	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS: GPP 470K; GPE 250K

PROJECT: Flammable Liquid Waste Storage Facility

PLANT: Y-12 EPMP PROJECT NO: 1.2.18 CATEGORY: Hazardous Waste TEC($x1000): 500

FUNDING YEARS: 85 FUNDING TYPE: GPP FUNDING STATUS: FUNDED FUNDING SOURCE: GB

ENG. PROJECT NO: 84-D-124 SCH. COMP. DATE: 87 LAST UPDATE: 3/01/85 CONTACT: H. D. Whitehead

OMB-A-106 NO: OR-Y-12059 ENVIR. MEDIA: HAZD STATUTORY REQ: RCRA

PROGRAM CATEGORY: Solid Waste Management

SCOPE: This project will address the storage of ignitible RCRA hazardous wastes (except acetonitrile) storage tanks and drums will be provided, conforming to environmental and fire protection regulations.

JUSTIFICATION: DOE Order 5480.2 establishes hazardous waste management procedures for facilities operated under authority of the Atomic Energy Act of 1954, as amended. This present facility is not in compliance with 5480.2 standards. Project will provide for storage of materials and solvents which by RCRA definition are characteristically hazardous (ignitability). Materials can also be contaminated as low-level radioactive Waste Facility will comply with EPA/TN hazardous waste storage requirements and DOE order applicable to LLRW storage. Project may also incorporate treatment wing incineration.

FACILITIES: This project will provide storage capability, tanks and drums, for ignitible liquid wastes.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	500	0	500	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Waste Oil/Solvent Storage Facility

PLANT: Y-12 EPMP PROJECT NO: 1.2.19 CATEGORY: Hazardous Waste TEC($x1000): 1200

FUNDING YEARS: 85 FUNDING TYPE: LI FUNDING STATUS: UNFUNDED FUNDING SOURCE: GB

ENG. PROJECT NO: SCH. COMP. DATE: 3/87 LAST UPDATE: 4/02/85 CONTACT: R. E. Bower

CMB-A-106 NO: OR-Y-12060 ENVIR. MEDIA: RADN STATUTORY REQ: RCRA

PROGRAM CATEGORY: Solid Waste Management

SCOPE: New tanks must be purchased and installed above ground.

JUSTIFICATION: PCB-Contaminated Oil Storage Capacity must be increased to phase out one 20,000 gal and one 10,000 gal underground storage tank. Underground storage of hazardous materials is likely to be precluded in the future by the State of Tennessee. $46 million Envir. LI, FY-85 - Sub Proj - Waste Oil/Solvent Storage Criteria to engr => 5-40,000 gallon stg tanks, transfer piping/pumps, dikes, loading & off-loading areas, tank construct in accord ASME/API, Sp Groo & construct consistent w/PCB's, Chl Solv.

FACILITIES: Facility consist of a concrete diked area with five 40,000-gallon capacity steel tanks pumps and auxiliary piping, instrumentation, and heat tracing systems to prevent freezing.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	1200	0	200	800	200	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Replacement of PCB Transformers

PLANT: Y-12 EPMP PROJECT NO: 1.2.21 CATEGORY: Hazardous Waste TEC($x1000): 5000

FUNDING YEARS: 85 FUNDING TYPE: LI FUNDING STATUS: FUNDED FUNDING SOURCE: GB

ENG. PROJECT NO: 84-D-124 SCH. COMP. DATE: 09/88 LAST UPDATE: 4/02/85 CONTACT: S. P. DuMont

OMB-A-106 NO: OR-Y-12054 ENVIR. MEDIA: Water STATUTORY REQ: TSCA

PROGRAM CATEGORY: Solid Waste Management

SCOPE: Replacement of PCB Transformers, in environmentally vulnerable locations, with non-PCB equipment is required for continued compliance with TSCA. Other PCB transformers will be replaced in subsequent years (FY86-D-123, Environmental Hazardous Elimination).

JUSTIFICATION: Continued Compliance with the Toxic Substance Control Act requires elimination of PCB Transformers.

FACILITIES:

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	5000	0	2000	2500	500	0	0	0

RESULTS:
PROJECT STATUS:
REMARKS: Remaining $7400K is to be provided from 1986 Environment, Health & Safety Hazards Elimination. (86-D-123)

PROJECT: Spill Prevention Program

PLANT: Y-12 EPMP_PROJECT_NO: 1.2.22 CATEGORY: Hazardous Waste TEC($x1000): 1000

FUNDING_YEARS: 85 FUNDING_TYPE: LI FUNDING_STATUS: UNFUNDED FUNDING_SOURCE: GB

ENG._PROJECT_NO: 84-D-124 SCH._COMP._DATE: 12/86 LAST_UPDATE: 4/02/85 CONTACT: S. P. DuMont

CNB-A-106_NO: OR-Y-12017 ENVIR._MEDIA: Water STATUTORY_REQ: CWA

PROGRAM_CATEGORY: Water Pollution Control

SCOPE: Facilities to provide secondary containment for hazardous material storage and transfer as required by Clean Water Act and the Resource Conservation and Recovery Act

JUSTIFICATION: The Clean Water Act and EPA regulations which implement the Act require that "best management practices" be used to prevent all unnecessary pollutant discharges to the nation's waterways. Included as one of these practices is provision of containment around areas where oils and hazardous materials are stored and/or transferred. Not having such containment features poses a real environmental hazard, because the likelihood of a spill is high when materials are being transferred from one container to another.

FACILITIES: The LI project is providing: five diked stations for transfer of hazardous chemicals and chemical wastes between tank trailers, railroad tank cars, fixed storage tanks, and portable containers; a tank farm facility with four 10,000 gal tanks diked for spill containment, for waste solution collection prior to transfer to treatment facilities; and a storage tank for collection of acetonitrile prior to incineration.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	1000	0	200	500	300	0	0	0

PERMITS:
PROJECT_STATUS:
REMARKS:

PROJECT: Replacement of PCB Transformers

PLANT: Y-12 EPMP PROJECT NO: 1.2.23 CATEGORY: Hazardous Waste TEC($x1000): 7600

FUNDING YEARS: 86 FUNDING TYPE: LI FUNDING STATUS: UNFUNDED FUNDING SOURCE: GB

ENG. PROJECT NO: SCH. COMP. DATE: 89 LAST UPDATE: 4/02/85 CONTACT: S.P. DuMont

OMB-A-106 NO: OR-Y-12054 ENVIR. MEDIA: Water STATUTORY REQ: TSCA

PROGRAM CATEGORY: Solid Waste Management

SCOPE: Replacement of PCB Transformers

JUSTIFICATION: Continued Compliance with the Toxic Substance Control Act requires elimination of PCB Transformers.

FACILITIES:

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	7600	0	0	3700	3900	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Processing Y-12 Wastes at ORGDP

PLANT: Y-12 **EPMP_PROJECT_NO:** 1.3.1 **CATEGORY:** Mixed or Co-contaminated Waste **TEC($x1000):** 6300

FUNDING_YEARS: 84-86 **FUNDING_TYPE:** EXP **FUNDING_STATUS:** FUNDED **FUNDING_SOURCE:** GB

ENG._PROJECT_NO: **SCH._COMP._DATE:** 86 **LAST_UPDATE:** 3/01/85 **CONTACT:**

CMB-A-106_NO: OR-Y-12048 **ENVIR._MEDIA:** Water **STATUTORY_REQ:** CWA

PROGRAM_CATEGORY: Water Pollution Control

SCOPE: Treat liquid waste at ORGDP that formerly went to the S-3 ponds, discharge some through K-25 NPDES perait. Return some for storage and further treatment in west end tank farm/west end treatment facility.

JUSTIFICATION: In order to close and discontinue use of the S-3 Ponds, alternative treatment methods must be provided for the waste streams that have historically been placed there. The interim plan is to collecte these waste solutions at the Y-12 Plant and transport them via tank trailers and approved transport containers to ORGDP for treatment. The long-term plan for handling wastes that previously went to the S-3 ponds consists of collection and transport of nitrate wastes to the west end treatment facility and non-nitrate wastes to the new central pollution control facility.

FACILITIES:

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	6300	2300	2200	1800	0	0	0	0

PERMITS:
PROJECT_STATUS:
REMARKS: WTO

PROJECT: West Tank Farm - Storage

PLANT: Y-12 EPMP PROJECT NO: 1.3.2 CATEGORY: Mixed or Co-contaminated Waste TEC($x1000): 6100

FUNDING YEARS: 83-84 FUNDING TYPE: GPI FUNDING STATUS: FUNDED FUNDING SOURCE: GB

ENG. PROJECT NO: 84-D-124 SCH. COMP. DATE: 83-87 LAST UPDATE: 3/01/85 CONTACT: A.R. Medley

CNB-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: CWA

PROGRAM CATEGORY: Water Pollution Control

SCOPE: Provide Storage and treatment for nitrate waste streams from within the plant and returning from ORGDP neutralization.

JUSTIFICATION: These tanks are necessary as temporary storage and treatment vessels while other facilities are being completed, since waste disposal to the S-3 Ponds has ceased.

FACILITIES: Nine 500,000 gallon steel tanks in concrete diked basin and all associated equipment (pumps, valves, piping) loadning and unloading systes.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	6100	2700	2500	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS: 12-84 construction complete does not include startup time. (FY83 funding 1900K)

PROJECT: Central Pollution Control Facility (CPCF)-I

PLANT: Y-12 EPMP_PROJECT_NO: 1.3.3 CATEGORY: Mixed or Co-contaminated Waste TEC($x1000): 5300

FUNDING_YEARS: 81 FUNDING_TYPE: LI FUNDING_STATUS: FUNDED FUNDING_SOURCE: GD

ENG._PROJECT_NO: 81-D-120 SCH._COMP._DATE: 06/85 LAST_UPDATE: 3/01/85 CONTACT: S. P. DuMont

ORR-A-106_NO: OR-Y-12001 ENVIR._MEDIA: Water STATUTORY_REQ: CWA

PROGRAM_CATEGORY: Water Pollution Control

SCOPE: Physical-Chemical treatment facility to provide primary treatment to Plant acid, caustic, HF scrubber solution, plating shop floor and mop water wastes in amounts of 2,000,000 gallons per year.

JUSTIFICATION: The long-term plan for handling wastes now going to the S-3 Ponds consists of collection and transport of nitrate wastes to the West End Treatment Facility and non-nitrate wastes to a new Central Pollution Control Facility (CPCFI).

FACILITIES: New building housing waste storage, neutralization, treatment and dewatering equipment as well as chromate reduction unit.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	5300	1000	1400	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS. Funding in FY-83 was $2900 FY81 funded project.

PROJECT: Classified Waste Storage Facility

PLANT: Y-12 FPMP PROJECT NO: 1.3.4 CATEGORY: Mixed or Co-contaminated Waste TEC($x1000): 900

FUNDING YEARS: 85 FUNDING TYPE: GPP FUNDING STATUS: FUNDED FUNDING SOURCE: GD

ENG. PROJECT NO: SCH. COMP. DATE: 85-90 LAST UPDATE: 3/01/85 CONTACT: J.K. Bailey

CMP-A-106 NO: OR-Y-12061 ENVIR. MEDIA: HAZD STATUTORY REQ: RCRA

PROGRAM CATEGORY: Solid Waste Management

SCOPE: Above ground storage facilities are to be sited and constructed adjacent to existing security pits. Facilities will include two buildings, fencing, and material handling equipment for storage of classified waste (hazardous and non-hazardous) in containers or bales pending selection and construction of disposal facilities. Monitoring wells will be provided around existing burial pits for groundwater evaluation.

JUSTIFICATION: The existing facility does not meet land disposal requirements of RCRA for burial of hazardous or radioactive wastes.

FACILITIES: Project criteria to Engr for storage above ground. Will use common facil. for storage/processing/disposal of Haz & Class disp.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	900	0	900	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Central Pollution Control Facility (CPCF-II)

PLANT: Y-12 EPMP PROJECT NO: 1.3.5 CATEGORY: Mixed or Co-contaminated Waste TEC($x1000): 2500

FUNDING YEARS: 81 FUNDING TYPE: LI FUNDING STATUS: FUNDED FUNDING SOURCE: GB

ENG. PROJECT NO: 81-D-120 SCH. COMP. DATE: 85 LAST UPDATE: 3/01/85 CONTACT: S. P. DuMont

OMB-A-106 NO: OR-Y-12014 ENVIR. MEDIA: Water STATUTORY REQ: CWA

PROGRAM CATEGORY: Water Pollution Control

SCOPE: Provide treatment for nitrate-contaminated waste waters after receiving preliminary head-end treatment and neutralization at Oak Ridge Gaseous Diffusion Plant. Also provides insitu biological denitrification, dewatering and effluent polishing.

JUSTIFICATION: To provide treatment for nitrate bearing waste streams until the West End Treatment Facility comes on line.

FACILITIES: Installation of rotary vacuum filter, a solids pit, equilization and chlorination basins, associated piping and a double ended substation.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	2500	100	2400	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: West End Treatment Facilities

PLANT: Y-12 EPMP PROJECT NO: 1.3.6 CATEGORY: Mixed or Co-contaminated Waste TEC($x1000): 6600

FUNDING YEARS: 85 FUNDING TYPE: LI FUNDING STATUS: FUNDED FUNDING SOURCE: GB

ENG. PROJECT NO: 84-D-124 SCH. COMP. DATE: 85-89 LAST UPDATE: 3/01/85 CONTACT: S. P. DuMont

OMB-A-106 NO: OR-Y-12057 ENVIR. MEDIA: Water STATUTORY REQ: CWA

PROGRAM CATEGORY: Water Pollution Control

SCOPE: Project to provide treatment facilities for nitrate contaminated wastes. Subproject of Environmental Improvements line Item.

JUSTIFICATION: There is a possibility that an Expansion of West Tank Farm will be required in future years.

FACILITIES:

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	6600	0	6000	600	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: RCRA and Mixed Waste Storage and Staging Facility

PLANT: Y-12 EPMP PROJECT NO: 1.3.7 CATEGORY: Mixed or Co-contaminated Waste TEC($x1000): 770

FUNDING YEARS: 84 FUNDING TYPE: GPP FUNDING STATUS: FUNDED FUNDING SOURCE: GB

ENG. PROJECT NO: SCH. COMP. DATE: 86 LAST UPDATE: 3/01/85 CONTACT: S. P. DuMont

OMB-A-106 NO: OR-Y-12018 ENVIR. MEDIA: Sol Waste STATUTORY REQ: RCRA

PROGRAM CATEGORY: Solid Waste Management

SCOPE: Facility to properly store (meeting RCRA requirements) wastes awaiting shipment to disposal sites.

JUSTIFICATION: Large quantities of solid RCRA hazardous wastes co-contaminated with uranium have historically been disposed of in the Bear Creek Burial Grounds. Since this area is no longer to be used, it is planned to store these co-contaminated solid wastes in a temporary warehouse (Building 9720-9) until the design and construction of the RCRA and Co-Contaminated Liquid and Solid Waste Storage Facility is completed.

FACILITIES:

SCHEDULE: FUNDING $x1000	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
	770	770	0	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Hazardous Waste Disposal Facility/Y-12 - Planning Studies only

PLANT: Y-12 **EPMP PROJECT NO:** 1.3.8 **CATEGORY:** Mixed or Co-contaminated Waste **TEC($x1000):** 5000

FUNDING YEARS: 87 **FUNDING TYPE:** LI **FUNDING STATUS:** UNFUNDED **FUNDING SOURCE:** GD

ENG. PROJECT NO: 87-OR-GB-1 **SCH. COMP. DATE:** 90 **LAST UPDATE:** 4/02/85 **CONTACT:**

OMB-A-106 NO: **ENVIR. MEDIA:** HAZD **STATUTORY REQ:** RCRA

PROGRAM CATEGORY: Solid Waste Management

SCOPE: Engineering studies are now underway to define this facility

JUSTIFICATION: Sludges and soils from remedial action projects as well as sludges from wastewater treatment facilities that cannot be fixed and delisted will not be able to be disposed in commercial facilities because of the presence of radioactivity. Some long-term solution is required for such wastes from the Oak Ridge facilities.

FACILITIES:

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	5000	0	0	0	2500	2500	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Environmental Support Facilities

PLANT: Y-12 EPMP PROJECT NO: 1.3.9 CATEGORY: Mixed or Co-contaminated Waste TEC($x1000): 5700

FUNDING YEARS: 84 FUNDING TYPE: LI FUNDING STATUS: FUNDED FUNDING SOURCE: GD

ENG. PROJECT NO: 84-D-124 SCH. COMP. DATE: 87 LAST UPDATE: 4/02/85 CONTACT: A. N. Wylie

CNB-A-106 NO: OR-Y-12058 ENVIR. MEDIA: Toxic STATUTORY REQ: CWA

PROGRAM CATEGORY: Water Pollution Control

SCOPE: This project will provide buildings and tanker fleet terminal facilities esential to safe operation of new treatment facilities. Limited space will be available to relocate personnel from contaminated areas.

JUSTIFICATION: This project will provide support facilities essential to the operation of Y-12's new waste water collection and treatment system to facilitate safe and efficient operation.

FACILITIES: Changehouse facilities, office space, field laboratory, working space for equipment maintenance, storage space and safe parking space for waste transport trucks will be provided.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	5700	200	200	4200	1100	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Classified Waste Processing Facility

PLANT: Y-12 EPMP PROJECT NO: 1.3.10 CATEGORY: Mixed or Co-contaminated Waste TEC($x1000): 850

FUNDING YEARS: 87 FUNDING TYPE: GPP FUNDING STATUS: UNFUNDED FUNDING SOURCE: GB

ENG. PROJECT NO: SCH. COMP. DATE: 89 LAST UPDATE: 3/01/85 CONTACT: J.K. Bailey

OMB-A-106 NO: OR-Y-12061 ENVIR. MEDIA: Hazd STATUTORY REQ: RCRA

PROGRAM CATEGORY: Solid Waste Management

SCOPE: A closed, sheet metal building over a concrete pad, utilities, and a waste compactor/baler. Facility must be located inside the security exclusion area.

JUSTIFICATION: Large quantities of compactable, classified wastes are generated at Y-12. These must be disposed of in special, secure facilities, separate from the regular disposal facilities. Installation and operation of this facility will result in more efficient use of classified disposal facility space.

FACILITIES: Project provides for above ground storage of low-level radioactive and/or hazardous waste contaminated classified waste in a prefabricated metal building. Facility will provide for pretreatment

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	850	0	0	0	850	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: RCRA and Mixed Waste Storage and Staging Facility

PLANT: Y-12 EPMP PROJECT NO: 1.3.11 CATEGORY: Mixed or Co-contaminated Waste TEC($x1000): 900

FUNDING YEARS: 87 FUNDING TYPE: GPP FUNDING STATUS: UNFUNDED FUNDING SOURCE: GD

ENG. PROJECT NO: SCH. COMP. DATE: 87 LAST UPDATE: 3/01/85 CONTACT: S.P. DuMont

OMB-A-106 NO: ENVIR. MEDIA: Sol Waste STATUTORY REQ: RCRA

PROGRAM CATEGORY: Solid Waste Management

SCOPE: Facility to properly store (meeting RCRA requirements) wastes awaiting shipment to disposal sites.

JUSTIFICATION: Large quantities of solid RCRA hazardous wastes co-contaminated with uranium have historically been disposed of in the Bear Creek Burial Grounds. Since this area is no longer to be used

FACILITIES:

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	900	0	0	0	900	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: New Hope Pond Sediment Removal

PLANT: Y-12 EPMP PROJECT NO: 1.4.1 CATEGORY: Conventional Waste TEC($x1000): 145

FUNDING YEARS: 86 FUNDING TYPE: EXP FUNDING STATUS: UNFUNDED FUNDING SOURCE: GD

ENG. PROJECT NO: SCH. COMP. DATE: 86 LAST UPDATE: 3/01/85 CONTACT: J. K. Bailey

ORB-A-106 NO: OR-Y-12034 ENVIR. MEDIA: STATUTORY REQ: CWA

PROGRAM CATEGORY: Water Pollution Control

SCOPE: Removal of sediment from New Hope Pond, the distribution channel and EFPC just upstream of New Hope Pond.

JUSTIFICATION: The primary functions of New Hope Pond and pH adjustment (through flow equialization) and settling of insoluble materials, such as sediment which may be contaminated with uranium and mercury. In 1973, the pond sediment was removed and transferred to a dry basin on top of Chestnut Ridge, south of the pond. Recent evaluations of pond capacity have indicated continued sedimentation and a need for another New Hope Pond Sediment Removal project.

FACILITIES:

SCHEDULE: FUNDING $x1000	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
	145	0	0	75	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Steam Plant Improvements - Emissions Control

PLANT: Y-12 EPMP_PROJECT_NO: 1.4.1 CATEGORY: Conventional Waste TEC($x1000): 13500

FUNDING_YEARS: 82-83 FUNDING_TYPE: LI FUNDING_STATUS: FUNDED FUNDING_SOURCE: GB

ENG._PROJECT_NO: SCH._COMP._DATE: 85 LAST_UPDATE: 3/01/85 CONTACT: T.C. Wilson

OMB-A-106_NO: OR-Y-12004 ENVIR._MEDIA: Air STATUTORY_REQ: CAA

PROGRAM_CATEGORY: Air Pollution Control

SCOPE: Installation of fabric filters (baghouses) to effect the control of particulates (fly ash) from the Steam Plant.

JUSTIFICATION: On April 14, 1982, DOE signed a Federal Facilities Compliance Agreement with the EPA which placed the Y-12 Steam Plant on a plan and schedule to obtain compliance with the Clean Air Act and the State Implementation Plan for Tennessee. The Steam Plant Improvements project includes the installation of fabric filters (baghouses) to effect the control of particulates.

FACILITIES:

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	13500	0	0	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS: Funding obligated in Previous Budget Years.

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PROJECT: M-Wing Coolant Changeout

PLANT: Y-12 EPMP PROJECT NO: 1.4.4 CATEGORY: Conventional Waste TEC($x1000): 3800

FUNDING YEARS: 81 FUNDING TYPE: LI FUNDING STATUS: FUNDED FUNDING SOURCE: GB

ENG. PROJECT NO: 81-D-115 SCH. COMP. DATE: 6/85 LAST UPDATE: 3/01/85 CONTACT: S. C. Harris

OMB-A-106 NO: OR-Y-12033 ENVIR. MEDIA: STATUTORY REQ: CAA

PROGRAM CATEGORY: Air Pollution Control

SCOPE: Piping and process equipment necessary to convert from perchloroethylene to water-soluble coolant

JUSTIFICATION: Perchloroethylene is considered a health hazard and possible carcinogen, making it necessary to replace it as a standard process material. The M-Wing Coolant Changeout project is ready to begin and will replace the machine coolant with a propylene glycol-water mixture.

FACILITIES:

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	3800	3800	0	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS: Funding obligated from 1982 Mx Line Item.

PROJECT: HF Scrubbers

PLANT: Y-12 EPMP PROJECT NO: 1.4.5 CATEGORY: Conventional Waste TEC($x1000): 1100

FUNDING YEARS: 81 FUNDING TYPE: LI FUNDING STATUS: FUNDED FUNDING SOURCE: GB

ENG. PROJECT NO: 81-D-120 SCH. COMP. DATE: 84 LAST UPDATE: 3/01/85 CONTACT: S. P. DuMont

OMB-A-106 NO: ENVIR. MEDIA: Air STATUTORY REQ: CAA

PROGRAM CATEGORY: Air Pollution Control

SCOPE: Scrubbers for Buildings 9212 and 9206 to reduce HF emissions.

JUSTIFICATION: Hydrogen fluoride emissions are almost exclusively from chemical processing operations in Buildings 9212 and 9206. Recent and projected increases in production will significantly increase emissions, to levels above State of Tennessee control limits. Process controls to minimize the necessity for use of excess HF in the chemical operation are being installed. In addition, an HF Scrubbers project is expected to be funded in FY 1985; it should essentially eliminate these operations as air pollution sources.

FACILITIES:

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	1100	1100	0	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Salvage Yard Relocation

PLANT: Y-12 EPMP PROJECT NO: 1.4.6 CATEGORY: Conventional Waste TEC($x1000): 800

FUNDING YEARS: 85 FUNDING TYPE: GPP FUNDING STATUS: UNFUNDED FUNDING SOURCE: GB

ENG. PROJECT NO: SCH. COMP. DATE: TBD LAST UPDATE: 3/01/85 CONTACT:

OMB-A-106 NO: ENVIR. MEDIA: Sol Waste STATUTORY REQ: MISC

PROGRAM CATEGORY: Solid Waste Management

SCOPE: Relocate clean scrap metal yard. Criteria given to engr. site select process underway. [Metal is typically collected & sold w/no uran cont.] Cont Metal will remain on extg yard until proj #1 is funded or in-house shredding equipment can be used for vol red. and subseq. stg @ Y-12. This latter activity will begin in late FY-85.

JUSTIFICATION: Studies are underway in conjunction with CRGDP to devise mechanisms for disposal or recycling of scrap metal contaminated with uranium. Options to be explored include on-site smelting and contracting with an outside form to smelt the material. Problems involved include the lack of a de minimis level for enriched uranium so that anyone buying scrap contaminated at all with enriched uranium must have an NRC license.

FACILITIES: TBD

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	800	0	800	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Process Systems Upgrade

PLANT: Y-12 EPMP_PROJECT_NO: 1.4.8 CATEGORY: Conventional Waste TEC($x1000): 4200

FUNDING_YEARS: 87 FUNDING_TYPE: LI FUNDING_STATUS: UNFUNDED FUNDING_SOURCE: GD

ENG._PROJECT_NO: 87-OR-GB SCH._COMP._DATE: 90 LAST_UPDATE: 3/29/85 CONTACT:

OMB-A-106_NO: OR-Y-12052 ENVIR._MEDIA: Air STATUTORY_REQ: CAA

PROGRAM_CATEGORY: Air Pollution Control

SCOPE: Conventional pollution control

JUSTIFICATION: Repermitting of Y-12 Plant air pollution sources has identified a significantly larger number of pollution sources than previously recorded. Conventional controls will be required to reduce emissions to allowable levels.

FACILITIES:

SCHEDULE: FUNDING $x1000	TOTAL 4200	FY-84 0	FY-85 0	FY-86 0	FY-87 0	FY-88 700	FY-89 2100	FY-90 1400

PERMITS:
PROJECT_STATUS:
REMARKS: (HSGR improvements LI)

PROJECT: Source Collection and Treatment Facilities

PLANT: Y-12 EPMP PROJECT NO: 1.4.9 CATEGORY: Conventional Waste TEC ($x1000): 3600

FUNDING YEARS: 85 FUNDING TYPE: LI FUNDING STATUS: FUNDED FUNDING SOURCE: GB

ENG. PROJECT NO: 84-D-124 SCH. COMP. DATE: 87 LAST UPDATE: 3/01/85 CONTACT: S. P. DuMont

OMB-A-106 NO: OR-Y-12013 ENVIR. MEDIA: Water STATUTORY REQ: CWA

PROGRAM CATEGORY: Water Pollution Control

SCOPE: Treatment Facilities will provide collection tanks with curbs, pumps, piping, and truck loading stations to allow for transport of each of the wastes to the appropriate treatment facility.

JUSTIFICATION: The majority of liquid waste streams from the Y-12 Plant facilities/operations must be diverted from direct discharge to Upper East Fork Poplar Creek to an acceptable treatment system prior to the release in order to meet the State Water Quality Criteria.

FACILITIES: Collection Tanks properly diked with pumps and piping necessary to transfer waste to trucks.

SCHEDULE: FUNDING $x1000	TOTAL 3600	FY-84 0	FY-85 400	FY-86 2800	FY-87 400	FY-88 0	FY-89 0	FY-90 0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Steam Plant Wastewater Treatment Facility

PLANT: Y-12 EPMP PROJECT NO: 1.4.10 CATEGORY: Conventional Waste TEC($x1000): 4600

FUNDING YEARS: 85 FUNDING TYPE: LI FUNDING STATUS: FUNDED FUNDING SOURCE: GB

ENG. PROJECT NO: 84-D-124 SCH. COMP. DATE: 3/88 LAST UPDATE: 4/02/85 CONTACT: S. P. DuMont

OMB-A-106 NO: OR-Y-12012 ENVIR. MEDIA: Water STATUTORY REQ: CWA

PROGRAM CATEGORY: Water Pollution Control

SCOPE: Water treatment facility for Steam Plant Coalpile runoff, blowdown, and demineralizer generation wastes.

JUSTIFICATION: Approximately 3 million gal per year of acidic runoff results from rainfall contacting and percolating through the Y-12 Plant coal yard, located next to the Steam Plant. The runoff, containing suspended coal fines, a pH range of 2 to 3, and metal contaminants (Fe, Mn, As, and others) is subsequently discharged to the EFPC. About 20 million gal per year of ion-exchange regeneration acid having a pH range of 1.5 to 4.5 and 20 million gal per year of boiler blow-down typically having a pH of about 11 and elevated temperature are also released to the Creek. The Steam Plant wastewater Treatment Facility provides for the treatment of these acid and caustic discharges.

FACILITIES: Flow equalization basin and treatment equipment necessary for neutralization, sedimentation and NPDES discharge monitoring.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	4600	0	4000	600	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Trash and Scrap Monitoring Facility

PLANT: Y-12 EPMP PROJECT NO: 1.4.11 CATEGORY: Conventional Waste TEC($x1000): 940

FUNDING YEARS: 84,86 FUNDING TYPE: GPP FUNDING STATUS: FUNDED FUNDING SOURCE: GB

ENG. PROJECT NO: SCH. COMP. DATE: 86 LAST UPDATE: 3/01/85 CONTACT: P. A. Tabor

OMB-A-106 NO: OR-Y-12025 ENVIR. MEDIA: Sol Waste STATUTORY REQ: DOE

PROGRAM CATEGORY: Solid Waste Management

SCOPE: Radiation detectors to be used in monitoring dumpsters of sanitary waste prior to the waste's being disposed in Sanitary Landfill #2. The second facility will monitor scrap metal.

JUSTIFICATION: Because of the high potential for inadvertently mixing uranium-contaminated materials in with sanitary wastes, a Trash and Scrap Monitoring Facility is to be built. This project will provide radiation detectors to ensure that no radioactive wastes are placed in the Sanitary Landfill #2. The second facility is required to assure that contaminated scrap metals are not sold to the public.

FACILITIES:

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	940	140	0	800	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Biological Monitoring/Treatment Project

PLANT: Y-12 EPMP PROJECT NO: 1.5.1 CATEGORY: Monitoring TEC($x1000): 400

FUNDING YEARS: 85 FUNDING TYPE: EXP FUNDING STATUS: FUNDED FUNDING SOURCE: GB

ENG. PROJECT NO: SCH. COMP. DATE: 85 LAST UPDATE: 3/01/85 CONTACT:

ONP-A-106 NO: ENVIR. MEDIA: STATUTORY REQ: CWA

PROGRAM CATEGORY: Monitoring

SCOPE: Contractor (Oak Ridge Research Institute) will develop bacteriological methods for monitoring

JUSTIFICATION: To support biological monitoring programs as required by the Environmental Protection Agency; and to develop technology in monitoring and treating pollutants as needed in DOE's overall waste management program.

FACILITIES:

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	400	0	400	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Refurbish and Expand Plant Laboratory Facilities

PLANT: Y-12 **EPMP PROJECT NO:** 1.5.2 **CATEGORY:** Monitoring **TEC ($x1000):** 2000

FUNDING YEARS: 84-85 **FUNDING TYPE:** LI **FUNDING STATUS:** FUNDED **FUNDING SOURCE:** GB

ENG. PROJECT NO: 84-D-124 **SCH. COMP. DATE:** 85 **LAST UPDATE:** 4/02/85 **CONTACT:** S. P. DuMont

OMB-A-106 NO: OR-Y-12022 **ENVIR. MEDIA:** **STATUTORY REQ:** CWA

PROGRAM CATEGORY: Monitoring

SCOPE: Expansion of plant lab to allow analysis resulting from major increase in workload due to increased emphasis on Environmental Protection. This is subproject #15 of the Environmental Improvements Line Item.

JUSTIFICATION: The tremendous increase in monitoring requirements due to the new NPDES permit has led to a large increase in the workload for the Y-12 Plant laboratory. Although much work has been placed w/outside laboratories, the demand will likely increase.

FACILITIES: This project will refurbish existing laboratory spaces and establish approximately 8000 square feet of additional space in an existing building to support environmental laboratory activities.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	2000	400	300	900	800	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: NPDES Monitoring/Sampling Stations

PLANT: Y-12 **EPMP PROJECT NO:** 1.5.3 **CATEGORY:** Monitoring **TEC($x1000):** 2000

FUNDING YEARS: 85 **FUNDING TYPE:** LI **FUNDING STATUS:** FUNDED **FUNDING SOURCE:** GB

ENG. PROJECT NO: 84-D-124 **SCH. COMP. DATE:** 87 **LAST UPDATE:** 3/29/85 **CONTACT:** S. P. DuMont

OMB-A-106 NO: OR-Y-12047 **ENVIR. MEDIA:** Water **STATUTORY REQ:** CWA

PROGRAM CATEGORY: Water Pollution Control

SCOPE: Install water quality and flow monitoring stations with sample collection capabilities at a number of Y-12 Plant storm sewer locations and in East Fork Poplar Creek.

JUSTIFICATION: Additional NPDES Monitoring/Sampling Stations will be required because of expected changes in the new Y-12 Plant NPDES permit, to be issued in FY 1985. This project will be an integral part of the Y-12 Plant's Best Management Practices (BMP) plan that will be mandated by the NPDES permit.

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FACILITIES: TBD

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	2000	0	1600	400	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS: (GI LI Project)

PROJECT: Biological Monitoring/Treatment Project

PLANT: Y-12 EPMP PROJECT NO: 1.5.4 CATEGORY: Monitoring TEC($x1000): 1200

FUNDING YEARS: 86 FUNDING TYPE: EXP FUNDING STATUS: UNFUNDED FUNDING SOURCE: GB

ENG. PROJECT NO: SCH. COMP. DATE: 88 LAST UPDATE: 4/03/85 CONTACT:

OMB-A-106 NO: ENVIR. MEDIA: STATUTORY REQ: CWA

PROGRAM CATEGORY: Monitoring

SCOPE: Contractor (Oak Ridge Research Institute) will develop bacteriological methods for monitoring

JUSTIFICATION: To support biological monitoring programs as required by the Environmental Protection Agency; and to develop technology in monitoring and treating pollutants as needed in DOE's overall waste management program.

FACILITIES:

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	1200	0	0	400	400	400	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Meteorological Towers

PLANT: Y-12 EPMP PROJECT NO: 1.5.5 CATEGORY: Monitoring TEC($x1000): 250

FUNDING YEARS: 84 FUNDING TYPE: GPP FUNDING STATUS: FUNDED FUNDING SOURCE: GB

ENG. PROJECT NO: SCH. COMP. DATE: 86 LAST UPDATE: 3/29/85 CONTACT:

OMB-A-106 NO: OR-Y-12016 ENVIR. MEDIA: Air STATUTORY REQ: CAA

PROGRAM CATEGORY: Air Pollution Control

SCOPE: Prepare site and relocate towers from CRBRP to Y-12 and install electronics for collection of meteorological data at various elevations.

JUSTIFICATION: To enhance Y-12's ability to manage its air emissions, two Meteorological Towers are to be installed on the Y-12 site. Site-specific meteorological data is required for computer modeling studies and to predict the effects of various air emissions. This information is essential if a PSD (Prevention of Significant Deterioration) Review is required by the State for any air pollutant.

FACILITIES: 100 meter and 60 meter towers with automated data collection and solid state telemetry data transfer to computer.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	250	250	0	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Sampling Systems

PLANT: Y-12 EPMP_PROJECT_NO: 1.5.6 CATEGORY: Monitoring TEC($x1000): 3500

FUNDING_YEARS: 87 FUNDING_TYPE: LI FUNDING_STATUS: UNFUNDED FUNDING_SOURCE: GB

ENG._PROJECT_NO: SCH._COMP._DATE: 90 LAST_UPDATE: 3/29/85 CONTACT:

ONE-A-106_NO: OR-Y-12052 ENVIR._MEDIA: Air STATUTORY_REQ: CAA

PROGRAM_CATEGORY: Air Pollution Control

SCOPE: Provides for isokinetic sampling of radionuclide emissions and automated particulate and gaseous emissions sampling of non-radioactive process emissions.

JUSTIFICATION: Provide means to ascertain that the radionuclide exhaust system improvements made to the Y-12 Plant are performing properly and demonstrate compliance with EPA radionuclide regulations.

FACILITIES:

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	3500	0	0	0	0	500	1900	1100

PERMITS:
PROJECT_STATUS:
REMARKS: HS&E Improvements LI

PROJECT: Support Systems

PLANT: Y-12 EPMP_PROJECT_NO: 1.5.7 CATEGORY: Monitoring TEC_$x1000_YR: 1000

FUNDING_YEARS: 87 FUNDING_TYPE: LI FUNDING_STATUS: UNFUNDED FUNDING_SOURCE: GB

ENG._PROJECT_NO: SCH._COMP._DATE: 90 LAST_UPDATE: 3/29/85 CONTACT:

OMB-A-106_NO: OR-Y-12052 ENVIR._MEDIA: Air STATUTORY_REQ: CAA

PROGRAM_CATEGORY: Air Pollution Control

SCOPE: Provides a mobile ambient air monitoring trailer for Y-12 Plant perimeter.

JUSTIFICATION: Improve monitoring ability of Y-12 Plant emissions and possess capability to monitor the mass transfer of pollutants is the air across Y-12 Plant boudries.

FACILITIES:

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	1000	0	0	0	0	300	500	200

PERMITS:
PROJECT_STATUS:
REMARKS: HSCE improvements LI

PROJECT: Closeout of S-3 Ponds

PLANT: Y-12 EPMP_PROJECT_NO: 1.6.1 CATEGORY: Remedial Action & Decommissioning TEC($x1000): 4200

FUNDING_YEARS: 84,85 FUNDING_TYPE: EXP FUNDING_STATUS: FUNDED FUNDING_SOURCE: GB

ENG._PROJECT_NO: NA SCH._COMP._DATE: 85 LAST_UPDATE: 3/01/85 CONTACT: S. P. DuMont

CMB-A-106_NO: OR-Y-12044 ENVIR._MEDIA: Water STATUTORY_REQ: RCRA

PROGRAM_CATEGORY: Remedial Action

SCOPE: Treatment and disposal of liquids in S-3 ponds. Further actions will be dependent upon the recommendations of the Bear Creek Valley Remedial Action Environmental Impact Statement

JUSTIFICATION: S-3 Ponds are a source of contamination to Bear Creek and UEFPC and must be closed out to meet the Tennessee Water Quality Act.

FACILITIES:

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	4200	1300	2900	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS: WTO

PROJECT: Bear Creek Watershed EIS/Y-12

PLANT: Y-12 EPMP PROJECT NO: 1.6.2 CATEGORY: Remedial Action & Decommissioning TEC($x1000): 1500

FUNDING YEARS: 85-86 FUNDING TYPE: EXP FUNDING STATUS: UNFUNDED FUNDING SOURCE: GB

ENG. PROJECT NO: SCH. COMP. DATE: 86 LAST UPDATE: 3/01/85 CONTACT:

OMB-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: NEPA

PROGRAM CATEGORY: Remedial Action

SCOPE: Prepare Environmental Impact Statement for Bear Creek Watershed Remedial Actions.

JUSTIFICATION: The DOE has determined that an EIS is required to meet NEPA regulations.

FACILITIES:

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	1500	0	500	1000	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Dear Creek Watershed Remedial Action Planning/Studies/Y-12

PLANT: Y-12 EPMP PROJECT NO: 1.6.3 CATEGORY: Remedial Action & Decommissioning TEC($x1000): 9800

FUNDING YEARS: 84-87 FUNDING TYPE: EXP FUNDING STATUS: FUNDED FUNDING SOURCE: GD

ENG. PROJECT NO: SCH. COMP. DATE: 87 LAST UPDATE: 3/01/85 CONTACT:

OMB-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: RCRA

PROGRAM CATEGORY: Remedial Action

SCOPE: Provides for evaluation of sites which will lead to design and construction of facilities to control sources of pollution, intercept contaminants moving through ground and surface waters or at points of discharge to streams, and provide treatment systems for contaminated waters or solids. Includes installation of wells and groundwater monitoring surface sampling, inventories, evaluation of waste sites, engineering studies, biological evaluations, geologic studies.

JUSTIFICATION: Requirement of the TDHE Commissioner's Complaint and Order, Draft Order DOE 5480, and the CERCLA (if enforced by EPA on a DOE site).

FACILITIES:

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	9800	3000	3500	2000	1300	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Special Studies and Short-Term Remedial Actions in City of Oak Ridge/Y-12

PLANT: Y-12 EPMP PROJECT NO: 1.6.6 CATEGORY: Remedial Action & Decommissioning TEC($x1000): 1300

FUNDING YEARS: 84-87 FUNDING TYPE: EXP FUNDING STATUS: UNFUNDED FUNDING SOURCE: GB

ENG. PROJECT NO: SCH. COMP. DATE: 88 LAST UPDATE: 3/01/85 CONTACT:

OMB-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: MISC

PROGRAM CATEGORY. Remedial Action

SCOPE: Special studies including sampling of soils and vegetables from Oak Ridge homes. Cleanup activities include removal and disposition of contaminated soils from various locations around the City in areas that pose a special hazard to human health and in advance of long-term remedial studies and actions. Long-term actions are identified as separate projects.

JUSTIFICATION: Areas of the City of Oak Ridge that have been contamianted as a result of Y-12's discharges to East Fork Poplar Creek and are identified as special hazard to human health will have to be evaluated for clean up immediately by DOE.

FACILITIES:

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	1300	80	150	500	550	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: East Fork Poplar Creek Watershed and Bethel Valley Remedial Action Studies - Y-12 Plant Area/Y-12

PLANT: Y-12 EPMP PROJECT NO: 1.6.8 CATEGORY: Remedial Action & Decommissioning TEC($x1000): 2400

FUNDING YEARS: 87 FUNDING TYPE: EXP FUNDING STATUS: UNFUNDED FUNDING SOURCE: GB

ENG. PROJECT NO: SCH. COMP. DATE: 88 LAST UPDATE: 3/01/85 CONTACT:

OMB-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: CERCLA

PROGRAM CATEGORY: Remedial Action

SCOPE: Studies must be performed on all of Y-12's inactive waste facilities to determine what, if any, CERCLA remedial actions are required. Provides for evaluation of sites which lead to possible construction of facilities to control sources of pollution from CERCLA sites, interception of contaminants moving through ground and surface waters or at points of discharge to streams, provide treatment systems for contaminated water or solids, and possible removal of wastes to new disposal sites.

JUSTIFICATION: DOE Order 5480 requires that such remedial evaluations be performed to establish remedial action requirements.

FACILITIES:

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	2400	0	0	0	2400	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: East Fork Poplar Creek Watershed and Bethel Valley EIS-Y-12 Plant Area/Y12

PLANT: Y-12 EPMP PROJECT NO: 1.6.9 CATEGORY: Remedial Action & Decommissioning TEC ($x1000): 1750

FUNDING YEARS: 87-88 FUNDING TYPE: EXP FUNDING STATUS: UNFUNDED FUNDING SOURCE: GB

ENG. PROJECT NO: SCH. COMP. DATE: 89 LAST UPDATE: 3/01/85 CONTACT:

OMB-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: NEPA

PROGRAM CATEGORY: Remedial Action

SCOPE: Prepare an Environmental Impact Statement for the East Fork Poplar Creek and Bethel Valley Remedial Actions - inside the Y-12 Plant area.

JUSTIFICATION: Remedial actions which affect human environment may require preparation of an EIS to meet NEPA requirements.

FACILITIES:

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	1750	0	0	0	750	1000	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: East Fork Poplar Creek Watershed and Bethel Valley Remedial Actions - Y-12 Plant Area/Y-12

PLANT: Y-12 EPMP PROJECT NO: 1.6.10 CATEGORY: Remedial Action & Decommissioning TEC($x1000): 0

FUNDING YEARS: TBD FUNDING TYPE: TBD FUNDING STATUS: UNFUNDED FUNDING SOURCE: GB

ENG. PROJECT NO: SCH. COMP. DATE: TBD LAST UPDATE: 3/01/85 CONTACT:

CMB-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: CERCLA

PROGRAM CATEGORY: Remedial Action

SCOPE: Specific plans are still to be determined

JUSTIFICATION: Draft Order DOE 5480 requires such remedial actions.

FACILITIES:

SCHEDULE: TOTAL NO FUNDING INFORMATION WAS FOUND

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: East Fork Poplar Creek Watershed Remedial Action Studies Exclusive of the Y-12 Plant Area/Y-12

PLANT: Y-12 EPMP PROJECT NO: 1.6.12 CATEGORY: Remedial Action & Decommissioning TEC($x1000): 4000

FUNDING YEARS: 84 FUNDING TYPE: EXP FUNDING STATUS: FUNDED FUNDING SOURCE: GB

ENG. PROJECT NO: SCH. COMP. DATE: 87 LAST UPDATE: 3/01/85 CONTACT: T. R. Butz

OMB-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: CERCLA

PROGRAM CATEGORY Remedial Action

SCOPE: Provides for technical evaluation of the off-site impact of Y-12 Plant operations by various agencies and special study groups. Includes, but not limited to evaluation of ground and surface water contamination, biological studies, soils and vegetation sampling, transport studies, risk assessment.

JUSTIFICATION: The Memorandum of Unde.standing between DOE, EPA, and TDHE directed formation of an Interagency Task Force to evaluate the off-site impact of Y-12 Plant operations and to formulate a remedial plan if it is determined by EPA, DOE, and TDHE that one is necessary.

FACILITIES:

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	4000	1100	1700	1200	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: East Fork Poplar Creek Watershed EIS Exclusive of Y-12 Plant Area/Y-12

PLANT: Y-12 EPMP PROJECT NO: 1.6.13 CATEGORY: Remedial Action & Decommissioning TEC($x1000): 1500

FUNDING YEARS: 86-87 FUNDING TYPE: EXP FUNDING STATUS: UNFUNDED FUNDING SOURCE: GB

ENG. PROJECT NO: SCH. COMP. DATE: 88 LAST UPDATE: 3/01/85 CONTACT:

OMB-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: NEPA

PROGRAM CATEGORY: Remedial Action

SCOPE: Prepare an environmental Impact Statement for the East Fork Poplar Creek Watershed Remedial actions.

JUSTIFICATION: The DOE has determined that an EIS is required to meet the NEPA regulations.

FACILITIES:

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	1500	0	0	750	750	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Bear Creek Watershed Remedial Actions/Y-12

PLANT: Y-12 EPMP PROJECT NO: 1.6.15 CATEGORY: Remedial Action & Decommissioning TEC($x1000): 12000

FUNDING YEARS: 85 FUNDING TYPE: LI FUNDING STATUS: FUNDED FUNDING SOURCE: GB

ENG. PROJECT NO: 84-D-124 SCH. COMP. DATE: 87 LAST UPDATE: 3/01/85 CONTACT: S. P. DuMont

OMB-A-106 NO: OR-Y-12046 ENVIR. MEDIA: Water STATUTORY REQ: RCRA

PROGRAM CATEGORY: Remedial Action

SCOPE: Specific plans are still to be determined, but will provide for design and construction of facilities to control sources of pollution, intercept contaminants moving through ground and surface waters or at points of discharge to streams, and provide treatment systems for contaminated water or solids.

JUSTIFICATION: Tennessee Water Quality Act, CERCLA, and RCRA all require remedial actions for the Bear Creek Burial Grounds to reduce ground and surface water contaminants from past disposal practices. The TDHE Commissioner's Complaint and Order direct Y-12 to perform remedial action on the Bear Creek Watershed area. Requirement of Draft DOE Order 5480.

FACILITIES: TBD

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-20
FUNDING $x1000	12000	0	0	4000	4700	3200	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Mercury Source Identification and Remedial Action Planning

PLANT: Y-12 EFMP PROJECT NO: 1.6.16 CATEGORY: Remedial Action & Decommissioning TEC ($x1000): 900

FUNDING YEARS: 85-88 FUNDING TYPE: EXP FUNDING STATUS: FUNDED FUNDING SOURCE: GD

ENG. PROJECT NO: SCH. COMP. DATE: 85-90 LAST UPDATE: 3/01/85 CONTACT: G. E. Kamp

OMB-A-106 NO: OR-Y-12031 ENVIR. MEDIA: Water STATUTORY REQ: CWA

PROGRAM CATEGORY: Remedial Action

SCOPE: Investigations to identify existing sources of mercury in the Y-12 Plant that are contaminating East Fork Poplar Creek. Planning for construction project to mitigate these sources.

JUSTIFICATION: To meet Tennessee Stream Guidelines for mercury in EFPC. Non-point sources of mercury contaminants may not be able to be cleaned up.

FACILITIES:

SCHEDULE: FUNDING $x1000	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
	900	200	300	200	200	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Reduction of Mercury in Plant Effluents (Air and Water Pollution Control Line Item)

PLANT: Y-12 EPMP PROJECT NO: 1.6.18 CATEGORY: Remedial Action & Decommissioning TEC($X1000): 15000

FUNDING YEARS: 85 FUNDING TYPE: LI FUNDING STATUS: FUNDED FUNDING SOURCE: GB

ENG. PROJECT NO: 85-D-121 SCH. COMP. DATE: 12/88 LAST UPDATE: 3/01/85 CONTACT: S. P. DuMont

OMB-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: CWA

PROGRAM CATEGORY: Remedial Action

SCOPE: This project provides for the reduction of mercury in Y-12 liquid effluents through segregation and isolation of known mercury sources and the collection and treatment of mercury-contaminated wastewaters discharging from outfalls or natural drainage into EFPC.

JUSTIFICATION: To meet Tennessee Stream Guidelines for mercury in EFPC. Non-point sources of mercury contaminants may not be able to be cleaned up. East Fork Poplar Creek currently contains mercury in excess of existing Tennessee Water Quality limits due to discharges from Y-12.

FACILITIES:

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	15000	0	4000	8000	3000	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Studies on Decommissioning of Lithium Isotope Facilities/Y-12

PLANT: Y-12 EPMP_PROJECT_NO: 1.6.19 CATEGORY: Remedial Action & Decommissioning REC($x1000): 6500

FUNDING_YEARS: 84-87 FUNDING_TYPE: EXP FUNDING_STATUS: UNFUNDED FUNDING_SOURCE: GD

ENG._PROJECT_NO: SCH._COMP._DATE: 87 LAST_UPDATE: 3/01/85 CONTACT: S. P. Dumont

OMB-A-106_NO: ENVIR._MEDIA: STATUTORY_REQ: NEPA

PROGRAM_CATEGORY: Remedial Action

SCOPE: Dismantling

JUSTIFICATION: Residual mercury contamination remains in the building structure and old process equipment must be decontaminated to remove potential for major mercury releases to the environment (as with a fire).

FACILITIES: Upgraded ventilation for environmental control

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING ($x1000	6600	1500	1100	2000	2000	0	0	0

PERMITS:
PROJECT_STATUS:
REMARKS:

PROJECT: Mercury Roaster/Y-12

PLANT: Y-12 EPMP_PROJECT_NO: 1.6.21 CATEGORY: Remedial Action & Decommissioning TEC(1000): 0

FUNDING_YEARS: TBD FUNDING_TYPE: LI FUNDING_STATUS: UNFUNDED FUNDING_SOURCE: GB

ENG._PROJECT_NO: SCH._COMP._DATE: TBD LAST_UPDATE: 3/01/85 CONTACT:

CNB-A-106_NO: ENVIR._MEDIA: STATUTORY_REQ: NEPA

PROGRAM_CATEGORY: Solid Waste Management

SCOPE: This project provides for a large oven, exhaust system, and emission control to affect the removal and collection of mercury from process equipment, demolition material, soils and sludges.

JUSTIFICATION: A facility is required to remove mercury contamination from equipment, soils, and other debris so that they can be disposed of as non-hazardous waste. Classification considerations and uranium contamination preclude full use of commercial facilities.

FACILITIES:

SCHEDULE: TOTAL NO FUNDING INFORMATION WAS FOUND

PERMITS:
PROJECT_STATUS:
REMARKS:

PROJECT: Decommissioning of Lithium Isotope Facilities/Y-12

PLANT: Y-12 EPMP PROJECT NO: 1.6.22 CATEGORY: Remedial Action & Decommissioning TEC1$x10001: 0

FUNDING YEARS: TBD FUNDING TYPE: EXP FUNDING STATUS: UNFUNDED FUNDING SOURCE: GD

ENG. PROJECT NO: SCH. COMP. DATE: TBD LAST UPDATE: 3/01/85 CONTACT:

OMB-A-106 NO: ENVIR. MEDIA: STATUTORY REQ: NEPA

PROGRAM CATEGORY: Remedial Action

SCOPE: Specific plans are still to be developed on dismantling

JUSTIFICATION: Residual mercury contamination remains in the building structure and old process equipment. Must be decontaminated to remove potential for major mercury releases to the environment (as with a fire).

FACILITIES:

SCHEDULE: TOTAL NO FUNDING INFORMATION WAS FOUND

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: East Fork Poplar Creek Watershed Remedial Actions Exclusive of the Y-12 Plant Area/Y-12

PLANT: Y-12 EPMP_PROJECT_NO: 1.6.23 CATEGORY: Remedial Action & Decommissioning TEC($K1000): 0

FUNDING_YEARS: TBD FUNDING_TYPE: LI FUNDING_STATUS: UNFUNDED FUNDING_SOURCE: GB

ENG._PROJECT_NO: SCH._COMP._DATE: TBD LAST_UPDATE: 3/01/85 CONTACT:

OMB-A-106_NO: ENVIR._MEDIA: STATUTORY_REQ: CERCLA

PROGRAM_CATEGORY: Remedial Action

SCOPE: Actions that will be required are yet to be determined

JUSTIFICATION: The TDHE Commissioner's Complaint and Order requires that plans be developed for the East Fork Poplar Creek's watershed area

FACILITIES:

SCHEDULE: TOTAL NO FUNDING INFORMATION WAS FOUND

PERMITS:
PROJECT_STATUS:
REMARKS:

PROJECT: Upgrade PWTP Evaporator System

PLANT: ORNL FPMP_PROJECT_NO: 2.1.2 CATEGORY: Radioactive Waste TEC($x1000): 430

FUNDING_YEARS: 85 FUNDING_TYPE: GPP FUNDING_STATUS: FUNDED FUNDING_SOURCE: AR

ENG._PROJECT_NO: SCH._COMP._DATE: 12/87 LAST_UPDATE: 3/19/85 CONTACT: J. Berry

OMB-A-106_NO: ENVIR._MEDIA: Water STATUTORY_REQ: DOE

PROGRAM_CATEGORY: Water Pollution Control

SCOPE: Equipment to lower nitrate concentration in the PWTP effluent to an acceptable level and increase nitric acid recovery at the PWTP Evaporator System.

JUSTIFICATION: Significant amount of nitrates in excess of State regulations are released into White Oak Creek from PWTP operations. In addition

FACILITIES: Larger capacity evaporator

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	430	0	430	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Process Waste Treatment Plant Site Improvements

PLANT: ORNL FPMP PROJECT NO: 2.1.3 CATEGORY: Radioactive Waste TEC($x1000): 60

FUNDING YEARS: 84 FUNDING TYPE: GPP FUNDING STATUS: FUNDED FUNDING SOURCE: AR

ENG. PROJECT NO: SCH. COMP. DATE: 86 LAST UPDATE: 2/21/85 CONTACT: A. Rivera

OMB-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: DOE

PROGRAM CATEGORY:

SCOPE: Protect the storm drain system from overflow from the Process Waste Treatment Plant caustic storage tanks.

JUSTIFICATION: Overflow or leakage from the PWTF caustic storage tanks will drain into the storm drains, which discharge to White Oak Creek without treatment. This would result in a release of radioactivity to WOC.

FACILITIES: Dyke and catch basin to contain an accidental spill or leak from the PWTP caustic storage tanks.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	60	60	0	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Central LLW Collection System

PLANT: ORNL FPMP PROJECT NO: 2.1.4 CATEGORY: Radioactive Waste TEC($x1000): 900

FUNDING YEARS: 83 FUNDING TYPE: GPP FUNDING STATUS: FUNDED FUNDING SOURCE: AR

ENG. PROJECT NO: SCH. COMP. DATE: 85 LAST UPDATE: 2/14/85 CONTACT: A. Rivera

OMB-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: DOE

PROGRAM CATEGORY:

SCOPE: Upgrade LLW drain system between Building 3019 and the evaporator storage tanks.

JUSTIFICATION: This portion of the LLW system has only single containment and does not comply with the requirements of ORNL radiation protection procedures and result in the potential for a release of contamination.

FACILITIES: New double-contained stainless steel LLW lines and associated valving and monitoring systems.

SCHEDULE: FUNDING $x1000	TOTAL 900	FY-84 0	FY-85 0	FY-86 0	FY-87 0	FY-88 0	FY-89 0	FY-90 0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: LLW Drain Line, Building 3517

PLANT: ORNL FPMP PROJECT NO: 2.1.5 CATEGORY: Radioactive Waste TEC($x1000): 400

FUNDING YEARS: 84 FUNDING TYPE: GPP FUNDING STATUS: FUNDED FUNDING SOURCE: AR

ENG. PROJECT NO: SCH. COMP. DATE: 86 LAST UPDATE: 2/14/85 CONTACT: A. Rivera

OMB-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: DOE

PROGRAM CATEGORY:

SCOPE: Install approximately 450 ft of new doubly contained stainless steel line to replace LLW line between FPDL and the existing doubly contained LLW collection header. Both cathodic protection and a leak detection system will be provided. A new valve pit will be installed to provide necessary valving and tie-ins.

JUSTIFICATION: This portion of the ILW systm has only single containment, and is therefore not in compliance with the requirements of the ORNL Health Physics Manual (Procedure 1.3: "Radiation Protection in the Design of Experiments and Plant Operations"). Due to the advanced age of the present singly contained ILW system components, an increasing potential for release of contaminants to the environment exists. Failure to make these and future improvements to the ILW system would risk continued increasing potential for the release of contamination which could adversely impact both on-site health and safety and the continued operation of hot cell operations in the FPDL.

FACILITIES: An LLW drain line which is in complete compliance with requirements.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	400	400	0	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Central Waste Disposal Facility

PLANT: ORNL EPMP PROJECT NO: 2.1.6 CATEGORY: Radioactive Waste TEC($x1000): 7500

FUNDING YEARS: 86 FUNDING TYPE: LI FUNDING STATUS: FUNDED FUNDING SOURCE: AR

ENG. PROJECT NO: SCH. COMP. DATE: 87 LAST UPDATE: 3/21/85 CONTACT: L. D. Bates

OMB-A-106 NO: ENVIR. MEDIA: Solid Waste STATUTORY REQ: DOE

PROGRAM CATEGORY: Solid Waste Management

SCOPE: Establish a shallow land burial facility for LLW generated by the 3 facilities located on the Oak Ridge Peservation.

JUSTIFICATION: The shallow land burial site used in the past by Y-12 and ORGDP was found unsuitable for continued use by the State of Tennessee Department of Health and Environment. Continued accomplishment of the important missions of these sites requires a means of LLW disposal. The SWSA 6 facility at ORNL has space for about 5 more years of operation at current ORNL generation rates. Use of SWSA 6 by all 3 Oak Ridge plants would deplete SWSA 6 very quickly. A new site for shallow land burial is therefore required by mid-FY 1985.

FACILITIES: A LLW disposal facility for use by ORNL. Y-12, and ORGDP which will accommodate the needs of these sites for about 40 years.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	7500	0	0	7500	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Shielded TRU Waste Storage

PLANT: ORNL EPMP PROJECT NO: 2.1.8 CATEGORY: Radioactive Waste TEC($x1000): 350

FUNDING YEARS: 86 FUNDING TYPE: GPP FUNDING STATUS: UNFUNDED FUNDING SOURCE: AR

ENG. PROJECT NO: SCH. COMP. DATE: 87 LAST UPDATE: 3/19/85 CONTACT:

OMB-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: DOE

PROGRAM CATEGORY: Water Pollution Control

SCOPE: Construct in SWSA 5 an array of approximately 20 stainless steel lined vertical holes, 15 ft deep, and ranging in diameter from 8 to 30 in. Each hole will be sealed with a 3 ft thick stepped concrete plug

JUSTIFICATION: This TRU waste storage will be used for stainless steel drums and capsules containing waste contaminated with transuranics with high levels of beta and gamma radiation. Remote handling is required for movement of these containers into and out of isolated storage. Based on cur ent waste generation rates, additional retrievable shielded storage is required to avoid disruption on ongoing operations. Eventually the TRU waste will be shipped to a central repository, but it will be at least 5 years until the repository is ready to accept waste.

FACILITIES: Increased storage capacity for TRU contaminated waste with high beta/gamma background.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	350	0	0	350	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT:

PLANT: ORNL EPMP PROJECT NO: 8.8.8 CATEGORY: Radioactive Waste TEC($x1000): 500

FUNDING YEARS: 85 FUNDING TYPE: EXP FUNDING STATUS: FUNDED FUNDING SOURCE: AT

ENG. PROJECT NO: SCH. COMP. DATE: LAST UPDATE: 4/01/85 CONTACT:

OMB-A-106 NO: ENVIR. MEDIA: STATUTORY REQ: CAA

PROGRAM CATEGORY: Air Pollution Control

SCOPE:

JUSTIFICATION:

FACILITIES:

SCHEDULE: TOTAL NO FUNDING INFORMATION WAS FOUND

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Replace LLW System Phase I

PLANT: ORNL EPMP PROJECT NO: 2.1.10 CATEGORY: Radioactive Waste TEC($x1000): 40000

FUNDING YEARS: 88 FUNDING TYPE: LI FUNDING STATUS: UNFUNDED FUNDING SOURCE: AR

ENG. PROJECT NO: SCHE. COMP. DATE: 91 LAST UPDATE: 3/29/85 CONTACT:

OMB-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: DOE

PROGRAM CATEGORY: Water Pollution Control

SCOPE: The ILW waste collection and transfer system consists of 23 collection tanks with a total capacity of about 320 cubic meters (operating capacity is 218 cubic meters) and about 3 miles of stainless steel underground piping. Both collection tanks and most of the piping are singly contained and not in compliance with new regulations. This project will include new stainless steel tanks and double contained piping.

JUSTIFICATION: The existing system has been in service for over 27 years and does not meet existing requirements for containment of radioactive material. The continuous demand for this system as well as the increasing potential for leakage (and subsequent environmental problems) dictate early replacement.

FACILITIES: An LLW collection and transfer system which is in compliance with requirements. Each tank and some pieces of auxiliary equipment will be enclosed in a concrete vault for weather protection, radiation shielding, and containment of potential leaks. A ventilation system with HEPA filters will service each tank. Where appropriate, charcoal absorbers will be included.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	40000	0	0	0	0	40000	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Upgrade Process Waste Collection System

PLANT: ORNL EPMP PROJECT NO: 2.1.11 CATEGORY: Radioactive Waste TEC($x1000): 900

FUNDING YEARS: 86 FUNDING TYPE: GPP FUNDING STATUS: UNFUNDED FUNDING SOURCE: AR

ENG. PROJECT NO: SCH. COMP. DATE: 88 LAST UPDATE: 3/19/85 CONTACT: A. Rivera

CMP-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: CWA

PROGRAM CATEGORY: Water Pollution Control

SCOPE: Installation of new doubly contained stainless steel LLW lines between facilities and the existing, doubly contained LLW collection header. Both cathodic protection and a leak detection system will be provided. One or more new valve pits will be installed in the Isotope area to provide the necessary valving and tie-ins.

JUSTIFICATION: See item (4) above.

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FACILITIES: An LLW drain line which is in compliance with requirements.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	900	0	0	900	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Prefilter and Drain System Building 3517

PLANT: ORNL FPMP PROJECT NO: 2.1.12 CATEGORY: Radioactive Waste TEC($x1000): 340

FUNDING YEARS: 85 FUNDING TYPE: GPP FUNDING STATUS: FUNDED FUNDING SOURCE: AR

ENG. PROJECT NO: SCH. COMP. DATE: 12/87 LAST UPDATE: 3/19/85 CONTACT:

CNB-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: DOE

PROGRAM CATEGORY: Water Pollution Control

SCOPE: This project will provide wash-down prefilter capability and a drainage collection system for the Bldg. 3517 cell ventilation system.

JUSTIFICATION: Groundwater in-leakage into the cell ventilation ductwork at Bldg. 3517 is currently collected and discharged from a below grade filter pit. This filter pit has been in service since 1958 and has experienced significant structural degradation from past operations. Adequate containment of this slightly contaminated water cannot be assured over the long term due to this degradation

FACILITIES: Stainless steel neva cloy filters and double contained stainless steel LLW lines.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	340	0	340	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Volume Reduction Modifications to PWTP

PLANT: ORNL EPMP PROJECT NO: 2.1.14 CATEGORY: Radioactive Waste TEC($x1000): 400

FUNDING YEARS: 85 FUNDING TYPE: GPP FUNDING STATUS: UNFUNDED FUNDING SOURCE: AR

ENG. PROJECT NO: SCH. COMP. DATE: 87 LAST UPDATE: 3/19/85 CONTACT: J. Berry

CNB-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: CWA

PROGRAM CATEGORY: Water Pollution Control

SCOPE: To reduce hydraulic loading on the process waste treatment plant due to nonradioactive sources of wastewater.

JUSTIFICATION: Needed to allow efficient treatment of radioactive wastewater by the process waste treatment plant (Bldg. 3544).

FACILITIES: Isolate nonradioactive lines.

SCHEDULE: FUNDING $x1000	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
	400	0	400	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Replace ILW System Phase II

PLANT: ORNL FPMP_PROJECT_NO: 2.1.17 CATEGORY: Radioactive Waste TPC($x1000): 8000

FUNDING_YEARS: 89 FUNDING_TYPE: LI FUNDING_STATUS: UNFUNDED FUNDING_SOURCE: AR

ENG._PROJECT_NO: SCH._COMP._DATE: 92 LAST_UPDATE: 2/14/85 CONTACT:

OMB-A-106_NO: ENVIR._MEDIA: Water STATUTORY_REQ: DOE

PROGRAM_CATEGORY:

SCOPE: The ILW waste collection and transfer system consists of 23 collection tanks with a total capacity of about 320 cubic meters (operating capacity is 218 cubic meters) and about 3 miles of stainless steel underground piping. Both collection tanks and most of the piping are singly contained and not in compliance with new regulations. This project will include new stainless steel tanks and double contained piping.

JUSTIFICATION: The existing system has been in service for over 27 years and does not meet existing requirements for containment of radioactive material. The continuous demand for this system as well as the increasing potential for leakage (and subsequent environmental problems) dictate early replacement.

FACILITIES: An ILW collection and transfer system which is in compliance with requirements. Each tank and some pieces of auxiliary equipment will be enclosed in a concrete vault for weather protection

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	8000	0	0	0	0	0	8000	0

PERMITS:
PROJECT_STATUS:
REMARKS:

PROJECT: Glass Melter

PLANT: ORNL PPMP PROJECT NO: 2.1.19 CATEGORY: Radioactive Waste TEC($x1000): 900

FUNDING YEARS: 87 FUNDING TYPE: GPP FUNDING STATUS: UNFUNDED FUNDING SOURCE: AR

ENG. PROJECT NO: SCH. COMP. DATE: 12/90 LAST UPDATE: 3/19/85 CONTACT:

OMB-A-106 NO: ENVIR. MEDIA: Solid Waste STATUTORY REQ: DOE

PROGRAM CATEGORY: Solid Waste Management

SCOPE: Volume reduction system for ORNL low-level solid wastes.

JUSTIFICATION: Processing of several waste types (cellulosic waste

FACILITIES: Joule-heated furnace and off-gas treatment facilities.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	900	0	0	0	900	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Cask Tool Storage

PLANT: ORNL FPMP_PROJECT_NO: 2.1.21 CATEGORY: Radioactive Waste TEC($x1000): 100

FUNDING_YEARS: 85 FUNDING_TYPE: GPP FUNDING_STATUS: FUNDED FUNDING_SOURCE: AT

ENG._PROJECT_NO: SCH._COMP._DATE: 87 LAST_UPDATE: 2/21/85 CONTACT:

CPF-A-106_NO: ENVIR._MEDIA: STATUTORY_REQ: MISC

PROGRAM_CATEGORY:

SCOPE: Certain special tools must be constructed in order to accomplish the Beryllium change out at HFIR. The project proposed will provide a storage areas for these special tools such that they can be saved for future work.

JUSTIFICATION: The new facility is required to provide needed storage space

FACILITIES: A new tool storage facility will be provided

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	100	0	100	0	0	0	0	0

PERMITS:
PROJECT_STATUS:
REMARKS:

PROJECT: Secondary Contamination and Containment Control

PLANT: ORNL EPMP PROJECT NO: 2.1.22 CATEGORY: Radioactive Waste TEC($x1000): 85

FUNDING YEARS: 85 FUNDING TYPE: GPP FUNDING STATUS: FUNDED FUNDING SOURCE: AT

ENG. PROJECT NO: SCH. COMP. DATE: 87 LAST UPDATE: 3/19/85 CONTACT:

CNB-A-106 NO: ENVIR. MEDIA: Air STATUTORY REQ: DOE

PROGRAM CATEGORY: Air Pollution Control

SCOPE: Containment control measures will consist of a black wall and air leak arrangement rear cell 1 & 2 in Building 3019. Also

JUSTIFICATION: The additional containment and contamination control measures are needed to ensure that the radioactive naturals are contained to the extend possible.

FACILITIES: A new air lack containment arrangement will be provided.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	85	0	85	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Liquid Waste Systems - West End Area - 3019

PLANT: ORNL EPMP PROJECT NO: 2.1.23 CATEGORY: Radioactive Waste TEC($x1000): 750

FUNDING YEARS: 85 FUNDING TYPE: GPP FUNDING STATUS: FUNDED FUNDING SOURCE: AT

ENG. PROJECT NO: SCH. COMP. DATE: 87 LAST UPDATE: 3/19/85 CONTACT:

OMB-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: DOE

PROGRAM CATEGORY: Water Pollution Control

SCOPE: The project will upgrade the liquid low level waste (LLW) and the process drain system in the laboratory area

JUSTIFICATION: The process drain system in the west end of Building 3019 has become contaminated. This contamination has been a source of radon release to the laboratory area in the west end of the building. Also

FACILITIES: Upgraded drainage line for the process wastewater and the low level drainage systems will be provided

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	750	0	750	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: LLW Line Replacement (3019 Area)

PLANT: ORNL FPMP PROJECT NO: 2.1.25 CATEGORY: Radioactive Waste TEC($x1000): 950

FUNDING YEARS: 96 FUNDING TYPE: GPP FUNDING STATUS: UNFUNDED FUNDING SOURCE: KG

ENG. PROJECT NO: SCH. COMP. DATE: 87 LAST UPDATE: 3/19/85 CONTACT: T. E. Myrick

OMB-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: DOE

PROGRAM CATEGORY: Water Pollution Control

SCOPE:

JUSTIFICATION:

FACILITIES:

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	950	0	0	950	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: LLW Line Replacement (3026)

PLANT: ORNL FPMP PROJECT NO: 2.1.26 CATEGORY: Radioactive Waste TEC($x1000): 875

FUNDING YEARS: 87 FUNDING TYPE: GPP FUNDING STATUS: UNFUNDED FUNDING SOURCE: KG

ENG. PROJECT NO: SCH. COMP. DATE: 88 LAST UPDATE: 3/21/85 CONTACT: T. E. Myrick

OMB-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: DOE

PROGRAM CATEGORY: Water Pollution Control

SCOPE:

JUSTIFICATION:

FACILITIES:

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	875	0	0	0	875	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Sludge Storage Tank (PWTP)

PLANT: ORNL FPMP_PROJECT_NO: 2.1.27 CATEGORY: Radioactive Waste TEC($x1000): 300

FUNDING_YEARS: 87 FUNDING_TYPE: GPP FUNDING_STATUS: UNFUNDED FUNDING_SOURCE: AR

ENG._PROJECT_NO: SCH._COMP._DATE: LAST_UPDATE: 3/19/85 CONTACT: J. Berry

CNB-A-106_NO: ENVIR._MEDIA: Water STATUTORY_REQ: CWA/RCRA

PROGRAM_CATEGORY: Water Pollution Control

SCOPE: Sludge storage tanks for process waste treatment sludge at PWTP.

JUSTIFICATION: Process changes in PWTP will result in sludge generation which will be stored in tanks until final disposition.

FACILITIES:

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	300	0	0	0	300	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Hazardous Waste Storage Facility

PLANT: ORNL **EPMP PROJECT NO:** 2.2.1 **CATEGORY:** Hazardous Waste **TEC ($x1000):** 225

FUNDING YEARS: 82 **FUNDING TYPE:** GPP **FUNDING STATUS:** UNFUNDED **FUNDING SOURCE:** AT

ENG. PROJECT NO: **SCH. COMP. DATE:** **LAST UPDATE:** 2/14/85 **CONTACT:** C. M. Kendrick

OMB-A-106 NO: OR-ORNL-004 **ENVIR. MEDIA:** Toxic Sub. **STATUTORY REQ:** RCRA

PROGRAM CATEGORY:

SCOPE: Provide a dedicated facility for storage of RCRA waste.

JUSTIFICATION: Building will provide for safe storage of hazardous waste in compliance with RCRA regulations.

FACILITIES: New pre-engineered building will be erected.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	225	0	0	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Chemical Waste Storage Facility

PLANT: ORNL FPMP PROJECT NO: 2.2.2 CATEGORY: Hazardous Waste TEC($x1000): 350

FUNDING YEARS: 84 FUNDING TYPE: GPP FUNDING STATUS: FUNDED FUNDING SOURCE: AT

ENG. PROJECT NO: SCH. COMP. DATE: 86 LAST UPDATE: 2/14/85 CONTACT: C. M. Kendrick

OMB-A-106 NO: OR-ORNL-008 ENVIR. MEDIA: Solid Waste STATUTORY REQ: RCRA

PROGRAM CATEGORY:

SCOPE: Provide a facility for packing and storing chemical waste.

JUSTIFICATION: Building will provide for safe storage of incompatible chemicals in accordance with NFPA and RCRA requirements.

FACILITIES: New pre-engineered building will be erected.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	350	350	0	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Improvements to PCB Transformer Dikes, ORNL Facility at Y-12

PLANT: ORNL EPMP PROJECT NO: 2.2.3 CATEGORY: Hazardous Waste TEC ($x1000): 100

FUNDING YEARS: 84 FUNDING TYPE: EXP FUNDING STATUS: FUNDED FUNDING SOURCE: AT

ENG. PROJECT NO: SCH. COMP. DATE: 86 LAST UPDATE: 2/14/85 CONTACT: V. L. Turner

CNR-A-106 NO: OR-ORNL-025 ENVIR. MEDIA: Toxic Sub. STATUTORY REQ: TSCA

PROGRAM CATEGORY:

SCOPE: Improve containment dikes around ORNL PCB contaminated transformers at Y-12.

JUSTIFICATION: To provide for containment of PCB contaminated materials in accordance with TSCA.

FACILITIES: Upgraded dikes around existing ORNL transformers at Y-12 will be provided.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	100	100	0	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Improvements to Hazardous Waste Management Area

PLANT: ORNL FPMP PROJECT NO: 2.2.4 CATEGORY: Hazardous Waste TEC ($x1000): 250

FUNDING YEARS: 86 FUNDING TYPE: GPP FUNDING STATUS: UNFUNDED FUNDING SOURCE: AT

ENG. PROJECT NO: SCH. COMP. DATE: 88 LAST UPDATE: 3/19/85 CONTACT: C. M. Kendrick

OMB-A-106 NO: OR-CRNL-055 ENVIR. MEDIA: Solid Waste STATUTORY REQ: RCRA

PROGRAM CATEGORY: Solid Waste Management

SCOPE: Provide support facilities for personnel working in ORNL's hazardous waste management area.

JUSTIFICATION: To provide the necessary facilities for personnel at the waste management area as required by OSHA.

FACILITIES: New building will be provided to house the necessary support facilities.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	250	0	0	250	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Collection/Cleanup Operations - Solvents and Plating Solutions

PLANT: ORNL EPMP PROJECT NO: 2.2.6 CATEGORY: Hazardous Waste TEC($x1000): 100

FUNDING YEARS: 86 FUNDING TYPE: GPE FUNDING STATUS: UNFUNDED FUNDING SOURCE: AT

ENG. PROJECT NO: SCH. COMP. DATE: 88 LAST UPDATE: 2/14/85 CONTACT: C. M. Kendrick

OMB-A-106 NO: OR-ORNL-036 ENVIR. MEDIA: Solid Waste STATUTORY REQ: RCRA

PROGRAM CATEGORY:

SCOPE: Provide for collection and cleanup of various solvents and plating solutions waste streams at ORNL. These waste streams will then be routed to recovery facilities.

JUSTIFICATION: To provide collection and cleanup facilities where needed.

FACILITIES: New equipment will be procured and installed to provide for collection and cleanup of solvents and plating solutions.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	100	0	0	100	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS: The requirement for funding of this project as a GPP is currently under review.

PROJECT: Collection/Cleanup Operations - Mercury

PLANT: ORNL EPMP PROJECT NO: 2.2.7 CATEGORY: Hazardous Waste TEC($x1000): 100

FUNDING YEARS: 86 FUNDING TYPE: GPI FUNDING STATUS: UNFUNDED FUNDING SOURCE: AT

ENG. PROJECT NO: SCH. COMP. DATE: 88 LAST UPDATE: 2/14/85 CONTACT: C. M. Kendrick

OMB-A-106 NO: OR-ORNL-037 ENVIR. MEDIA: Solid Waste STATUTORY REQ: RCRA

PROGRAM CATEGORY:

SCOPE: Provide for collection and cleanup operation of mercury waste streams at ORNL.

JUSTIFICATION: To provide collection and cleanup operations where needed.

FACILITIES: New equipment will be procured and isntalled to provide for collection and cleanup of mercury.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	100	0	0	100	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS: The requirement for funding of the project as a GPP is currently under review.

PROJECT: Collection/Cleanup - Scintillation Fluids

PLANT: ORNL EEMP_PROJECT_NO: 2.2.8 CATEGORY: Hazardous Waste TEC($x1000): 100

FUNDING_YEARS: 86 FUNDING_TYPE: GPE FUNDING_STATUS: UNFUNDED FUNDING_SOURCE: AT

ENG._PROJECT_NO: SCH._COMP._DATE: 88 LAST_UPDATE: 2/15/85 CONTACT: C. M. Kendrick

OMB-A-106_NO: OR-ORNL-035 ENVIR._MEDIA: Solid Waste STATUTORY_REQ: RCRA

PROGRAM_CATEGORY:

SCOPE: Provide collection and cleanup operations of scintillation fluid waste streams at ORNL.

JUSTIFICATION: To provide collection and cleanup operations where needed.

FACILITIES: New equipment will be procured and installed to provide for collection and cleanup of scintillation fluid.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	100	0	0	100	0	0	0	0

PERMITS:
PROJECT_STATUS:
REMARKS: The requirement for this project is currently being reviewed to determine if project is required.

PROJECT: Isotope Separations Facility Wastewater Collection System

PLANT: ORNL EPMP PROJECT NO: 2.2.9 CATEGORY: Hazardous Waste TEC($x1000): 185

FUNDING YEARS: 84 FUNDING TYPE: GPP FUNDING STATUS: UNFUNDED FUNDING SOURCE: AT

ENG. PROJECT NO: SCH. COMP. DATE: 86 LAST UPDATE: 2/15/85 CONTACT: L. Atwood

OMB-A-106 NO: OR-ORNL-022 ENVIR. MEDIA: Water STATUTORY REQ: CWA

PROGRAM CATEGORY:

SCOPE: Provide the required tankage to collect ORNL's calcutron facility wastewater. Wastewater will be shipped to a Y-12 treatment facility for handling.

JUSTIFICATION: To provide the best available technology treatment of wastewater from the Calcutron Facility as required by the Clean Water Act (CWA).

FACILITIES: New process wastewater collection equipment will be procured and installed.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	185	185	0	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Hazardous Waste Staging Area for ORNL Facilities at Y-12

PLANT: ORNL FPMP PROJECT NO: 2.2.10 CATEGORY: Hazardous Waste TEC($x1000): 500

FUNDING YEARS: 86 FUNDING TYPE: GPP FUNDING STATUS: UNFUNDED FUNDING SOURCE: KG

ENG. PROJECT NO: SCH. COMP. DATE: 88 LAST UPDATE: 3/21/85 CONTACT:

OMB-A-106 NO: OR-ORNL-023 ENVIR. MEDIA: Solid Waste STATUTORY REQ: RCRA

PROGRAM CATEGORY: Solid Waste Management

SCOPE: Provide building space at Y-12 for temporary storage of ORNL hazardous waste prior to shipment to ORNL.

JUSTIFICATION: To provide for adequate storage of various waste materials including temporary RCRA waste storage to enhance spill protection.

FACILITIES: New pre-engineered building will be provided for the temporary storage.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	500	0	0	500	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Replacement of PCB Transformers, Phase I, II, III, & IV

PLANT: ORNL EPMP PROJECT NO: 2.2.11 CATEGORY: Hazardous Waste TEC($x1000): 3050

FUNDING YEARS: 86-89 FUNDING TYPE: GPP FUNDING STATUS: UNFUNDED FUNDING SOURCE: KG

ENG. PROJECT NO: SCH. COMP. DATE: 87-92 LAST UPDATE: 3/19/85 CONTACT: V. L. Turner

OMB-A-106 NO: OR-ORNL-038 ENVIR. MEDIA: Water STATUTORY REQ: TSCA

PROGRAM CATEGORY: Water Pollution Control

SCOPE: Replacement or rework of PCB contaminated transformers

JUSTIFICATION: To eliminate the use of PCB contaminated transformers and meet the requirements of TSCA.

FACILITIES: New or upgraded transformers which utilize non-PCB contamianted dielectric fluid.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	3050	0	0	950	800	700	600	0

PERMITS:
PROJECT STATUS:
REMARKS: CMB-OR-ORNL-044, CMB-OR-ORNL-047

PROJECT: Explosive/Shock Sensitive Chemical Waste Disposal Facility

PLANT: ORNL EPMP PROJECT NO: 2.2.12 CATEGORY: Hazardous Waste TEC ($x1000): 100

FUNDING YEARS: 86 FUNDING TYPE: GPP FUNDING STATUS: UNFUNDED FUNDING SOURCE: AT

ENG. PROJECT NO: SCH. COMP. DATE: 88 LAST UPDATE: 3/19/85 CONTACT: C. M. Kendrick

OMB-A-106 NO: OR-ORNL-024 ENVIR. MEDIA: Solid Waste STATUTORY REQ: RCRA

PROGRAM CATEGORY: Solid Waste Management

SCOPE: Provide a facility where excess explosive/shock sensitive chemicals can be detonated safely.

JUSTIFICATION: To provide for increased personnel safety in the disposal of explosive materials.

FACILITIES: New structure will be built which will allow safe storage and detonation of Explosive/Shock Sensitive Chemicals.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	100	0	0	100	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Gas Cylinder Disposal Facility

PLANT: ORNL EPMP PROJECT NO: 2.2.13 CATEGORY: Hazardous Waste TEC($x1000): 200

FUNDING YEARS: 87 FUNDING TYPE: GPP FUNDING STATUS: UNFUNDED FUNDING SOURCE: AT

ENG. PROJECT NO: SCH. COMP. DATE: 88 LAST UPDATE: 3/19/85 CONTACT: C. M. Kendrick

OMP-A-106 NO: OR-ORNL-027 ENVIR. MEDIA: Air STATUTORY REQ: RCRA/CAA

PROGRAM CATEGORY: Air Pollution Control

SCOPE: Provide a facility where damaged gas cylinders can be vented safely to the atmosphere through appropriate emission control equipment.

JUSTIFICATION: To provide increased personnel safety and to provide discharge of various gases in accordance with RCRA and CAA.

FACILITIES: New pre-engineered building will be erected and the necessary gas cylinder disposal equipment procured and installed.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	200	0	0	0	200	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Emergency Spill Response Storage Facility

PLANT: ORNL EPMP_PROJECT_NO: 2.2.14 CATEGORY: Hazardous Waste TEC($x1000): 250

FUNDING_YEARS: 87 FUNDING_TYPE: GPP FUNDING_STATUS: UNFUNDED FUNDING_SOURCE: AT

ENG._PROJECT_NO: SCH._COMP._DATE: 88 LAST_UPDATE: 3/19/85 CONTACT:

OMB-A-106_NO: ENVIR._MEDIA: Water STATUTORY_REQ: RCRA/CWA

PROGRAM_CATEGORY: Water Pollution Control

SCOPE: Provide a separate facility for the storage of the various emergency spill response equipment maintained by ORNL.

JUSTIFICATION: A central storage facility is required to ensure a timely response to emergency spill situations.

FACILITIES: A new storage facility will be provided.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	250	0	0	0	250	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Non-Radiological Waste Volume Reduction Facility

PLANT: ORNL EP&P PROJECT NO: 2.2.16 CATEGORY: Hazardous Waste TEC($x1000): 350

FUNDING YEARS: 86 FUNDING TYPE: GPP FUNDING STATUS: UNFUNDED FUNDING SOURCE: AT

ENG. PROJECT NO: SCH. COMP. DATE: 88 LAST UPDATE: 3/19/85 CONTACT:

OMB-A-106 NO: ENVIR. MEDIA: Solid Waste STATUTORY REQ: DOE

PROGRAM CATEGORY: Solid Waste Management

SCOPE: Provide a facility to house the various non-radiological waste volume reduction equipment.

JUSTIFICATION: A central facility is required to house the equipment and to ensure effective operation of the volume reduction process for glass

FACILITIES: A new facility will be provided for Glass

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	350	0	0	350	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Trace Metals Protection System - Phase I

PLANT: ORNL **EPMP PROJECT NO:** 2.2.17 **CATEGORY:** Hazardous Waste **TEC($x1000):** 445

FUNDING YEARS: 87 **FUNDING TYPE:** GPP **FUNDING STATUS:** UNFUNDED **FUNDING SOURCE:** KG

PRG. PROJECT NO: **SCH. COMP. DATE:** 88 **LAST UPDATE:** 3/21/85 **CONTACT:**

CRR-A-106 NO: **ENVIR. MEDIA:** Water **STATUTORY REQ:** CWA

PROGRAM CATEGORY: Water Pollution Control

SCOPE: Provide the needed isolation and rehabilitation work required to eliminate discharges trace metals.

JUSTIFICATION: The process drainage system at ORNL is the source of trace metal contamination in the wastewater. The system must be upgraded to ensure the elimination of trace metals discharges to the extent possible.

FACILITIES: A piping and lined pipes in addition to pre-treatment systems will be provided.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	445	0	0	0	445	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Trace Metals Pretreatment System, Phase II

PLANT: ORNL EPMP PROJECT NO: 2.2.18 CATEGORY: Hazardous Waste TEC ($x1000): 920

FUNDING YEARS: 88 FUNDING TYPE: GPP FUNDING STATUS: UNFUNDED FUNDING SOURCE: KG

ENG. PROJECT NO: SCH. COMP. DATE: 89 LAST UPDATE: 3/19/85 CONTACT:

OMB-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: CWA

PROGRAM CATEGORY: Water Pollution Control

SCOPE: Provide the needed isolation and rehabilitation work required to eliminate discharges of trace metals.

JUSTIFICATION: The process drainage system at ORNL is the source of trace metal contamination in the wastewater. The system therefore must be upgraded to ensure the elimination of trace metals discharges to the extent possible.

FACILITIES: Upgraded drainage piping and new pretreatment systems will be provided.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	920	0	0	0	0	920	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Chemical Spill Trailer

PLANT: ORNL FPMP_PROJECT_NO: 2.2.19 CATEGORY: Hazardous Waste TEC($x1000): 50

FUNDING_YEARS: 85 FUNDING_TYPE: GPE FUNDING_STATUS: FUNDED FUNDING_SOURCE: AT

ENG._PROJECT_NO: SCH._COMP._DATE: 87 LAST_UPDATE: 2/15/85 CONTACT: V. L. Turner

OFF-A-106_NO: ENVIR._MEDIA: STATUTORY_REQ: RCRA/CWA

PROGRAM_CATEGORY:

SCOPE: Provide a new trailer equipment for response to chemical spills at ORNL.

JUSTIFICATION: A new trailer is required to ensure effective and timely response.

FACILITIES: A new trailer will be provided.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	50	0	50	0	0	0	0	0

PERMITS:
PROJECT_STATUS:
REMARKS:

PROJECT: Two Tanker Trucks

PLANT: ORNL EPMP PROJECT NO: 2.2.20 CATEGORY: Hazardous Waste TEC($x1000): 80

FUNDING YEARS: 85 FUNDING TYPE: GPE FUNDING STATUS: FUNDED FUNDING SOURCE: AT

ENG. PROJECT NO: SCH. COMP. DATE: LAST UPDATE: 2/15/85 CONTACT: V. L. Turner

OMB-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: RCRA/CWA

PROGRAM CATEGORY:

SCOPE: Provide two new tanker trucks for hauling watewater.a

JUSTIFICATION: Trucks needed to support wastewater treatment activities.

FACILITIES: Two new tanker trucks.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	80	0	80	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Spill Equipment

PLANT: ORNL **EPMP_PROJECT_NO:** 2.2.21 **CATEGORY:** Hazardous Waste **TEC($x1000):** 75

FUNDING_YEARS: 86 **FUNDING_TYPE:** GPF **FUNDING_STATUS:** UNFUNDED **FUNDING_SOURCE:** AT

ENG._PROJECT_NO: **SCH._COMP._DATE:** 88 **LAST_UPDATE:** 2/15/85 **CONTACT:**

OMB-A-106_NO: **ENVIR._MEDIA:** Water **STATUTORY_REQ:** CWA/RCRA

PROGRAM_CATEGORY:

SCOPE: Procure new spill equipment required to support ORNL spill response program.

JUSTIFICATION: Needed to support the ORNL spill response program.

FACILITIES: New spill response equipment will be provided.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	75	0	0	75	0	0	0	0

PERMITS:
PROJECT_STATUS:
REMARKS:

PROJECT: Upgrade Process Waste Collection System - 2000 and 7000 Area

PLANT: CRNL FPMP PROJECT NO: 2.2.23 CATEGORY: Hazardous Waste TEC($x1000): 800

FUNDING YEARS: 87 FUNDING TYPE: GPP FUNDING STATUS: UNFUNDED FUNDING SOURCE: AR

ENG. PROJECT NO: SCH. COMP. DATE: 12/89 LAST UPDATE: 3/19/85 CONTACT: J. Berry

CRF-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: CWA

PROGRAM CATEGORY: Water Pollution Control

SCOPE: The integrity of the Process Waste System piping in West Bethel Valley will be improved where infiltration and inflow are identified.

JUSTIFICATION: The Process Waste System consists of mostly vitrified clay pipe which was installed between 1940 and 1960. Literature review and operating experience indicates that as much as 70% of the system may be leaking. Further

FACILITIES: The integrity of the piping system will be improved by a combination of the following methods:
1. in-situ form liner

SCHEDULE: FUNDING $x1000	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
	800	0	0	0	800	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Upgrade Process Waste System

PLANT: ORNL **EPMP PROJECT NO:** 2.2.25 **CATEGORY:** Hazardous Waste **TEC ($x1000):** 26160

FUNDING YEARS: 85-91 **FUNDING TYPE:** EXP **FUNDING STATUS:** UNFUNDED **FUNDING SOURCE:** KG

ENG. PROJECT NO: **SCH. COMP. DATE:** 91 **LAST UPDATE:** 3/29/85 **CONTACT:** T.E. Myrick

ONR-A-106 NO: **ENVIR. MEDIA:** Water **STATUTORY REQ:** CWA/RCRA

PROGRAM CATEGORY: Water Pollution Control

SCOPE: Complete corrective measures on the process waste system and support GPP's related to upgrade or rehabilitation of system.

JUSTIFICATION: Funds needed to bring ORNL into compliance with Clear Water Act regulations.

FACILITIES: Upgrade and rehabilitation of process wastewater drainage system.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	26160	0	1715	1075	1370	5500	5500	5500

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Improve Management of Hazardous and Toxic Materials

PLANT: ORNL EPMP PROJECT NO: 2.2.26 CATEGORY: Hazardous Waste TEC($x1000): 36250

FUNDING YEARS: 85-91 FUNDING TYPE: EXP FUNDING STATUS: UNFUNDED FUNDING SOURCE: KG

ENG. PROJECT NO: SCH. COMP. DATE: 89 LAST UPDATE: 3/29/85 CONTACT: T.E. Myrick

OMB-A-106 NO: ENVIR. MEDIA: Toxic Subs. STATUTORY REQ: RCRA/TSCA

PROGRAM CATEGORY: Solid Waste Management

SCOPE: Certain existing facilities will be cleaned up

JUSTIFICATION: Project funds needed to bring ORNL into compliance with the various environmental regulation.

FACILITIES: New and upgraded facilities will be provided as a result of this project.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	36250	0	725	1375	4450	6700	7000	8000

FUNDING:
PROJECT STATUS:
REMARKS:

PROJECT: Deep Monitoring Wells to Knox Formation

PLANT: ORNL FPMP_PROJECT_NO: 2.2.28 CATEGORY: Hazardous Waste TEC($x1000): 800

FUNDING_YEARS: 86 FUNDING_TYPE: GPP FUNDING_STATUS: UNFUNDED FUNDING_SOURCE: KG

ENG._PROJECT_NO: SCH._COMP._DATE: 88 LAST_UPDATE: 3/21/85 CONTACT: J. Berry

OMB-A-106_NO: ENVIR._MEDIA: Water STATUTORY_REQ: CWA

PROGRAM_CATEGORY: Monitoring

SCOPE: The provide will provide deep monitoring wells to the Knox formation. Data obtained will help define the extend and movement of any groundwater contamination.

JUSTIFICATION: Deep wells to the Knox formation are required to provide data on possible groundwater contamination and movement.

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FACILITIES: New deep monitoring wells will be provided.

SCHEDULE: FUNDING $x1000	TOTAL 800	FY-84 0	FY-85 0	FY-86 800	FY-87 0	FY-88 0	FY-89 0	FY-90 0

PERMITS:
PROJECT_STATUS:
REMARKS:

PROJECT: Isotope Area Contaminated Groundwater Control System

PLANT: ORNL EPMP PROJECT NO: 2.2.30 CATEGORY: Hazardous Waste TEC($x1000): 950

FUNDING YEARS: 87 FUNDING TYPE: GPP FUNDING STATUS: UNFUNDED FUNDING SOURCE: AR

ENG. PROJECT NO: SCH. COMP. DATE: 89 LAST UPDATE: 3/19/85 CONTACT: J. Berry

OMB-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: MISC

PROGRAM CATEGORY: Water Pollution Control

SCOPE: Provide a system to reduce the amount of radioactivity in groundwater by diverting it away from contaminated areas and by treatment of contaminated water.

JUSTIFICATION: The control system is needed to minimize problems with contaminated groundwater.

FACILITIES: A new groundwater control system will be provided

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	950	0	0	0	950	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Chemical Destruction System for Mixed Waste

PLANT: ORNL FPMP PROJECT NO: 2.2.31 CATEGORY: Hazardous Waste TEC($x1000): 900

FUNDING YEARS: 89 FUNDING TYPE: GPP FUNDING STATUS: UNFUNDED FUNDING SOURCE: AT

ENG. PROJECT NO: SCH. COMP. DATE: 91 LAST UPDATE: 2/15/85 CONTACT: V.L. Turner

OMB-A-106 NO: ENVIR. MEDIA: Toxic Subs. STATUTORY REQ: RCRA

PROGRAM CATEGORY:

SCOPE: Construct a new chemical destruction system to breakdown various types of mixed waste.

JUSTIFICATION: New facilities required to ensure proper handlings of various hazardous waste.

FACILITIES: A new facility will be provided to provide for chemical destruction of various hazardous waste streams.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	900	0	0	0	0	0	900	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Liquid Hazardous Materials Collection System

PLANT: ORNL FPMP PROJECT NO: 2.2.32 CATEGORY: Hazardous Waste TEC($x1000): 150

FUNDING YEARS: 89 FUNDING TYPE: GPP FUNDING STATUS: UNFUNDED FUNDING SOURCE: AT

ENG. PROJECT NO: SCH. COMP. DATE: 91 LAST UPDATE: 2/15/85 CONTACT: V.L. Turner

OMB-A-106 NO: ENVIR. MEDIA: Toxic Subs. STATUTORY REQ: RCRA

PROGRAM CATEGORY:

SCOPE: Procure the necessary equipment to provide efficient liquid hazardous waste collection waste.

JUSTIFICATION: Collection facility needed to provide efficient collection of hazardous waste.

FACILITIES: New collection facilities will be provided for certain hazardous waste

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	150	0	0	0	0	0	150	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Scintillation Vial Crusher

PLANT: ORNL FPMP_PROJECT_NO: 2.3.2 CATEGORY: Mixed or Co-contaminated Waste TEC($x1000): 40

FUNDING_YEARS: 85 FUNDING_TYPE: GPE FUNDING_STATUS: FUNDED FUNDING_SOURCE: AT

ENG._PROJECT_NO: SCH._COMP._DATE: 85 LAST_UPDATE: 2/15/85 CONTACT: C. M. Kendrick

OMB-A-106_NO: ENVIR._MEDIA: STATUTORY_REQ: RCRA

PROGRAM_CATEGORY:

SCOPE: Provide equipment for removal of scintillation fluid from the numerous small scintillation vials.

JUSTIFICATION: To provide method to remove RCRA controlled scintillation fluid from small vials prior to treatment in a cost-effective manner.

FACILITIES: Procure and install a machine to shred and/or break scintillation vials generated at ORNL.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	40	0	40	0	0	0	0	0

PERMITS:
PROJECT_STATUS:
REMARKS:

PROJECT: Long-Term Hazardous Waste Storage Facility

PLANT: ORNL EMP PROJECT NO: 2.3.3 CATEGORY: Mixed or Co-contaminated Waste TEC ($x1000): 325

FUNDING YEARS: 85 FUNDING TYPE: GPP FUNDING STATUS: UNFUNDED FUNDING SOURCE: AT

ENG. PROJECT NO: SCH. COMP. DATE: 87 LAST UPDATE: 3/19/85 CONTACT: C. M. Kendrick

OMB-A-106 NO: OR-ORNL-013 ENVIR. MEDIA: Solid Waste STATUTORY REQ: RCRA

PROGRAM CATEGORY: Solid Waste Management

SCOPE: Provide a dedicated facility for long-term storage of ORNL's co-contaminat d wastes.

JUSTIFICATION: To provide for long-term storage of co-contaminated waste until acceptable RCRA treatment and disposal methods are developed.

FACILITIES: New pre-engineered building will be erected.

SCHEDULE: FUNDING $x1000	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
	325	0	325	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Spill Prevention Control and Countermeasures Improvements, Phase I, II, and III

PLANT: ORNL FPMP PROJECT NO: 2.3.4 CATEGORY: Mixed or Co-contaminated Waste TEC ($x1000): 2700

FUNDING YEARS: 86-88 FUNDING TYPE: GPP FUNDING STATUS: UNFUNDED FUNDING SOURCE: KG

ENG. PROJECT NO: SCH. COMP. DATE: 86-91 LAST UPDATE: 3/21/85 CONTACT: V. L. Turner

OMB-A-106 NO: OR-ORNL-041 ENVIR. MEDIA: Water STATUTORY REQ: RCRA/CWA

PROGRAM CATEGORY: Water Pollution Control

SCOPE: Improve containment for spill sources at ORNL and provide facilities for effective countermeasures.

JUSTIFICATION: To provide best management practices in accordance with Clean Water Act (CWA) requirements.

FACILITIES: Interceptor systems for storm sewer systems and a spill containment area downstream of ORNL.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	2700	0	0	900	900	900	0	0

PERMITS:
PROJECT STATUS:
REMARKS: CMB-OR-ORNL-045, CMB-OR-ORNL-048

PROJECT: Improvements to Existing Sewage Treatment System

PLANT: ORNL EPMP PROJECT NO: 2.4.1 CATEGORY: Conventional Waste TEC ($x1000): 1500

FUNDING YEARS: 84 FUNDING TYPE: LI FUNDING STATUS: FUNDED FUNDING SOURCE: AT

ENG. PROJECT NO: 84-ER-104 SCH. COMP. DATE: 87 LAST UPDATE: 2/15/85 CONTACT: V. L. Turner/Bill

OMB-A-106 NO: OR-ORNL-005 ENVIR. MEDIA: Water STATUTORY REQ: CWA

PROGRAM CATEGORY:

SCOPE: Replacement of ORNL's existing sewage treatment plant.

JUSTIFICATION: Required to achieve compliance with present and proposed NPDES requirements in accordance with the CWA.

FACILITIES: New package extended aeration sewage treatment plant.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	1500	1500	0	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS: Scope of Project has been revised to include a filter system. Therefore the FY-1986 GPP "Filter System-ORNL Sewage Treatment Plant" is no longer required.

PROJECT: Corrections to ORNL Sanitary Sewers to Prevent Inflow/Infiltration

PLANT: ORNL EPMP PROJECT NO: 2.4.2 CATEGORY: Conventional Waste TEC($x1000): 265

FUNDING YEARS: 84 FUNDING TYPE: GPP FUNDING STATUS: FUNDED FUNDING SOURCE: AT

ENG. PROJECT NO: SCH. COMP. DATE: 84 LAST UPDATE: 2/15/85 CONTACT: V. L. Turner

OMB-A-106 NO: OR-ORNL-011 ENVIR. MEDIA: Water STATUTORY REQ: CWA

PROGRAM CATEGORY:

SCOPE: Correct deficiencies in ORNL sanitary sewers by lining various lines that have significant inflow/infiltration

JUSTIFICATION: To reduce the amount of sanitary wastewater requiring treatment and to eliminate possible contamination of sanitary.....

FACILITIES: Upgraded or new sanitary sewer drainage lines.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	265	265	0	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Coal Yard Runoff Treatment System Improvements

PLANT: ORNL EPMP PROJECT NO: 2.4.3 CATEGORY: Conventional Waste TEC ($x1000): 750

FUNDING YEARS: 84 FUNDING TYPE: GPP FUNDING STATUS: FUNDED FUNDING SOURCE: AT

ENG. PROJECT NO: GPP-84 SCH. COMP. DATE: 86 LAST UPDATE: 2/15/85 CONTACT: L. Atwood

OMB-A-106 NO: OR-ORNL-006 ENVIR. MEDIA: Water STATUTORY REQ: CWA

PROGRAM CATEGORY:

SCOPE: Improve Coal Yard Runoff Treatment System to provide better pH adjustment, sludge handling and process control.

JUSTIFICATION: Required to achieve compliance with present and proposed NPDES requirements in accordance with the CWA.

FACILITIES: Equipment for line addition, for sludge handling and for process control at the Coal Yard Runoff Treatment System.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	750	750	0	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Steam Plant Wastewater Treatment System

PLANT: ORNL EPMP_PROJECT_NO: 2.4.4 CATEGORY: Conventional Waste TEC($x1000): 400

FUNDING_YEARS: 86 FUNDING_TYPE: GPP FUNDING_STATUS: FUNDED FUNDING_SOURCE: AT

ENG._PROJECT_NO: SCH._COMP._DATE: 88 LAST_UPDATE: 3/19/85 CONTACT: L. Atwood

OMB-A-106_NO: OR-ORNL-051 ENVIR._MEDIA: Water STATUTORY_REQ: CWA

PROGRAM_CATEGORY: Water Pollution Control

SCOPE: Provide improvements to eliminate settling of ash hopper solids in the Coal Yard Runoff Upper Basin.

JUSTIFICATION: To provide for more efficient handling of ash hopper solids and to eliminate problem in the upper basin at the Coal Yard Runoff Treatment Area.

FACILITIES: Equipment installed to provide for alternate method of handling ash hopper solids.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	400	0	0	400	0	0	0	0

PERMITS:
PROJECT_STATUS:
REMARKS:

PROJECT: 1505 Area Transfer Piping

PLANT: ORNL FPMP_PROJECT_NO: 2.4.5 CATEGORY: Conventional Waste TEC($x1000): 315

FUNDING_YEARS: 85 FUNDING_TYPE: GPP FUNDING_STATUS: FUNDED FUNDING_SOURCE: AT

ENG._PROJECT_NO: SCH._COMP._DATE: 86 LAST_UPDATE: 3/19/85 CONTACT: V. L. Turner

OMB-A-106_NO: OR-ORNL-016 ENVIR._MEDIA: Water STATUTORY_REQ: CWA

PROGRAM_CATEGORY: Water Pollution Control

SCOPE: Provide for transportation by pipeline of wastewater from 1500 area to 190 Ponds for monitoring and treatment.

JUSTIFICATION: Needed to help ensure compliance with anticipated new NPDES permit limits in accordance with the CWA.

FACILITIES: New transfer piping and valves.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	315	0	315	0	0	0	0	0

PERMITS:
PROJECT_STATUS:
REMARKS:

PROJECT: 2000 Area Transfer Piping

PLANT: ORNL EPMP_PROJECT_NO: 2.4.6 CATEGORY: Conventional Waste TEC($x1000): 255

FUNDING_YEARS: 85 FUNDING_TYPE: GPP FUNDING_STATUS: FUNDED FUNDING_SOURCE: AT

ENG._PROJECT_NO: SCH._COMP._DATE: 88 LAST_UPDATE: 3/19/85 CONTACT: V. L. Turner

CMP-A-106_NO: OR-ORNL-031 ENVIR._MEDIA: Water STATUTORY_REQ: CWA

PROGRAM_CATEGORY: Water Pollution Control

SCOPE: Provide isolation of drains and reroute wastewater discharge from the 2000 area. This instant will be routed to 190 pond area.

JUSTIFICATION: Needed to help ensure compliance with anticipated new NPDES permit limits in accordance with the CWA.

FACILITIES: New process piping.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	255	0	255	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Biology Area Wastewater Isolation System

PLANT: ORNL EPMP PROJECT NO: 2.4.7 CATEGORY: Conventional Waste TEC($x1000): 685

FUNDING YEARS: 84 FUNDING TYPE: GPP FUNDING STATUS: FUNDED FUNDING SOURCE: AT

ENG. PROJECT NO: SCH. COMP. DATE: 86 LAST UPDATE: 2/15/85 CONTACT: L. Atwood

OMB-A-106 NO: OR-ORNL-015 ENVIR. MEDIA: Water STATUTORY REQ: CWA

PROGRAM CATEGORY:

SCOPE: Provide capability of isolate process wastewater from area storm drainage and to collect process wastewater.

JUSTIFICATION: Needed to help ensure compliance with anticipated new NPDES permit limits in accordance with the CWA.

FACILITIES: New process wastewater drainage lines required to isolate the Biology Area Wastewater.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	685	685	0	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Process Pipe Lining

PLANT: ORNL **EPMP PROJECT NO:** 2.4.8 **CATEGORY:** Conventional Waste **TEC($x1000):** 60

FUNDING YEARS: 84 **FUNDING TYPE:** EXP **FUNDING STATUS:** FUNDED **FUNDING SOURCE:** AT

ENG. PROJECT NO: **SCH. COMP. DATE:** 86 **LAST UPDATE:** 2/15/85 **CONTACT:** V.L. Turner

CED-A-106 NO: OR-ORNL-020 **ENVIR. MEDIA:** Water **STATUTORY REQ:** CWA

PROGRAM CATEGORY:

SCOPE: Provide isolation of Hg contamination in Building 9201-2.

JUSTIFICATION: Needed to control mercury contamination from process piping in Building 9201-2.

FACILITIES: Lining of process pipes.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	60	60	0	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: TV System for Pipe Survey

PLANT: ORNL EPMP PROJECT NO: 2.4.9 CATEGORY: Conventional Waste TEC($x1000): 37

FUNDING YEARS: 85 FUNDING TYPE: GPE FUNDING STATUS: FUNDED FUNDING SOURCE: AT

ENG. PROJECT NO: SCH. COMP. DATE: 87 LAST UPDATE: 2/21/85 CONTACT: V.L. Turner

OMB-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: CWA

PROGRAM CATEGORY:

SCOPE: Provide TV system for survey of ORNL drainage piping. This will be utilized to determine inflow and infiltration.

JUSTIFICATION: The ORNL drainage system must be kept upgraded to eliminate inflow and infiltration to ensure an effective wastewater drainage system.

FACILITIES: A new TV system will be procured.

SCHEDULE: FUNDING $x1000	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
	37	0	37	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Sewer System Inflow/Infiltration, Phase II

PLANT: ORNL FPMP_PROJECT_NO: 2.4.11 CATEGORY: Conventional Waste TEC($x1000): 600

FUNDING_YEARS: 85 FUNDING_TYPE: GPP FUNDING_STATUS: UNFUNDED FUNDING_SOURCE: AT

ENG._PROJECT_NO: SCH._COMP._DATE: 87 LAST_UPDATE: 3/19/85 CONTACT: V. L. Turner

OMB-A-106_NO: OR-ORNL-012 ENVIR._MEDIA: Water STATUTORY_REQ: CWA

PROGRAM_CATEGORY: Water Pollution Control

SCOPE: Rehabilitate or replace leaking sections of ORNL's sanitary sewer system which have been contaminated with radioactivity.

JUSTIFICATION: To reduce the amount of sanitary wastewater requireing treatment and to eliminate possible radioactive contamination of sanitary wastewater.

FACILITIES: Upgraded or new sanitary drainage lines.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	600	0	600	0	0	0	0	0

PERMITS:
PROJECT_STATUS:
REMARKS: OR-ORNL-012

PROJECT: Nonradiological Wastewater Treatment Project

PLANT: ORNL **EPMP PROJECT NO:** 2.4.12 **CATEGORY:** Conventional Waste **TEC($x1000):** 23000

FUNDING YEARS: 86 **FUNDING TYPE:** LI **FUNDING STATUS:** UNFUNDED **FUNDING SOURCE:** KG

ENG. PROJECT NO: **SCH. COMP. DATE:** 90 **LAST UPDATE:** 2/15/85 **CONTACT:** V. L. Turner

OMB-A-106 NO: OR-ORNL-014 **ENVIR. MEDIA:** Water **STATUTORY REQ:** CWA

PROGRAM CATEGORY:

SCOPE: Provide for the necessary nonradiological treatment of ORNL's process wastewater prior to discharge.

JUSTIFICATION: Needed to ensure compliance with proposed new NPDES discharge limits in accordance with the CWA.

FACILITIES: New building will be constructed and new process treatment will be procured and installed.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	23000	0	0	23000	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Drum Crusher

PLANT: ORNL EPMP PROJECT NO: 2.4.13 CATEGORY: Conventional Waste TEC($x1000): 75

FUNDING YEARS: 85 FUNDING TYPE: GPE FUNDING STATUS: FUNDED FUNDING SOURCE: AT

ENG. PROJECT NO: SCH. COMP. DATE: 87 LAST UPDATE: 2/15/85 CONTACT: V. L. Turner

OMB-A-106 NO: ENVIR. MEDIA: Solid Waste STATUTORY REQ:

PROGRAM CATEGORY:

SCOPE: Provide the necessary equipment required to crush used drums.

JUSTIFICATION: Equipment is required to reduce the volume of used drums requiring disposal.

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FACILITIES: New drum crushing equipment will be provided.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	75	0	75	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Biology Area Wastewater Treatment System

PLANT: ORNL EPMP PROJECT NO: 2.4.14 CATEGORY: Conventional Waste TEC($x1000): 940

FUNDING YEARS: 86 FUNDING TYPE: GPP FUNDING STATUS: UNFUNDED FUNDING SOURCE: AT

ENG. PROJECT NO: SCH. COMP. DATE: 88 LAST UPDATE: 3/21/85 CONTACT: L. Atwood

CMP-A-106 NO: OR-ORNL-021 ENVIR. MEDIA: Water STATUTORY REQ: CWA

PROGRAM CATEGORY: Water Pollution Control

SCOPE: Installation of a treatment system to process Biology area wastewater prior to discharge.

JUSTIFICATION: Needed to help ensure compliance with anticipated new NPDES permit limits in accordance with the CWA.

FACILITIES: New wastewater treatment equipment required to treat the Biology area wastewater and structures as required to house the new equipment.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	940	0	0	940	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Glass Crusher

PLANT: ORNL EPMP PROJECT NO: 2.4.15 CATEGORY: Conventional Waste TEC($x1000): 100

FUNDING YEARS: 85 FUNDING TYPE: GPE FUNDING STATUS: FUNDED FUNDING SOURCE: AT

ENG. PROJECT NO: SCH. COMP. DATE: 86 LAST UPDATE: 2/15/85 CONTACT: V. L. Turner

OMB-A-106 NO: ENVIR. MEDIA: Solid Waste STATUTORY REQ:

PROGRAM CATEGORY:

SCOPE: Glass crusher equipment will be procured for the ORNL plant.

JUSTIFICATION: Required to reduce volume of glass prior to disposal at Y-12 landfill. Also

FACILITIES: Glass crusher equipment will be provided.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	100	0	100	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Sump Oil Separation for ORNL Facilities at Y-12

PLANT: ORNL EPMP PROJECT NO: 2.4.16 CATEGORY: Conventional Waste TEC($x1000): 100

FUNDING YEARS: 86 FUNDING TYPE: GPP FUNDING STATUS: UNFUNDED FUNDING SOURCE: AT

ENG. PROJECT NO: SCH. COMP. DATE: 87 LAST UPDATE: 3/19/85 CONTACT: L. Atwood

ONB-A-106 NO: OR-ORNL-028 ENVIR. MEDIA: Water STATUTORY REQ: CWA

PROGRAM CATEGORY: Water Pollution Control

SCOPE: Provide the capability to remove oil from the sump discharges of Blds. 9201-2 and 9204-3.

JUSTIFICATION: Needed to help ensure compliance with anticipated new NPDES permit limits in accordance with the CWA.

FACILITIES: New oil separation equipment required to handle sump wastewater prior to discharge.

SCHEDULE: FUNDING $x1000	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
	100	0	0	100	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Remote Area-Process Wastewater Pretreatment Phase I, II

PLANT: ORNL EPMP PROJECT NO: 2.4.19 CATEGORY: Conventional Waste TEC ($x1000): 1900

FUNDING YEARS: 87-88 FUNDING TYPE: GPP FUNDING STATUS: UNFUNDED FUNDING SOURCE: KG

ENG. PROJECT NO: SCH. COMP. DATE: 89-91 LAST UPDATE: 3/19/85 CONTACT: V. L. Turner

OMB-A-106 NO: OR-ORNL-040 ENVIR. MEDIA: Water STATUTORY REQ: CWA

PROGRAM CATEGORY: Water Pollution Control

SCOPE: Provide treatment required by EPA and the State of Tennessee for air and water discharges determined to be out of compliance.

JUSTIFICATION: Needed to meet compliance orders from the EPA and/or State of Tennessee.

FACILITIES: To be determined.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	1900	0	0	0	950	950	0	0

PERMITS:
PROJECT STATUS:
REMARKS: CMB-OR-ORNL-043, CMB-OR-ORNL-049

PROJECT: Wastewater/Storm Drain Isolation, Phase I, II

PLANT: ORNL **EPMP PROJECT NO:** 2.4.20 **CATEGORY:** Conventional Waste **TEC ($x1000):** 1800

FUNDING YEARS: 87-88 **FUNDING TYPE:** GPP **FUNDING STATUS:** UNFUNDED **FUNDING SOURCE:** AT

ENG. PROJECT NO: **SCH. COMP. DATE:** 88 **LAST UPDATE:** 3/21/85 **CONTACT:** V. L. Turner

OMB-A-106 NO: OR-ORNL-042 **ENVIR. MEDIA:** Water **STATUTORY REQ:** CWA

PROGRAM CATEGORY: Water Pollution Control

SCOPE: To isolate process drains.

JUSTIFICATION: To isolate process drains to allow treatment under CWA to meet BAT.

FACILITIES: To be determined.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	1800	0	0	0	900	900	0	0

PERMITS:
PROJECT STATUS:
REMARKS: CMB-OR-ORNL-046

PROJECT: Biology Area Wastewater Collection System

PLANT: ORNL EPMP_PROJECT_NO: 2.4.21 CATEGORY: Conventional Waste TEC($x1000): 500

FUNDING_YEARS: 85 FUNDING_TYPE: GPP FUNDING_STATUS: FUNDED FUNDING_SOURCE: AT

ENG._PROJECT_NO: SCH._COMP._DATE: 87 LAST_UPDATE: 3/19/85 CONTACT: L. Atwood

ONE-A-106_NO: ENVIR._MEDIA: Water STATUTORY_REQ: CWA

PROGRAM_CATEGORY: Water Pollution Control

SCOPE: Provide a collection system for the biology area wastewater drainage.

JUSTIFICATION: The new NPDES permit for Y-12 requires that the discharge of pollutants from the Biology area be reduced. This project is part of the overall system to accomplish the required reduction.

FACILITIES: A new wastewater collection system will be provided.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	500	0	500	0	0	0	0	0

PERMITS:
PROJECT_STATUS:
REMARKS:

PROJECT: Upgrade of Storm Sewer System

PLANT: ORNL FPMP_PROJECT_NO: 2.4.22 CATEGORY: Conventional Waste TEC($x1000): 6170

FUNDING_YEARS: 85-91 FUNDING_TYPE: EXP FUNDING_STATUS: UNFUNDED FUNDING_SOURCE: KG

ENG._PROJECT_NO: SCH._COMP._DATE: 91 LAST_UPDATE: 3/29/85 CONTACT: T. E. Myrick

CMP-A-106_NO: ENVIR._MEDIA: Water STATUTORY_REQ: CWA

PROGRAM_CATEGORY: Water Pollution Control

SCOPE: Complete corrective measures on the storm sewer system at ORNL and provide for support of various GPP's related to the upgrade of this system.

JUSTIFICATION: Funds required to bring the ORNL discharges into compliance with the regulations of the CWA

FACILITIES: New and rehabilitated storm sewer lines will be provided

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	6170	0	410	760	1000	1000	1000	1000

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: 'Improvements to Sewage Treatment Plant and Sanitary Sewer System

PLANT: ORNL IPMP PROJECT NO: 2.4.23 CATEGORY: Conventional Waste TEC($x1000): 2110

FUNDING YEARS: 85-88 FUNDING TYPE: EXP FUNDING STATUS: UNFUNDED FUNDING SOURCE: KG

ENG. PROJECT NO: SCH. COMP. DATE: 89 LAST UPDATE: 3/29/85 CONTACT: T.E. Myrick

OMB-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: CWA

PROGRAM CATEGORY: Water Pollution Control

SCOPE: Provide the necessary and support to GPP's related to sanitary sewer system and provide various general upgrade and rehabilitations to system

JUSTIFICATION: Project required to bring ORNL facilities into compliance with the Clean Water Act regulations.

FACILITIES: Upgrade and rehabiliation of the sanitary sewer system will be provided as a result of this project.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	2110	0	20	840	950	300	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Process Waste System Inflow and Infiltration

PLANT: ORNL FPMP PROJECT NO: 2.4.24 CATEGORY: Conventional Waste TEC($x1000): 950

FUNDING YEARS: 86 FUNDING TYPE: GPP FUNDING STATUS: UNFUNDED FUNDING SOURCE: AT

ENG. PROJECT NO: SCH. COMP. DATE: 88 LAST UPDATE: 3/21/85 CONTACT: V.L. Turner

OMB-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: CWA .

PROGRAM CATEGORY: Water Pollution Control

SCOPE: Provide rework of process wastewater drainage lines to climate source of inflow and infiltration

JUSTIFICATION: Rework of drainage lines required to ensure proper drainage

FACILITIES: New and reworked process drainage lines will be provided.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	950	0	0	950	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Wastewater Piping Replacement - 4500 Area

PLANT: ORNL FPMP_PROJECT_NO: 2.4.25 CATEGORY: Conventional Waste TEC($x1000): 920

FUNDING_YEARS: 87 FUNDING_TYPE: GPP FUNDING_STATUS: UNFUNDED FUNDING_SOURCE: AT

ENG._PROJECT_NO: SCH._COMP._DATE: 89 LAST_UPDATE: 3/21/85 CONTACT: V.L. Turner

OMB-A-106_NO: ENVIR._MEDIA: Water STATUTORY_REQ: CWA

PROGRAM_CATEGORY: Water Pollution Control

SCOPE: Replace or rehabilitate process drainage lines in the 4500 Area

JUSTIFICATION: Rework of drainage lines needed to ensure adequate drainage of process wastewater.

330

FACILITIES: New or reworked process drainage lines will be provided

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	920	0	0	0	920	0	0	0

PERMITS:
PROJECT_STATUS:
REMARKS:

PROJECT: Upgrade 7911 Stack Monitoring System

PLANT: ORNL **EPMP PROJECT NO:** 2.5.1 **CATEGORY:** Monitoring **TEC ($x1000):** 350

FUNDING YEARS: 84 **FUNDING TYPE:** GPE **FUNDING STATUS:** FUNDED **FUNDING SOURCE:** AT

ENG. PROJECT NO: **SCH. COMP. DATE:** 86 **LAST UPDATE:** 2/15/85 **CONTACT:** R. Pudelek

CMP-A-106 NO: **ENVIR. MEDIA:** Air **STATUTORY REQ:** CAA/DOE

PROGRAM CATEGORY:

SCOPE: Provide capability to perform representative sampling and real-time monitoring for the gaseous emissions from the 7911 Stack.

JUSTIFICATION: Needed to comply with DOE Order requirements (5480.1 and 5484.1) with proposed EPA NESHAP regulations, and with FEMA requirements.

FACILITIES: Spoolpieces inserted in each duct leading to 7911 which will provide isokinetic sampling capability, real-time monitors for activity being emitted and an instrument shelter.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	350	350	0	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Water Quality Monitors

PLANT: ORNL EMP PROJECT NO: 2.5.2 CATEGORY: Monitoring TEC($x1000): 350

FUNDING YEARS: 84 FUNDING TYPE: GPP FUNDING STATUS: FUNDED FUNDING SOURCE: AT

ENG. PROJECT NO: SCH. COMP. DATE: 86 LAST UPDATE: 2/15/85 CONTACT: R. Pudelok

OMB-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: CWA/DOE

PROGRAM CATEGORY:

SCOPE: EGCR east, EGCR west, and 1st creek monitor stations.

JUSTIFICATION: Monitoring stations required to determine water quality at specific sites around ORNL.

FACILITIES: Waste Monitoring Stations

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	350	350	0	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Hydrostatic Head Monitoring Station, Trench Area

PLANT: ORNL EPMP PROJECT NO: 2.5.3 CATEGORY: Monitoring TEC($x1000): 220

FUNDING YEARS: 84 FUNDING TYPE: GPP FUNDING STATUS: FUNDED FUNDING SOURCE: AR

ENG. PROJECT NO: SCH. COMP. DATE: 86 LAST UPDATE: 2/15/85 CONTACT: J. Berry

OMB-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: CERCLA/CWA

PROGRAM CATEGORY:

SCOPE: Development of information about the deep groundwater flow system in and around ORNL disposal areas and related facilities.

JUSTIFICATION: This work is coupled to the FY 1987 milestone requiring long-term stabilization of the burial grounds. Information about the horizontal and vertical flow patterns of the groundwater are required to plan effective measures for preventing groundwater from coming into contact with buried waste.

FACILITIES: A system of wells to measure hydrostatic head at three depths (40, 200, and 400 ft below ground surface.)

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	220	220	0	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Environmental and Effluent Data Computer System

PLANT: ORNL EPMP PROJECT NO: 2.5.4 CATEGORY: Monitoring TEC($x1000): 198

FUNDING YEARS: 83 FUNDING TYPE: GPE FUNDING STATUS: FUNDED FUNDING SOURCE: AT

ENG. PROJECT NO: SCH. COMP. DATE: 85 LAST UPDATE: 2/15/85 CONTACT: R. Pudelek

OMB-A-106 NO: ENVIR. MEDIA: Water/Air STATUTORY REQ: CWA/CAA

PROGRAM CATEGORY:

SCOPE: Provide the capability to store and to reduce data being transmitted from ORNL's monitoring networks and to use that data in predicting environmental consequences for normal and emergency operations.

JUSTIFICATION: Needed to comply with DOE Order requirements (5480.1 and 5484.1) with proposed EPA NESHAP regulations, and with FEMA requirements.

FACILITIES: Virtual memory computer tied to ORNL's monitoring networks and modifications to Building 2016 to house the computer.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	198	0	0	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Pressurized Gas Sampler Systems

PLANT: ORNL EPMP PROJECT NO: 2.5.5 CATEGORY: Monitoring TEC ($x1000): 69

FUNDING YEARS: 85 FUNDING TYPE: GPE FUNDING STATUS: UNFUNDED FUNDING SOURCE: AT

ENG. PROJECT NO: SCH. COMP. DATE: 87 LAST UPDATE: 2/15/85 CONTACT:

CMP-A-106 NO: ENVIR. MEDIA: Air STATUTORY REQ: DOE/CAA

PROGRAM CATEGORY:

SCOPE: Sample collection system will be provided. The new system will provide 150-fold enhancement of stack gas or environmental air samples.

JUSTIFICATION: Collection system required to provide monitoring of redeases from ORNL.

FACILITIES: A new sample collection system will be provided.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	69	0	69	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Environmental Monitoring Systems Upgrade Phase I, II

PLANT: ORNL EPMP PROJECT NO: 2.5.6 CATEGORY: Monitoring TEC($x1000): 8500

FUNDING YEARS: 85-86 FUNDING TYPE: LI FUNDING STATUS: UNFUNDED FUNDING SOURCE: AT

ENG. PROJECT NO: SCH. COMP. DATE: 86-89 LAST UPDATE: 2/15/85 CONTACT: R. Pudelek

OMB-A-106 NO: ENVIR. MEDIA: Air/Water STATUTORY REQ: CWA/DOE/CAA

PROGRAM CATEGORY:

SCOPE: Replace existing vacuum tube electronics with commercially available solid-state units.

JUSTIFICATION: Needed to ensure adequate data is obtained on the various environmental discharges from ORNL and Oak Ridge Reservation in accordance with DOE Orders 5480.1 and 5484.1.

FACILITIES: New solid-state monitoring and sampling equipment will be procured and installed as required.

SCHEDULE: FUNDING $x1000	TOTAL 8500	FY-84 0	FY-85 1000	FY-86 3500	FY-87 4000	FY-88 0	FY-89 0	FY-90 0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Process Waste Segregation System

PLANT: ORNL EPMP_PROJECT_NO: 2.5.7 CATEGORY: Monitoring TEC($x1000): 930

FUNDING_YEARS: 85 FUNDING_TYPE: GPP FUNDING_STATUS: UNFUNDED FUNDING_SOURCE: AR

ENG._PROJECT_NO: SCH._COMP._DATE: 87 LAST_UPDATE: 3/19/85 CONTACT:

OMB-A-106_NO: ENVIR._MEDIA: Water STATUTORY_REQ: CWA/DOE

PROGRAM_CATEGORY: Water Pollution Control

SCOPE: Upgrading of an obsolete sampling and monitoring system by replacing 15 monitoring stations.

JUSTIFICATION: Reduction of quantities of misclassified waste, resulting in more efficient operation of PWTF, and better characterization of ORNL waste streams.

FACILITIES: An upgraded sampling and monitoring system for the low-level radioactive liquid waste collection and transfer system.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	930	0	930	0	0	0	0	0

PERMITS:
PROJECT_STATUS:
REMARKS:

PROJECT: Process Waste Monitoring System

PLANT: ORNL EMP PROJECT NO: 2.5.8 CATEGORY: Monitoring TEC($x1000): 550

FUNDING YEARS: 86 FUNDING TYPE: GPP FUNDING STATUS: UNFUNDED FUNDING SOURCE: AR

ENG. PROJECT NO: SCH. COMP. DATE: 88 LAST UPDATE: 3/19/85 CONTACT:

CMB-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: DOE/CWA

PROGRAM CATEGORY: Monitoring

SCOPE: Upgrading of an obsolete sampling and monitoring system by replacing 15 monitoring stations.

JUSTIFICATION: Reduction of quantities of misclassified waste, resulting in more efficient operation of PWTF, and better characterization of ORNL waste streams.

FACILITIES: An upgraded sampling and monitoring system for the low-level radioactive liquid waste collection and transfer system.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	550	0	0	550	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: New NPDES Monitors at ORNL

PLANT: ORNL PEMP PROJECT NO: 2.5.9 CATEGORY: Monitoring TEC ($x1000): 300

FUNDING YEARS: 85 FUNDING TYPE: GPP FUNDING STATUS: UNFUNDED FUNDING SOURCE: AT

ENG. PROJECT NO: SCH. COMP. DATE: 87 LAST UPDATE: 3/19/85 CONTACT: R. Pudelek

CMB-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: CWA

PROGRAM CATEGORY: Monitoring

SCOPE: Provide new monitors and sampling equipment at new NPDES points at ORNL. FY-85 is design only, FY-86 construction.

JUSTIFICATION: Orders 5480.1 and 5484.1. Needed to ensure compliance with proposed new NPDES permit limits in accordance with the CWA.

FACILITIES: New flow monitoring and sampling equipment will be installed at the various new NPDES discharge points.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	300	0	40	260	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS: Design in FY-85, construction in FY-86

PROJECT: New NPDES Monitors at Y-12

PLANT: ORNL EPMP PROJECT NO: 2.5.10 CATEGORY: Monitoring TEC($x1000): 250

FUNDING YEARS: 84 FUNDING TYPE: GPP FUNDING STATUS: UNFUNDED FUNDING SOURCE: AT

ENG. PROJECT NO: SCH. COMP. DATE: 86 LAST UPDATE: 2/15/85 CONTACT: L. Atwood

OMB-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: CWA

PROGRAM CATEGORY:

SCOPE: Provide new monitors and sampling equipment at new NPDES points for facilities at Y-12.

JUSTIFICATION: Needed to ensure compliance with proposed new NPDES permit limits in accordance with the CWA.

FACILITIES: New flow monitoring and sampling equipment will be installed at the various new NPDES discharge points.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	250	250	0	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Hydrostatic Head Measuring Station, SWSA 06

PLANT: ORNL EPMP PROJECT NO: 2.5.11 CATEGORY: Monitoring TEC ($x1000): 300

FUNDING YEARS: 85 FUNDING TYPE: GPP FUNDING STATUS: UNFUNDED FUNDING SOURCE: AR

ENG. PROJECT NO: SCH. COMP. DATE: 87 LAST UPDATE: 3/19/85 CONTACT:

OMB-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: RCRA/CWA

PROGRAM CATEGORY: Monitoring

SCOPE: Development of information about the deep groundwater flow system in and around ORNL disposal areas and related facilities.

JUSTIFICATION: This work is coupled to the FY 1987 milestone requiring long-term stabilization of the burial grounds. Information about the horizontal and vertical flow patterns of the groundwater are required to plan effective measures for preventing groundwater from coming into contact with buried waste.

FACILITIES: A system of wells to measure hydrostatic head at three depths (40, 200, and 400 ft below ground surface).

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	300	0	300	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Hydrostatic Head Measuring Station, SWSA #5

PLANT: ORNL EPMP PROJECT NO: 2.5.12 CATEGORY: Monitoring TEC($x1000): 500

FUNDING YEARS: 86 FUNDING TYPE: GPP FUNDING STATUS: UNFUNDED FUNDING SOURCE: AR

ENG. PROJECT NO: SCH. COMP. DATE: 88 LAST UPDATE: 3/19/85 CONTACT:

ORR-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: CERCLA/CWA

PROGRAM CATEGORY: Monitoring

SCOPE: Development of information about the deep groundwater flow system in and around ORNL disposal areas and related facilities.

JUSTIFICATION: This work is coupled to the FY 1987 milestone requiring long-term stabilization of the burial grounds. Information about the horizontal and vertical flow patterns of the groundwater are required to plan effective measures for preventing groundwater from coming into contact with buried waste.

FACILITIES: A system of wells to measure hydrostatic head at three depths (40, 200, and 400 ft below ground surface).

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	600	0	0	600	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

[illegible]. Groundwater Monitoring Network, Phases I, II, III, and IV

PLANT: ORNL EMP PROJECT NO: 2.5.13 CATEGORY: Monitoring TEC ($x1000): 2550

FUNDING YEARS: 86-89 FUNDING TYPE: GPP FUNDING STATUS: UNFUNDED FUNDING SOURCE: AT

ENG. PROJECT NO: SCH. COMP. DATE: 88-92 LAST UPDATE: 3/19/85 CONTACT: V. L. Turner

OMB-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: CWA/RCRA

PROGRAM CATEGORY: Monitoring

SCOPE: Provide state of the art sampling and monitoring of groundwater in and around the solid waste disposal and operation areas at ORNL.

JUSTIFICATION: Regulatory guidelines for monitoring well construction and placement requires major upgrading of the system currently in use in the ORNL solid waste disposal areas. This project will permit ORNL to keep pace with developing regulatory requirements.

FACILITIES: A permanent groundwater monitoring system to provide both a comprehensive spatial distribution of strategically placed wells to ensure well construction that meets modern standards for groundwater sampling.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	2550	0	0	850	700	700	350	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Environmental Management and Monitoring Center

PLANT: ORNL EPMP PROJECT NO: 2.5.14 CATEGORY: Monitoring TEC($x1000): 900

FUNDING YEARS: 86 FUNDING TYPE: GPP FUNDING STATUS: UNFUNDED FUNDING SOURCE: KG

ENG. PROJECT NO: SCH. COMP. DATE: 88 LAST UPDATE: 3/21/85 CONTACT: R. Pudelek

OMB-A-106 NO: ENVIR. MEDIA: Water/Air STATUTORY REQ: CWA/CAA/RCRA

PROGRAM CATEGORY: Monitoring

SCOPE: Provide a new structure to house the various new environmental monitoring computer equipment and personnel in a central location.

JUSTIFICATION: Needed to ensure adequate facilities are available for new NPDES and CAA monitoring equipment, computers, and personnel.

FACILITIES: New building will be constructed to house the personnel and computer equipment.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	900	0	0	900	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Environmental Monitoring/Management Equipment, Phases I, II, III, IV, V

PLANT: ORNL PEMP PROJECT NO: 2.5.15 CATEGORY: Monitoring TEC($x1000): 6260

FUNDING YEARS: 85-89 FUNDING TYPE: GPE FUNDING STATUS: UNFUNDED FUNDING SOURCE: AT

ENG. PROJECT NO: SCH. COMP. DATE: 85-92 LAST UPDATE: 2/21/85 CONTACT:

OMB-A-106 NO: ENVIR. MEDIA: STATUTORY REQ: CWA/CAA/RCRA

PROGRAM CATEGORY:

SCOPE: Provide equipment for environmental monitoring/management activities for the ORNL area.

JUSTIFICATION: Equipment required to meet required monitoring activities.

FACILITIES: Equipment needed to provide adequate monitoring/management capabilities.

SCHEDULE: FUNDING $x1000	TOTAL 6260	FY-84 0	FY-85 500	FY-86 500	FY-87 2000	FY-88 1680	FY-89 1580	FY-90 0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Groundwater Sampling System

PLANT: ORNL EPMP PROJECT NO: 2.5.17 CATEGORY: Monitoring TEC($x1000): 92

FUNDING YEARS: 85 FUNDING TYPE: GPE FUNDING STATUS: UNFUNDED FUNDING SOURCE: AT

ENG. PROJECT NO: SCH. COMP. DATE: 87 LAST UPDATE: 2/15/85 CONTACT: T. W. Oakes

OMB-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: CWA/RCRA

PROGRAM CATEGORY:

SCOPE: A new mobile well logger will be procured. The logger will be equipped for use on conjunction with the various groundwater monitoring wells required.

JUSTIFICATION: The logger is required to support the required groundwater monitoring program at ORNL.

FACILITIES: A new mobile well logger will be procured.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	92	0	92	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Four Wheel Drive Vehicles

PLANT: ORNL PEMP PROJECT NO: 2.5.18 CATEGORY: Monitoring TEC($x1000): 21

FUNDING YEARS: 85 FUNDING TYPE: GPE FUNDING STATUS: UNFUNDED FUNDING SOURCE: AT

ENG. PROJECT NO: SCH. COMP. DATE: 87 LAST UPDATE: 2/15/85 CONTACT: T. W. Oakes

OMB-A-106 NO: ENVIR. MEDIA: Water/Air STATUTORY REQ: MISC

PROGRAM CATEGORY:

SCOPE: Procure four wheel drive vehicles equipped for sampling in remote areas.

JUSTIFICATION: The vehicles are required to required support sampling in remote areas where a standard vehicle could provide access.

FACILITIES: New four wheel drive vehicles will be procured.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	21	0	21	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Aquatic Life Sampling System

PLANT: ORNL PPMP PROJECT NO: 2.5.19 CATEGORY: Monitoring TEC($x1000): 40

FUNDING YEARS: 85 FUNDING TYPE: GPE FUNDING STATUS: UNFUNDED FUNDING SOURCE: AT

ENG. PROJECT NO: SCH. COMP. DATE: 87 LAST UPDATE: 2/15/85 CONTACT:

OMP-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: CWA/RCRA

PROGRAM CATEGORY:

SCOPE: A work boat system consisting of sediment sampling boat and support/biological samlping boat will be procured.

JUSTIFICATION: System is required to support increased sampling requirements for sediment and biological items.

FACILITIES: A new boat/trailer system will be procured.

SCHEDULE: FUNDING $x1000	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
	40	0	40	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: TLD Reader

PLANT: ORNL EPMP_PROJECT_NO: 2.5.20 CATEGORY: Monitoring TEC($x1000): 29

FUNDING_YEARS: 85 FUNDING_TYPE: GPE FUNDING_STATUS: UNFUNDED FUNDING_SOURCE: AT

ENG._PROJECT_NO: SCH._COMP._DATE: 87 LAST_UPDATE: 2/15/85 CONTACT:

OMB-A-106_NO: ENVIR._MEDIA: STATUTORY_REQ: MISC

PROGRAM_CATEGORY:

SCOPE: Provide an automated TLD reader capable of evaluating approximately 50 chips in sequence.

JUSTIFICATION: Required to support increase TLD monitoring requirements.

FACILITIES: A new TLD reader will be provided.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	29	0	29	0	0	0	0	0

PERMITS:
PROJECT_STATUS:
REMARKS:

PROJECT: Disk Drive for Spectrometer

PLANT: ORNL EPMP_PROJECT_NO: 2.5.21 CATEGORY: Monitoring TEC($x1000): 13

FUNDING_YEARS: 85 FUNDING_TYPE: GPE FUNDING_STATUS: UNFUNDED FUNDING_SOURCE: AT

ENG._PROJECT_NO: SCH._COMP._DATE: LAST_UPDATE: 2/15/85 CONTACT:

OMB-A-106_NO: ENVIR._MEDIA: STATUTORY_REQ: MISC

PROGRAM_CATEGORY:

SCOPE: Provide disk drive to increase data handling capability of an existing remote data acquisition system.

JUSTIFICATION: The new capability is required to provide needed access to the data at the remote area.

FACILITIES: A new disk drive will be provided.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	13	0	13	0	0	0	0	0

PERMITS:
PROJECT_STATUS:
REMARKS:

PROJECT: Scan/Calibration Van

PLANT: ORNL EPMP_PROJECT_NO: 2.5.22 CATEGORY: Monitoring TEC($x1000): 121

FUNDING_YEARS: 85 FUNDING_TYPE: GPE FUNDING_STATUS: UNFUNDED FUNDING_SOURCE: AT

ENG._PROJECT_NO: SCH._COMP._DATE: 87 LAST_UPDATE: 2/15/85 CONTACT: W.L. Turner

OMB-A-106_NO: ENVIR._MEDIA: STATUTORY_REQ: MISC

PROGRAM_CATEGORY:

SCOPE: Provide a van equipped for scanning of various areas around ORNL. Also

JUSTIFICATION: Van is required to ensure that the proper level of monitoring at ORNL is maintained.

FACILITIES: A new van will be provided.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	121	0	121	0	0	0	0	0

PERMITS:
PROJECT_STATUS:
REMARKS:

PROJECT: Portable Gross Gamma Monitor

PLANT: ORNL EPMP_PROJECT_NO: 2.5.23 CATEGORY: Monitoring TEC($x1000): 11

FUNDING_YEARS: 85 FUNDING_TYPE: GPE FUNDING_STATUS: UNFUNDED FUNDING_SOURCE: AT

ENG._PROJECT_NO: SCH._COMP._DATE: 87 LAST_UPDATE: 2/21/85 CONTACT: V.L. Turner

OMB-A-106_NO: ENVIR._MEDIA: STATUTORY_REQ: MISC

PROGRAM_CATEGORY:

SCOPE: Procure new gross gamma monitor for various areas at ORNL.

JUSTIFICATION: New gamma monitor is needed to support monitoring activities at ORNL.

FACILITIES: New gross gamma monitor will be provided.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	11	0	11	0	0	0	0	0

PERMITS:
PROJECT_STATUS:
REMARKS:

PROJECT: Background Water Data Measuring Stations

PLANT: ORNL EPMP_PROJECT_NO: 2.5.24 CATEGORY: Monitoring TEC($x1000): 244

FUNDING_YEARS: 85 FUNDING_TYPE: OPE FUNDING_STATUS: FUNDED FUNDING_SOURCE: AT

ENG._PROJECT_NO: SCH._COMP._DATE: 87 LAST_UPDATE: 2/15/85 CONTACT: V. L. Turner

OMB-A-106_NO: ENVIR._MEDIA: Water STATUTORY_REQ: CWA

PROGRAM_CATEGORY:

SCOPE: Provide the necessary water quality measuring stations on the Clinch River and on White Oak Creek upstream of ORNL to measure background water quality.

JUSTIFICATION: Background water quality data is needed to determine the relative level of pollution caused by ORNL facilities to the area waters.

FACILITIES: Two new water measuring stations will be provided.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	244	0	244	0	0	0	0	0

PERMITS:
PROJECT_STATUS:
REMARKS:

PROJECT: Portable Water Samplers

PLANT: ORNL EPMP PROJECT NO: 2.5.25 CATEGORY: Monitoring TEC ($x1000): 75

FUNDING YEARS: 86 FUNDING TYPE: GPE FUNDING STATUS: UNFUNDED FUNDING SOURCE: AT

ENG. PROJECT NO: SCH. COMP. DATE: 88 LAST UPDATE: 2/15/85 CONTACT: V.L. Turner

OMB-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: CWA

PROGRAM CATEGORY:

SCOPE: New portable water samplers will be procured.

JUSTIFICATION: New portable water samplers are required to support increased monitoring requirements.

FACILITIES: New portable water samplers will be provided.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	75	0	0	75	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Data Concentrators

PLANT: ORNL EPMP_PROJECT_NO: 2.5.26 CATEGORY: Monitoring TEC($x1000): 490

FUNDING_YEARS: 86 FUNDING_TYPE: GPE FUNDING_STATUS: UNFUNDED FUNDING_SOURCE: AT

ENG._PROJECT_NO: SCH._COMP._DATE: 88 LAST_UPDATE: 2/15/85 CONTACT: R.E. Pudelek

OMB-A-106_NO: ENVIR._MEDIA: STATUTORY_REQ: MISC

PROGRAM_CATEGORY:

SCOPE: Procure ans install new data concentrator.

JUSTIFICATION: The new data concentrator are required to tie into the updated environmental monitoring system.

FACILITIES: New data concentrators will be procured and installed.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	490	0	0	490	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Flow Measuring System for Sewage Lines

PLANT: ORNL EPMP_PROJECT_NO: 2.5.27 CATEGORY: Monitoring TEC($x1000): 350

FUNDING_YEARS: 86 FUNDING_TYPE: GPE FUNDING_STATUS: UNFUNDED FUNDING_SOURCE: AT

ENG._PROJECT_NO: SCH._COMP._DATE: 88 LAST_UPDATE: 2/15/85 CONTACT: V.L. Turner

CMP-A-106_NO: ENVIR._MEDIA: Water STATUTORY_REQ: CWA/DOE

PROGRAM_CATEGORY:

SCOPE: A new flow measuring system for the sewer drainage system will be procured and installed.

JUSTIFICATION: The new system is required to ensure that the drainage system is monitored of inflow and infiltration.

FACILITIES: A new flow measuring system will be procured.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	350	0	0	350	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: H-3 Stack Monitoring System

PLANT: ORNL EPMP_PROJECT_NO: 2.5.28 CATEGORY: Monitoring TEC($x1000): 200

FUNDING_YEARS: 86 FUNDING_TYPE: GPE FUNDING_STATUS: UNFUNDED FUNDING_SOURCE: AT

ENG._PROJECT_NO: SCH._COMP._DATE: 88 LAST_UPDATE: 2/15/85 CONTACT: R.E. Pudelek

OMB-A-106_NO: ENVIR._MEDIA: Air STATUTORY_REQ: CAA/DOE

PROGRAM_CATEGORY:

SCOPE: Procure and install a new H-3 stack monitoring system.

JUSTIFICATION: New monitoring system is required to ensure adequate monitoring is maintained.

FACILITIES: A new monitoring system will be procured and installed.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	200	0	0	200	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: MSRE Stack Monitoring System

PLANT: ORNL EPMP_PROJECT_NO: 2.5.29 CATEGORY: Monitoring TEC($x1000): 250

FUNDING_YEARS: 86 FUNDING_TYPE: GPE FUNDING_STATUS: UNFUNDED FUNDING_SOURCE: AT

ENG._PROJECT_NO: SCH._COMP._DATE: 88 LAST_UPDATE: 2/15/85 CONTACT: R.E. Pudelek

OMB-A-106_NO: ENVIR._MEDIA: Air STATUTORY_REQ: CAA/DOE

PROGRAM_CATEGORY:

SCOPE: Procure and install a new monitoring system for the MSRE stack.

JUSTIFICATION: New monitoring system is required to insure adequate monitoring.

FACILITIES: A new monitoring system will be procured and installed.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	250	0	0	250	0	0	0	0

PERMITS:
PROJECT_STATUS:
REMARKS:

PROJECT: Bar Code System

PLANT: ORNL EPMP PROJECT NO: 2.5.30 CATEGORY: Monitoring TEC ($x1000): 17

FUNDING YEARS: 85 FUNDING TYPE: GPE FUNDING STATUS: FUNDED FUNDING SOURCE: AT

ENG. PROJECT NO: SCH. COMP. DATE: 87 LAST UPDATE: 2/15/85 CONTACT: V.L. Turner

OMB-A-106 NO: ENVIR. MEDIA: STATUTORY REQ: MISC

PROGRAM CATEGORY:

SCOPE: A new bar code system will be procured to track environmental samples.

JUSTIFICATION: A overall tracking system is required to ensure effective tracking of environmental samples. This tracking system will assist in ensuring the Q.A. of the sampling program.

FACILITIES: A new bar code system will be procured.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	17	0	17	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Monitoring Wells, Bethel Valley

PLANT: ORNL EFMP PROJECT NO: 2.5.31 CATEGORY: Monitoring TEC($x1000): 700

FUNDING YEARS: 87 FUNDING TYPE: GPP FUNDING STATUS: UNFUNDED FUNDING SOURCE: AR

ENG. PROJECT NO: SCH. COMP. DATE: 12/89 LAST UPDATE: 3/19/85 CONTACT: J. Berry

OMB-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: RCRA/CERCLA

PROGRAM CATEGORY: Monitoring

SCOPE: Development of data collection on contaminated groundwater flow in Bethel Valley.

JUSTIFICATION: This work is being performed in conjunction with the Groundwater Monitoring Network cited in the "Environmental Management at ORNL, Five Year Project Plan" and provide identification and monitoring of radioactively contaminated groundwater migration in specific areas.

FACILITIES: A system of wells to measure hydrostatic head

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	700	0	0	0	700	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Hydrostatic Head Measuring Station, SWSA 3

PLANT: ORNL EFMP PROJECT NO: 2.5.32 CATEGORY: Monitoring TEC($x1000): 300

FUNDING YEARS: 86 FUNDING TYPE: GPP FUNDING STATUS: UNFUNDED FUNDING SOURCE: AR

ENG. PROJECT NO: SCH. COMP. DATE: 12/89 LAST UPDATE: 3/19/85 CONTACT: J. Berry

OMB-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: CERCLA/CWA/DOE

PROGRAM CATEGORY: Monitoring

SCOPE: Development of information about the deep groundwater flow system in and around ORNL disposal areas and related facilities.

JUSTIFICATION: This work is coupled to the FY 1987 milestone requiring long term stabilization of the burial grounds. Information about the horizontal and vertical flow patterns of the groundwater is required to plan effective measures for preventing groundwater from coming into contact with buried waste.

FACILITIES: A system of wells to measure hydrostatic head at three depths (40-

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	300	0	0	300	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Upgrade 10 Area Air Monitoring Systems

PLANT: ORNL EPMP PROJECT NO: 2.5.33 CATEGORY: Monitoring TEC($x1000): 500

FUNDING YEARS: 85 FUNDING TYPE: GPE FUNDING STATUS: UNFUNDED FUNDING SOURCE: AT

ENG. PROJECT NO: SCH. COMP. DATE: 87 LAST UPDATE: 2/15/85 CONTACT: R.E. Pudelek

OMB-A-106 NO: ENVIR. MEDIA: Air STATUTORY REQ: DOE/CAA

PROGRAM CATEGORY:

SCOPE: Provide the necessary monitoring

JUSTIFICATION: Upgrade of monitoring equipment necessary to ensure compliance with regulations.

FACILITIES: Ten (10) upgraded area air monitoring stations and associated equipment.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	500	0	500	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Portable Spectral Detection System

PLANT: ORNL EPMP PROJECT NO: 2.5.34 CATEGORY: Monitoring TEC($x1000): 47

FUNDING YEARS: 85 FUNDING TYPE: GPE FUNDING STATUS: UNFUNDED FUNDING SOURCE: AT

ENG. PROJECT NO: SCH. COMP. DATE: 87 LAST UPDATE: 2/15/85 CONTACT: R. E. Pudelek

CMD-A-106 NO: ENVIR. MEDIA: STATUTORY REQ: MISC

PROGRAM CATEGORY:

SCOPE: A new portable spectral detection system will be procured

JUSTIFICATION: Portable detection system required to support the overall ORNL environmental monitoring program.

FACILITIES: A new portable spectral detection system will be provided.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	47	0	47	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: STP Influent Radiation Monitor/Microprocessor

PLANT: ORNL EPMP PROJECT NO: 2.5.35 CATEGORY: Monitoring TEC ($x1000): 60

FUNDING YEARS: 85 FUNDING TYPE: GPE FUNDING STATUS: FUNDED FUNDING SOURCE: AT

ENG. PROJECT NO: SCH. COMP. DATE: 87 LAST UPDATE: 2/15/85 CONTACT: R.E. Pudelek

OMB-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: CWA/DOE

PROGRAM CATEGORY:

SCOPE: This project will provide a new monitor for the inlet to the sewage treatment plant to monitor fo: radiation.

JUSTIFICATION: Due to problem in certain areas

FACILITIES: A new radiation monitoring system will be installed

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	60	0	60	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Monitoring System Outlet to STP

PLANT: ORNL EPMP_PROJECT_NO: 2.5.36 CATEGORY: Monitoring TEC($x1000): 55

FUNDING_YEARS: 85 FUNDING_TYPE: GPE FUNDING_STATUS: FUNDED FUNDING_SOURCE: AT

ENG._PROJECT_NO: SCH._COMP._DATE: 87 LAST_UPDATE: 2/15/85 CONTACT: R.E. Pudelek

OMP-A-106_NO: ENVIR._MEDIA: Water STATUTORY_REQ: CWA

PROGRAM_CATEGORY:

SCOPE: The project will include the installation of a new monitoring system on the outlet of ORNL's new sewage treatment plant.

JUSTIFICATION: The new system is required to provide accurate monitoring of the sewage treatment plant outlet.

FACILITIES: A new monitoring system will be provided.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	55	0	55	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Real Time Environmental Data Analysis System

PLANT: ORNL EPMP PROJECT NO: 2.5.37 CATEGORY: Monitoring TEC($x1000): 147

FUNDING YEARS: 85 FUNDING TYPE: GPE FUNDING STATUS: UNFUNDED FUNDING SOURCE: AT

ENG. PROJECT NO: SCH. COMP. DATE: 87 LAST UPDATE: 2/15/85 CONTACT: R.E. Pudelek

CMP-A-106 NO: ENVIR. MEDIA: Water/Air STATUTORY REQ: MISC

PROGRAM CATEGORY:

SCOPE: Procure a new environmental analysis system to handle environmental data generated

JUSTIFICATION: New data analysis system required to handled environmental data at the Oak Ridge Reservation.

FACILITIES: A new data analysis system will be procured and installed

SCHEDULE: FUNDING $x1000	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
	147	0	147	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Automatic Sample Analyzer

PLANT: ORNL EPMP_PROJECT_NO: 2.5.39 CATEGORY: Monitoring TEC($x1000): 28

FUNDING_YEARS: 87 FUNDING_TYPE: GPE FUNDING_STATUS: UNFUNDED FUNDING_SOURCE: AT

ENG._PROJECT_NO: SCH._COMP._DATE: 89 LAST_UPDATE: 3/15/85 CONTACT: R.E. Pudelek

OMB-A-106_NO: ENVIR._MEDIA: STATUTORY_REQ: MISC

PROGRAM_CATEGORY:

SCOPE: Provide new automatic sample analyzer equipment

JUSTIFICATION: Sample analyzer equipment will be provided.

FACILITIES: New sampler analyzer equipment will be provided.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	28	0	0	0	28	0	0	0

PERMITS:
PROJECT_STATUS:
REMARKS:

PROJECT: 14 Rain Gauges for Disposal Areas

PLANT: ORNL EPMP PROJECT NO: 2.5.40 CATEGORY: Monitoring TEC($x1000): 112

FUNDING YEARS: 87 FUNDING TYPE: GPE FUNDING STATUS: UNFUNDED FUNDING SOURCE: AT

ENG. PROJECT NO: SCH. COMP. DATE: 89 LAST UPDATE: 2/15/85 CONTACT: R.E. Pudelek

CMP-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: DOE

PROGRAM CATEGORY:

SCOPE: This project is required to provide the rainfall data for the various ORNL disposal areas

JUSTIFICATION: Rain fall data is required to determine the flow of water and discharges through the various ORNL waste disposal areas.

FACILITIES: New rain gauges will be provided

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	112	0	0	0	112	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Data Concentrators

PLANT: ORNL PEMP PROJECT NO: 2.5.41 CATEGORY: Monitoring TEC($x1000): 490

FUNDING YEARS: 87 FUNDING TYPE: GPE FUNDING STATUS: UNFUNDED FUNDING SOURCE: AT

ENG. PROJECT NO: SCH. COMP. DATE: LAST UPDATE: 2/15/85 CONTACT: R. E. Pudelek

CMP-A-106 NO: ENVIR. MEDIA: STATUTORY REQ: MISC

PROGRAM CATEGORY:

SCOPE: Provide data concentrator equipment of the various environmental monitoring points around ORNL.

JUSTIFICATION: The data handling equipment is required to ensure that the overall ORNL monitoring system work in an efficient and effective manner.

FACILITIES: New data concentrate equipment will be provided.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	490	0	0	0	490	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS.

PROJECT: 10 Gross Gamma Monitors

PLANT: ORNL EPMP_PROJECT_NO: 2.5.42 CATEGORY: Monitoring TEC($x1000): 120

FUNDING_YEARS: 87 FUNDING_TYPE: GPE FUNDING_STATUS: UNFUNDED FUNDING_SOURCE: AT

ENG._PROJECT_NO: SCH._COMP._DATE: 89 LAST_UPDATE: 2/15/85 CONTACT: R. E. Pudelek

OMB-A-106_NO: ENVIR._MEDIA: STATUTORY_REQ: MISC

PROGRAM_CATEGORY:

SCOPE: Provide 10 gross gamma monitors for use in environmental monitoring at ORNL

JUSTIFICATION: Equipment is required to support environmental monitoring activities at ORNL>

FACILITIES: New gross gamma monitoring equipment will be provided

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	120	0	0	0	120	0	0	0

PERMITS:
PROJECT_STATUS:
REMARKS:

[illegible] Groundwater Monitoring-Ponds

PLANT: ORNL EPMP PROJECT NO: 2.5.43 CATEGORY: Monitoring TEC ($x1000): 376

FUNDING YEARS: 85 FUNDING TYPE: GPP FUNDING STATUS: FUNDED FUNDING SOURCE: AT

ENG. PROJECT NO: SCH. COMP. DATE: 86 LAST UPDATE: 3/19/85 CONTACT: T. E. Myrick

OMB-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: CWA

PROGRAM CATEGORY: Monitoring

SCOPE:

JUSTIFICATION:

FACILITIES:

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	376	0	376	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Engineered Groundwater Barriers, Trench 7

PLANT: ORNL EPMP PROJECT NO: 2.6.1 CATEGORY: Remedial Action & Decommissioning TEC($x1000): 400

FUNDING YEARS: 84 FUNDING TYPE: GPP FUNDING STATUS: FUNDED FUNDING SOURCE: AR

ENG. PROJECT NO: SCH. COMP. DATE: 86 LAST UPDATE: 2/15/85 CONTACT: J. Berry

OMB-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: CERCLA/CWA/DOE

PROGRAM CATEGORY:

SCOPE: Intercept groundwater upgredient from Trench 7 and route groundwater to reduce contact with waste.

JUSTIFICATION: Prevent groundwater from reaching disposal trench.

FACILITIES: Diversion drains.

SCHEDULE: FUNDING $x1000	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
	400	400	0	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

372

PROJECT: Metal Recovery Facility

PLANT: ORNL EPMP PROJECT NO: 2.6.2 CATEGORY: Remedial Action & Decommissioning TEC($x1000): 410

FUNDING YEARS: 85-88 FUNDING TYPE: GPE FUNDING STATUS: FUNDED FUNDING SOURCE: AR

ENG. PROJECT NO: SCH. COMP. DATE: 88 LAST UPDATE: 3/29/85 CONTACT: T. E. Myrick

OMB-A-106 NO: ENVIR. MEDIA: Solid Waste STATUTORY REQ: NEPA/DOE

PROGRAM CATEGORY: Remedial Actions

SCOPE:

JUSTIFICATION:

FACILITIES:

SCHEDULE: FUNDING $x1000	TOTAL 410	FY-84 0	FY-85 260	FY-86 100	FY-87 25	FY-88 25	FY-89 0	FY-90 0

PERMITS:
PROJECT STATUS:
REMARKS: FTP/A No. ONLW012

PROJECT: Metal Recovery Facility

PLANT: ORNL **EPMP PROJECT NO:** 2.6.3 **CATEGORY:** Remedial Action & Decommissioning **TEC($x1000):** 6200

FUNDING YEARS: 84 **FUNDING TYPE:** EXP **FUNDING STATUS:** UNFUNDED **FUNDING SOURCE:** AR

ENG. PROJECT NO: **SCH. COMP. DATE:** 88 **LAST UPDATE:** 3/29/85 **CONTACT:** T.E. Myrick

OMB-A-106 NO: **ENVIR. MEDIA:** Solid Waste **STATUTORY REQ:** NEPA

PROGRAM CATEGORY: Remedial Actions

SCOPE: Decontaminate inactive support structures to levels that allow facility reuse; fuel handling canal and dissolver pit will be entombed.

JUSTIFICATION: Building containment is inadequate to radioactivity.

FACILITIES: Upon project completion, seven associated operating areas will be avaiable for other Laboratory programs.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	6200	1145	855	1190	1460	1550	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Fission Product Development Laboratory

PLANT: ORNL ERMP PROJECT NO: 2.6.4 CATEGORY: Remedial Action & Decommissioning TEC($x1000): 3100

FUNDING YEARS: 84 FUNDING TYPE: EXP FUNDING STATUS: FUNDED FUNDING SOURCE: AR

ENG. PROJECT NO: SCH. COMP. DATE: 89 LAST UPDATE: 3/29/85 CONTACT: T. E. Myrick

OMB-A-106 NO: ENVIR. MEDIA: STATUTORY REQ: NEPA

PROGRAM CATEGORY: Remedial Actions

SCOPE: Decontaminate and decommission Fission Product Development Laboratory

JUSTIFICATION: Decontamination and decommissioning of facility is needed in support of ORNL's Surplus Facilities Management Program.

FACILITIES:

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	3100	620	625	615	680	560	0	0

PERMITS:
PROJECT STATUS:
REMARKS: FTP/A No. ORLWD05

PROJECT: Site Corrective Measures Program

PLANT: ORNL PEMP PROJECT NO: 2.6.5 CATEGORY: Remedial Action & Decommissioning TEC($x1000): 39715

FUNDING YEARS: 84 FUNDING TYPE: EXP FUNDING STATUS: FUNDED FUNDING SOURCE: AR

ENG. PROJECT NO: SCH. COMP. DATE: LAST UPDATE: 3/29/85 CONTACT: T.E. Myrick

OMB-A-106 NO: ENVIR. MEDIA: STATUTORY REQ: NEPA/DOE

PROGRAM CATEGORY: Remedial Actions

SCOPE:

JUSTIFICATION:

FACILITIES:

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	39715	0	850	2370	5500	7130	7370	7815

PERMITS:
PROJECT STATUS:
REMARKS: FTPA No. ONLWN17 and ONLWN02

PROJECT: Process Ponds Remedial Actions

PLANT: ORNL EPMP PROJECT NO: 2.6.6 CATEGORY: Remedial Action & Decommissioning TEC($x1000): 57110

FUNDING YEARS: 85-91 FUNDING TYPE: EXP FUNDING STATUS: UNFUNDED FUNDING SOURCE: KG

ENG. PROJECT NO: SCH. COMP. DATE: 91 LAST UPDATE: 3/29/85 CONTACT: T.E. Myrick

ORP-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: RCRA

PROGRAM CATEGORY: Remedial Actions

SCOPE: Provide final disposition of process waste ponds when taken out of service. Ponds 3539, 3540, 7905, 7906, 7907, 7908, 7852 and 3513.

JUSTIFICATION: Ponds contain contaminated sludge and water in an environmentally unacceptable location on the floodplain of White Oak Creek.

FACILITIES: None

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	57110	0	430	1480	10200	23000	21000	500

PERMITS:
PROJECT STATUS:
REMARKS: FTP/A No. ONLKG02

PROJECT: Site Corrective Measures Program

PLANT: ORNL EPMP PROJECT NO: 2.6.7 CATEGORY: Remedial Action & Decommissioning TEC($x1000): 2734

FUNDING YEARS: 84-91 FUNDING TYPE: GPP FUNDING STATUS: FUNDED FUNDING SOURCE: AR

ENG. PROJECT NO: SCH. COMP. DATE: 91 LAST UPDATE: 3/29/85 CONTACT: T.E. Myrick

OMB-A-106 NO: ENVIR. MEDIA: STATUTORY REQ: NEPA/DOE

PROGRAM CATEGORY: Remedial Actions

SCOPE:

JUSTIFICATION:

FACILITIES:

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	2734	0	234	200	350	450	500	500

PERMITS:
PROJECT STATUS:
REMARKS: FTP/A no. ONLWN17 and ONLWN02

PROJECT: White Oak Creek Watershed

PLANT: ORNL **EPMP PROJECT NO:** 2.6.8 **CATEGORY:** Remedial Action & Decommissioning **TEC(1$x1000):** 62700

PLANNING YEARS: 87-91 **FUNDING TYPE:** EXP **FUNDING STATUS:** UNFUNDED **FUNDING SOURCE:** KG

ENG. PROJECT NO: **SCH. COMP. DATE:** 91 **LAST UPDATE:** 3/29/85 **CONTACT:** T. E. Myrick

OMB-A-106 NO: **ENVIR. MEDIA:** Water **STATUTORY REQ:** RCRA

PROGRAM CATEGORY: Remedial Actions

SCOPE: Stabilize or remove residual radioactivity associated with the White Oak Creek watershed.

JUSTIFICATION: Watershed is contaminated due to past ORNL activities and should be stabilized to reduce the long-term release of radioactivity from the Oak Ridge Reservation.

FACILITIES: None

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	62700	0	500	4400	1800	1500	3500	22000

PERMITS:
PROJECT STATUS:
REMARKS: FTP/A No. ONLKG02

PROJECT: Old Hydrofracture Facility

PLANT: ORNL **EPMP PROJECT NO:** 2.6.9 **CATEGORY:** Remedial Action & Decommissioning **TEC(FY1992):** 3110

FUNDING YEARS: 87 **FUNDING TYPE:** EXP **FUNDING STATUS:** UNFUNDED **FUNDING SOURCE:** AR

ENG. PROJECT NO: **SCH. COMP. DATE:** 91 **LAST UPDATE:** 3/29/85 **CONTACT:** T. E. Myrick

OMB-A-106 NO: **ENVIR. MEDIA:** Water **STATUTORY REQ:** NEPA

PROGRAM CATEGORY: Remedial Actions

SCOPE: Perform decommissioning of contaminated facilities associated with the original shale fracture equipment.

JUSTIFICATION: Facilities are highly contaminated and require routine M&S; open pond is an environmental concern due to location in White Oak Creek floodplain.

FACILITIES: None

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	3110	0	100	165	175	310	1085	985

PERMITS:
PROJECT STATUS:
REMARKS: FTP/A No. ONLWD18

PROJECT: Homogeneous Reactor Experiment

PLANT: ORNL EMP PROJECT NO: 2.6.10 CATEGORY: Remedial Action & Decommissioning TEC($x1000): 14500

FUNDING YEARS: 89 FUNDING TYPE: EXP FUNDING STATUS: UNFUNDED FUNDING SOURCE: AH

ENG. PROJECT NO: SCH. COMP. DATE: 95 LAST UPDATE: 3/29/85 CONTACT: T.E. Myrick

ONP-A-106 NO: ENVIR. MEDIA: STATUTORY REQ: NEPA/DOE

PROGRAM CATEGORY: Remedial Actions

SCOPE: Decontaminate and decommission the 7500 area (Homogenous Reactor Experiment)

JUSTIFICATION: Facilities need to be decontaminated and decommissioned due to the radioactive contamination present.

FACILITIES: A clean area will be provided

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	14500	0	0	0	0	0	14500	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Waste Tanks

PLANT: ORNL **EPMP PROJECT NO:** 2.6.11 **CATEGORY:** Remedial Action & Decommissioning **TEC($x1000):** 8500

FUNDING YEARS: 89 **FUNDING TYPE:** EXP **FUNDING STATUS:** UNFUNDED **FUNDING SOURCE:** AR

ENG. PROJECT NO: **SCH. COMP. DATE:** 95 **LAST UPDATE:** 3/29/85 **CONTACT:** T. E. Myrick

OMB-A-106 NO: **ENVIR. MEDIA:** **STATUTORY REQ:** NEPA/DOE

PROGRAM CATEGORY: Remedial Actions

SCOPE: Decontaminate and decommission Waste Tanks

JUSTIFICATION: Facilities need to be decontaminated and decommissioned due to the radioactive contamination present.

FACILITIES: A clean area will be provided

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	8500	0	0	0	0	0	8500	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Environmental Restoration

PLANT: ORNL **EPMP PROJECT NO:** 2.6.12 **CATEGORY:** Remedial Action & Decommissioning **TEC ($x1000):** 8800

FUNDING YEARS: 84-91 **FUNDING TYPE:** GPP **FUNDING STATUS:** FUNDED **FUNDING SOURCE:** KG

ENG. PROJECT NO: **SCH. COMP. DATE:** TBD **LAST UPDATE:** 3/29/85 **CONTACT:** T.E. Myrick

CDP-A-106 NO: **ENVIR. MEDIA:** **STATUTORY REQ:** NEPA/DOE

PROGRAM CATEGORY: Remedial Actions

SCOPE:

JUSTIFICATION:

FACILITIES:

SCHEDULE: FUNDING $x1000	TOTAL 8800	FY-84 0	FY-85 0	FY-86 1000	FY-87 2600	FY-88 1300	FY-89 1300	FY-90 1300

PERMITS:
PROJECT STATUS:
REMARKS: FTP/A No. ONLKG02

PROJECT: Spill Site Remedial Action

PLANT: ORNL **BEAP PROJECT NO:** 2.6.13 **CATEGORY:** Remedial Action & Decommissioning **TEC($x1000):** 26600

FUNDING YEARS: 85-91 **FUNDING TYPE:** EXP **FUNDING STATUS:** UNFUNDED **FUNDING SOURCE:** KG

ENG. PROJECT NO: **SCH. COMP. DATE:** 91 **LAST UPDATE:** 3/29/85 **CONTACT:** T.E. Myrick

OMB-A-106 NO: **ENVIR. MEDIA:** Water **STATUTORY REQ:** RCRA/CERCLA/CWA

PROGRAM CATEGORY: Remedial Actions

SCOPE: This project will provide the funds required to characterize and imporve the various spill sites in and around ORNL.

JUSTIFICATION: Characterization and improvements of spill site areas is required to meet the various environmental regulations under RCRA

FACILITIES: Cleanup and rehabilitated facilities will be provided as a result of the project

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	26600	0	400	2970	6230	5000	5000	6000

PERMITS:
PROJECT STATUS:
REMARKS: FTP/A No. ONLKG02

PROJECT: Scrap Metal Management

PLANT: ORGDP EPMP PROJECT NO: 3.1.1 CATEGORY: Radioactive Waste TEC($x1000): 3800

FUNDING YEARS: 84-85 FUNDING TYPE: EXP FUNDING STATUS: FUNDED FUNDING SOURCE: AR

FMG. PROJECT NO: FTP/A ONLWN10 SCH. COMP. DATE: 84-88 LAST UPDATE: 4/03/85 CONTACT: L. C. Williams

CMP-A-106 NO: ENVIR. MEDIA: STATUTORY REQ: CERCLA/CWA

PROGRAM CATEGORY: Solid Waste Management

SCOPE: Determine a plan for disposal of contaminated scrap metal. 80,000 tons of ferrous and non-ferrous scrap at 3 Plant sites and to provide for decommissioning of scrap yards.

JUSTIFICATION: Location of stored contaminated metals does not meet requirements of DOE Order 5820 for sites that are to be used for disposal of LLW. Material is stored in 100-year flood plan of Clinch River.

FACILITIES: Sub-contractor to provide equipment as part of contract for metal segregation and size reduction at ORGDP.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	3800	2400	1300	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Central Sludge Fixation Facility

PLANT: ORGDP EPMP PROJECT NO: 3.1.2 CATEGORY: Radioactive Waste TEC($x1000): 8800

FUNDING YEARS: 84 FUNDING TYPE: LI FUNDING STATUS: FUNDED FUNDING SOURCE: CD

ENG. PROJECT NO: 81-R-506 SCH. COMP. DATE: 85 LAST UPDATE: 4/03/85 CONTACT: T. J. McLaughlin

OMB-A-106 NO: OR-ORGDP-002 ENVIR. MEDIA: Water STATUTORY REQ: RCRA/CWA/CERCLA

PROGRAM CATEGORY: Water Pollution Control

SCOPE: Fix contaminated and co-contaminated sludge in concrete prior to land burial.

JUSTIFICATION: DOE Order 5820 EPA 40 CFR Subchapter I, Solid Wastes

FACILITIES: Cement batch plant including dry solids storage tanks, transfer and mixing equipment, liquid waste storage tanks, and transit mix trucks.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	8800	2700	5000	2300	400	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS: (LI-WBS-1.1.4)

PROJECT: Central Neutralization Facility

PLANT: ORGDP EPMP PROJECT NO: 3.1.3 CATEGORY: Radioactive Waste TEC($x1000): 1200

FUNDING YEARS: 84 FUNDING TYPE: LI FUNDING STATUS: FUNDED FUNDING SOURCE: CD

ENG. PROJECT NO: 81-R-506 SCH. COMP. DATE: 87 LAST UPDATE: 4/03/85 CONTACT: T. J. McLaughlin

OMB-A-106 NO: OR-ORGDP-002 ENVIR. MEDIA: Water STATUTORY REQ: CWA/RCRA

PROGRAM CATEGORY: Water Pollution Control

SCOPE: Treat effluents for K-1401, 1420, adn 1501 areas. (Metal preparation, u-decon and recovery, and steam plant).

JUSTIFICATION: For better compliance with the NPDES permits, and the Clean Water Act.

FACILITIES: Tanks, pumps, piping, instrumentation, mixes, and chemical feed equipment.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	1200	50	200	950	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS: (LI-WBS 1.1.2)

PROJECT: Floor Pan and Cylinder Cleaning

PLANT: ORGDP EPMP PROJECT NO: 3.1.4 CATEGORY: Radioactive Waste TEC($x1000): 1000

FUNDING YEARS: 84 FUNDING TYPE: LI FUNDING STATUS: FUNDED FUNDING SOURCE: CD

ENG. PROJECT NO: 81-R-506 SCH. COMP. DATE: 86 LAST UPDATE: 4/03/85 CONTACT: T. J. McLaughlin

OMB-A-106 NO: OR-ORGDP-002 ENVIR. MEDIA: Water STATUTORY REQ: RCRA/CWA

PROGRAM CATEGORY: Water Pollution Control

SCOPE: To collect and treat radioactive effluents from K-1420 decontamination areas, specially to remove Tc-99 to meet ALARA intent.

JUSTIFICATION: DOE, ALARA regulations

FACILITIES: Collection tanks, chemical treatment equipment, and ion exchange columns.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	1000	50	250	700	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS: (LI-WBS 1.1.3)

PROJECT: Scrap Metal Smelting

PLANT: ORGDP **EPMP PROJECT NO:** 3.1.5 **CATEGORY:** Radioactive Waste **TEC($x1000):** 6400

FUNDING YEARS: 85 **FUNDING TYPE:** EXP **FUNDING STATUS:** FUNDED **FUNDING SOURCE:** AR

ENG. PROJECT NO: **SCH. COMP. DATE:** 88 **LAST UPDATE:** 4/03/85 **CONTACT:** L. C. Williams

CMP-A-106 NO: **ENVIR. MEDIA:** Solid Waste **STATUTORY REQ:** CERCLA/CWA

PROGRAM CATEGORY: Solid Waste Management

SCOPE: Recover scrap metal in K-25 scrapyard by melting and pour into ingots. These ingots will be stored for future use within other government facilities.

JUSTIFICATION: To either comply with DOE ORder 5820 or provide a material (metal ingots) suitable for reuse at DOE facilities.

FACILITIES: Subcontractor to provide equipment as part of contract for smelting.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	6400	0	2000	4400	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS: If smelting facility provided in FY-85, 12,000 tons to be processed in FY-85 and 12,000 tons in FY-86. If smelting not approved then funding will provide for decommissioning scrap yards at Paducah, Portsmouth and National Lead of Ohio on accelerated schedule.

PROJECT: Classified Burial Ground Expansion

PLANT: ORGDP **EPMP PROJECT NO:** 3.1.6 **CATEGORY:** Radioactive Waste **TEC ($x1000):** 700

FUNDING YEARS: 87 **FUNDING TYPE:** GPP **FUNDING STATUS:** FUNDED **FUNDING SOURCE:** CD

ENG. PROJECT NO: GPP-54976 **SCH. COMP. DATE:** 87 **LAST UPDATE:** 4/03/85 **CONTACT:**

OMB-A-106 NO: **ENVIR. MEDIA:** Solid Waste **STATUTORY REQ:** RCRA/MISC

PROGRAM CATEGORY: Solid Waste Management

SCOPE: Expansion of existing burial ground.

JUSTIFICATION: To provide needed additional capacity at ORGDP for disposal of classified wastes.

390

FACILITIES: Provision of additional acreage (approx 20 acres) for burial of classified waste.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	700	0	0	0	700	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Chromate Sludge Collection

PLANT: ORGDP **EPMP PROJECT NO:** 3.2.1 **CATEGORY:** Hazardous Waste **TEC($x1000):** 1500

FUNDING YEARS: 84 **FUNDING TYPE:** LI **FUNDING STATUS:** FUNDED **FUNDING SOURCE:** CD

REG. PROJECT NO: 81-R-506 **CH. COMP. DATE:** 87 **LAST UPDATE:** 4/03/85 **CONTACT:** T. J. McLaughlin

ORP-A-106 NO: OR-ORGDP-002 **ENVIR. MEDIA:** Water **STATUTORY REQ:** CWA

PROGRAM CATEGORY: Water Pollution Control

SCOPE: To dewater chromium sludges generated by electrolytic reduction of cooling tower blowdown.

JUSTIFICATION: Clean Water Act, NPDES, resuspended solids transported over weir 1-2 times/yr. (<0.1 mg/L)

FACILITIES: Laminar settlers for sludge collection, centrifuges for sludge dewatering; solids disposal in Y-12 central landfill.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	1500	50	200	1050	200	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS: (LI-NRS 1.1.1)

PROJECT: Lithium Hydroxide Containment

PLANT: ORGDP **EPMP PROJECT NO:** 3.2.2 **CATEGORY:** Hazardous Waste **TEC($x1000):** 0

FUNDING YEARS: TBD **FUNDING TYPE:** TBD **FUNDING STATUS:** UNFUNDED **FUNDING SOURCE:**

ENG. PROJECT NO: **SCH. COMP. DATE:** **LAST UPDATE:** 4/03/85 **CONTACT:**

OMB-A-106 NO: **ENVIR. MEDIA:** Hazardous Waste **STATUTORY REQ:** CWA

PROGRAM CATEGORY: Water Pollution Control

SCOPE: Undefined

JUSTIFICATION: Twenty-two million pounds of LiOH are being stored in deteriorating fiber drums in the basement of the K-25 Building. The building's sprinkler system affords potential for accidental release to Poplar Creek which could result in fish kills and remedial regulatory action.

FACILITIES: Undefined

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	0	0	0	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS: Efforts are currently being made to alleviate the lithium hydroxide concern.

PROJECT: PCB Contaminated Outside Transformers

PLANT: ORGDP EPMP PROJECT NO: 3.2.3 CATEGORY: Hazardous Waste TEC($x1000): 0

FUNDING YEARS: TBD FUNDING TYPE: TBD FUNDING STATUS: UNFUNDED FUNDING SOURCE: CD

ENG. PROJECT NO: SCH. COMP. DATE: LAST UPDATE: 4/03/85 CONTACT:

OMB-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: TSCA

PROGRAM CATEGORY: Solid Waste Management

SCOPE: Undefined

JUSTIFICATION: Toxic Substance Control Act

FACILITIES: Undefined

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	0	0	0	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Nickel Treatment Facility

PLANT: ORGDP EPMP PROJECT NO: 3.2.4 CATEGORY: Hazardous Waste TEC($x1000): 750

FUNDING YEARS: TBD FUNDING TYPE: GPP FUNDING STATUS: UNFUNDED FUNDING SOURCE: CD

ENG. PROJECT NO: SCH. COMP. DATE: LAST UPDATE: 4/03/85 CONTACT: E.L. Arnold

OMB-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: CWA/RCRA

PROGRAM CATEGORY: Water Pollution Control

SCOPE: To remove nickel from the plating baths at K-1420 before discharging

JUSTIFICATION: Clean Water Act

FACILITIES: Not scoped

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	750	0	0	200	400	150	0	0

PERMITS:
PROJECT STATUS:
REMARKS: This is scheduled as an FY-86 project

PROJECT: Compliance with TSCA Phase I

PLANT: ORGDP EPMP PROJECT NO: 3.3.1 CATEGORY: Mixed or Co-contaminated Waste TEC($x1000): 31900

FUNDING YEARS: 83 FUNDING TYPE: LI FUNDING STATUS: FUNDED FUNDING SOURCE: CD

ENG. PROJECT NO: 83-N-402 SCH. COMP. DATE: 86 LAST UPDATE: 4/03/85 CONTACT: L. D. McCullough

ORP-A-106 NO: OR-ORGDP-012 ENVIR. MEDIA: Toxic Sub STATUTORY REQ: TSCA/RCRA

PROGRAM CATEGORY: Solid Waste Management

SCOPE: To dispose of PCB and other organic hazardous wastes contaminated with radioactivity.

JUSTIFICATION: Toxic Substance Control Act, Resource Conservation and Recovery Act, and Atomic Energy Act.

FACILITIES: High temperature incinerator with offgas, liquid waste, and solid waste handling equipment.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	31900	5000	7000	7700	3200	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS: The TEC is 31,900 but only 22,900 is scheduled to be spent at this time.

PROJECT: Waste Oil Storage Facility

PLANT: ORGDP **EPMP PROJECT NO:** 3.3.2 **CATEGORY:** Mixed or Co-contaminated Waste **TEC($x1000):** 715

FUNDING YEARS: 84 **FUNDING TYPE:** GPP **FUNDING STATUS:** FUNDED **FUNDING SOURCE:** CO

ENG. PROJECT NO: GPD-53995 **SCH. COMP. DATE:** 3/85 **LAST UPDATE:** 4/03/85 **CONTACT:** R. L. Whaley

ORP-A-106 NO: OR-ORGDP-009 **ENVIR. MEDIA:** Solid Waste **STATUTORY REQ:** TSCA/RCRA

PROGRAM CATEGORY: Solid Waste Management

SCOPE: Provide storage capacity to handle waste oils pending status of TSCA Incineration

JUSTIFICATION: Toxic Substance Control Act and RCRA.

FACILITIES: Building and four 22,500 gal tanks to provide storage capacity.

SCHEDULE: FUNDING $x1000	TOTAL 715	FY-84 715	FY-85 0	FY-86 0	FY-87 0	FY-88 0	FY-89 0	FY-90 0

PERMITS:
PROJECT STATUS:
REMARKS: Project complete.

PROJECT: Coal Pile Runoff Treatment

PLANT: ORGDP EPMP PROJECT NO: 3.4.1 CATEGORY: Conventional Waste TEC($x1000): 290

FUNDING YEARS: 83 FUNDING TYPE: GPP FUNDING STATUS: FUNDED FUNDING SOURCE: CD

ENG. PROJECT NO: GPP-54967 SCH. COMP. DATE: 84 LAST UPDATE: 4/03/85 CONTACT: E. L. Arnold

CNP-A-106 NO: OR-ORGDP-015 ENVIR. MEDIA: Water STATUTORY REQ: CWA

PROGRAM CATEGORY: Water Pollution Control

SCOPE: Collection of coal pile runoff and ash handling system water washer blowdown, both to be collected in two new holding ponds located just south of K-1407-B pond. Treatment in existing K-1407-A pit.

JUSTIFICATION: Clean Water Act, NPDES violations - 31 pH violations/2 yrs. with pH <4 for several days at a time.

FACILITIES: Two holding ponds and associated pumps and piping to transfer material K-1407-A pit.

SCHEDULE: FUNDING $x1000	TOTAL 290	FY-84 240	FY-85 50	FY-86 0	FY-87 0	FY-88 0	FY-89 0	FY-90 0

PERMITS:
PROJECT STATUS:
REMARKS: Project scope expanded to provide for dewatering, by addition of sand and gravel bed filter.

PROJECT: Contractors Disposal Area Closure

PLANT: ORGDP EPMP PROJECT NO: 3.4.3 CATEGORY: Conventional Waste TEC($x1000): 310

FUNDING YEARS: 84 FUNDING TYPE: GPP FUNDING STATUS: FUNDED FUNDING SOURCE: CD

ENG. PROJECT NO: GPP-58654 SCH. COMP. DATE: 84 LAST UPDATE: 4/03/85 CONTACT: E. L. Arnold

OMB-A-106 NO: ENVIR. MEDIA: Solid Waste STATUTORY REQ: MISC

PROGRAM CATEGORY: Solid Waste Management

SCOPE: The existing eleven acres of the ORGDP spoil area located north of ORGDP will be graded, capped, seeded, and silt fenced

JUSTIFICATION: Alterations to the ORGDP Contractors Disposal Area will provide the upgrading necessary to comply with Tennessee regulations as to the abandonment of solid waste disposal areas.

FACILITIES: ORGDP Contractors Disposal Area.

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	310	310	0	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Old Contractors Disposal Area Closure

PLANT: ORGDP **EPMP PROJECT NO:** 3.4.4 **CATEGORY:** Conventional Waste **TEC($x1000):** 300

FUNDING YEARS: 86 **FUNDING TYPE:** GPP **FUNDING STATUS:** UNFUNDED **FUNDING SOURCE:** CD

ENG. PROJECT NO: **SCH. COMP. DATE:** 86 **LAST UPDATE:** 8/03/85 **CONTACT:**

OMB-A-106 NO: **ENVIR. MEDIA:** Solid Waste **STATUTORY REQ:** RISC

PROGRAM CATEGORY: Solid Waste Management

SCOPE: The existing old contractors spoil area of ORGDP will be graded

JUSTIFICATION: To comply with Tennessee regulations as to the abandonment of solid waste disposal areas.

FACILITIES: Old contractors disposal area

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	300	0	0	300	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Groundwater Protection Program

PLANT: ORGDP EPMP PROJECT NO: 3.5.1 CATEGORY: Monitoring TEC ($x1000): 2015

FUNDING YEARS: 85 FUNDING TYPE: EXP FUNDING STATUS: FUNDED FUNDING SOURCE: CD

ENG. PROJECT NO: SCH. COMP. DATE: 12/87 LAST UPDATE: 4/03/85 CONTACT: J. E. Stone

OMB-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: RCRA/CERCLA

PROGRAM CATEGORY: Monitoring

SCOPE: Provide a two part groundwater protection at the U.S. DOE K-25 site. Part 1 will be a groundwater protection program for regulated RCRA

JUSTIFICATION: To meet RCRA requirements and CERCLA requirements.

400

FACILITIES: K-1407B, K-1407C, K-901A, K-1232, K-1407A, K-1413, K-1099A, K-1064G, K-1615F, K-1085, K-1070D, K-1070A, K-1070B, K-1070G, K-770, K-1515

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	2015	0	760	590	665	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS: Estimated costs are $2,015,000; expense initially, proposed GPP in 86, 87. $400,000 in 1986 is GPP.

PROJECT: Inactive Burial Areas

PLANT: ORGDP EMP PROJECT NO: 3.6.1 CATEGORY: Remedial Action & Decommissioning TEC($x1000): 0

FUNDING YEARS: TBD FUNDING TYPE: TBD FUNDING STATUS: UNFUNDED FUNDING SOURCE: CD

ENG. PROJECT NO: SCH. COMP. DATE: LAST UPDATE: 4/03/85 CONTACT:

OMB-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: NEPA/CERCLA

PROGRAM CATEGORY: Remedial Action

SCOPE: Undefined

JUSTIFICATION: Potential for migration of radionuclides and hazardous chemicals to surface and subsurface waters from inactive/closed disposal areas.

401

FACILITIES: Undefined

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	0	0	0	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS: Funding would be appropriated depending on results of the ground water monitoring program.

PROJECT: K-901-A Holding Pond

PLANT: ORGDP **EMP PROJECT NO:** 3.6.2 **CATEGORY:** Remedial Action & Decommissioning **TEC ($x1000):** 0

FUNDING YEARS: TBD **FUNDING TYPE:** TBD **FUNDING STATUS:** UNFUNDED **FUNDING SOURCE:**

ENG. PROJECT NO: **SCH. COMP. DATE:** **LAST UPDATE:** 4/03/85 **CONTACT:**

CNE-A-106 NO: **ENVIR. MEDIA:** Water **STATUTORY REQ:** CWA

PROGRAM CATEGORY: Remedial Action

SCOPE: Undefined

JUSTIFICATION: The lagoon is unlined and does not provide a 2 ft. freboard as is required by the State of Tennessee. Lagoon is used to collect trivalent chromium sludge. New sludge basins will be built and the 901-A lagoon will have to be decommissioned.

402

FACILITIES: Undefined

SCHEDULE: FUNDING $x1000	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
	0	0	0	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: K-25 Building Decommissioning

PLANT: ORGDP **EPMP PROJECT NO:** 3.6.3 **CATEGORY:** Remedial Action & Decommissioning **TEC($x1000):** 0

FUNDING YEARS: TBD **FUNDING TYPE:** TBD **FUNDING STATUS:** UNFUNDED **FUNDING SOURCE:**

ENG. PROJECT NO: **SCH. COMP. DATE:** **LAST UPDATE:** 4/03/85 **CONTACT:**

OMB-A-106 NO: **ENVIR. MEDIA:** **STATUTORY REQ:** NEPA

PROGRAM CATEGORY: Remedial Action

SCOPE: Undefined

JUSTIFICATION: Process equipment in the K-25 Building contains unknown quantities of fissile uranium and technetium-99. Decommissioning will require addressing special environmental, health physics, and criticality concerns.

FACILITIES: Undefined

SCHEDULE: FUNDING $x1000	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
	0	0	0	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Powerhouse Decommissioning

PLANT: ORGDP EPMP PROJECT NO: 3.6.4 CATEGORY: Remedial Action & Decommissioning TEC($x1000): 0

FUNDING YEARS: TBD FUNDING TYPE: TBD FUNDING STATUS: UNFUNDED FUNDING SOURCE:

ENG. PROJECT NO: SCH. COMP. DATE: LAST UPDATE: 4/03/85 CONTACT:

ONE-A-106 NO: ENVIR. MEDIA: STATUTORY REQ: NEPA

PROGRAM CATEGORY: Remedial Action

SCOPE: Undefined

JUSTIFICATION: Buildings in the Powerhouse area were used for work involving beryllium. Demolition and disposal of wastes will require addressing special environmental, health physics, and industrial hygiene concerns.

FACILITIES: Undefined

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	0	0	0	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Nitric Acid Dike Replacement

PLANT: PGDP EPMP PROJECT NO: 4.2.1 CATEGORY: Hazardous Waste TEC($x1000): 40

FUNDING YEARS: 84 FUNDING TYPE: GPP FUNDING STATUS: FUNDED FUNDING SOURCE: CD

ENG. PROJECT NO: SCH. COMP. DATE: 2/85 LAST UPDATE: 3/14/85 CONTACT: V.A. Smith

OMB-A-106 NO: OR-PAD-008 ENVIR. MEDIA: Water STATUTORY REQ: CWA

PROGRAM CATEGORY: Water Pollution Control

SCOPE: Project to provide a new dike to replace existing spill containment dike.

JUSTIFICATION:

FACILITIES: Replacement dike for C-407

SCHEDULE: FUNDING $x1000	TOTAL 40	FY-84 18	FY-85 22	FY-86 0	FY-87 0	FY-88 0	FY-89 0	FY-90 0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Environmental Protection and Safety Modifications

PLANT: PGDP **EPMP PROJECT NO:** 4.2.2 **CATEGORY:** Hazardous Waste **TEC($x1000):** 1736

FUNDING YEARS: 84 **FUNDING TYPE:** LI **FUNDING STATUS:** FUNDED **FUNDING SOURCE:** CD

ENG. PROJECT NO: 81-R-506 **SCH. COMP. DATE:** 8/86 **LAST UPDATE:** 3/14/85 **CONTACT:** S.L. Cross

ONE-A-106 NO: OR-PAD-002 **ENVIR. MEDIA:** Water **STATUTORY REQ:** CWA/RCRA

PROGRAM CATEGORY: Water Pollution Control

SCOPE: This project provides spill containment facilities at C.

JUSTIFICATION:

FACILITIES: This project provides spill containment facilities at C-616

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	1736	188	484	767	15	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS: Engineering change request submitted to DOE for deletion of industrial vacuum loader trailer-Possible reduction in Proj cost of $200K.

PROJECT: Storage Tank Mixer

PLANT: PGDP EPMP PROJECT NO: 4.4.1 CATEGORY: Conventional Waste TEC($x1000): 15

FUNDING YEARS: 85 FUNDING TYPE: CE FUNDING STATUS: UNFUNDED FUNDING SOURCE: CD

ENG. PROJECT NO: SCH. COMP. DATE: 87 LAST UPDATE: 3/14/85 CONTACT: S.L. Shell

OMB-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: CWA

PROGRAM CATEGORY: Water Pollution Control

SCOPE: Storage tank mixer for RCW blowdown wastewater treatment.

JUSTIFICATION:

FACILITIES:

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	15	0	0	0	15	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: C-615 Chlorinator

PLANT: PGDP EPMP PROJECT NO: 4.4.2 CATEGORY: Conventional Waste TEC($x1000): 5

FUNDING YEARS: 95 FUNDING TYPE: CE FUNDING STATUS: UNFUNDED FUNDING SOURCE: CD

ENG. PROJECT NO: SCH. COMP. DATE: 85 LAST UPDATE: 3/14/85 CONTACT: S.L. Shell

OMB-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: CWA

PROGRAM CATEGORY: Water Pollution Control

SCOPE: Replacement for C-615 chlorinator

JUSTIFICATION:

FACILITIES:

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	5	0	5	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Improvements to Comply with KPDES Permits

PLANT: PGDP EPMP PROJECT NO: 4.4.3 CATEGORY: Conventional Waste TEC($x1000): 250

FUNDING YEARS: 86 FUNDING TYPE: GPP FUNDING STATUS: UNFUNDED FUNDING SOURCE: CD

ENG. PROJECT NO: SCH. COMP. DATE: 87 LAST UPDATE: 3/14/85 CONTACT: S.L. Shell

OMB-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: CWA

PROGRAM CATEGORY: Water Pollution Control

SCOPE: TBD

JUSTIFICATION:

FACILITIES:

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	250	0	0	250	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: C-615 Circulating Pumps

PLANT: PGDP **EPMP PROJECT NO:** 4.4.4 **CATEGORY:** Conventional Waste **TEC($x1000):** 0

FUNDING YEARS: 86 **FUNDING TYPE:** CE **FUNDING STATUS:** UNFUNDED **FUNDING SOURCE:** CD

ENG. PROJECT NO: **SCH. COMP. DATE:** **LAST UPDATE:** 3/14/85 **CONTACT:** S.L. Shell

ONP-A-106 NO: **ENVIR. MEDIA:** Water **STATUTORY REQ:** CWA

PROGRAM CATEGORY: Water Pollution Control

SCOPE: Circulating pumps for C-615 Sewage Treatment Facility.

JUSTIFICATION:

FACILITIES:

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	0	0	0	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

410

PROJECT: C-615 Digester Heating Unit

PLANT: PGDP **EMAP PROJECT NO:** 4.4.5 **CATEGORY:** Conventional Waste **TEC ($x1000):** 35

FUNDING YEARS: 87 **FUNDING TYPE:** CI **FUNDING STATUS:** UNFUNDED **FUNDING SOURCE:** CD

ENG. PROJECT NO: **SCH. COMP. DATE:** 85 **LAST UPDATE:** 3/14/85 **CONTACT:** S.L. Shell

ONE-A-106 NO: **ENVIR. MEDIA:** Water **STATUTORY REQ:** CWA

PROGRAM CATEGORY: Water Pollution Control

SCOPE: Digester heating unit for C-615 Sewage Treatment Facility.

JUSTIFICATION:

FACILITIES:

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	35	0	35	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: pH Monitor/Control System

PLANT: PGDP EPMP PROJECT NO: 4.4.6 CATEGORY: Conventional Waste TEC($x1000): 15

FUNDING_YEARS: 87 FUNDING_TYPE: CE FUNDING_STATUS: UNFUNDED FUNDING_SOURCE: CD

ENG._PROJECT_NO: SCH._COMP._DATE: 87 LAST_UPDATE: 3/14/85 CONTACT: S.L. Shell

OMB-A-106_NO: ENVIR._MEDIA: Water STATUTORY_REQ: CWA

PROGRAM_CATEGORY: Water Pollution Control

SCOPE: pH monitor and control system for C-616 Recirculating Wastewater Treatment.

JUSTIFICATION:

FACILITIES:

SCHEDULE: FUNDING $x1000	TOTAL 15	FY-84 0	FY-85 0	FY-86 0	FY-87 15	FY-88 0	FY-89 0	FY-90 0

PERMITS:
PROJECT_STATUS:
REMARKS:

412

PROJECT: ORP Meter C-616

PLANT: PGDP EPMP PROJECT NO: 4.4.7 CATEGORY: Conventional Waste TEC($x1000): 10

FUNDING YEARS: 87 FUNDING TYPE: CF FUNDING STATUS: UNFUNDED FUNDING SOURCE: CD

ENG. PROJECT NO: SCH. COMP. DATE: 87 LAST UPDATE: 3/14/85 CONTACT: S.L. Shell

ORP-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: CWA

PROGRAM CATEGORY: Water Pollution Control

SCOPE:

JUSTIFICATION:

FACILITIES:

SCHEDULE: FUNDING $x1000	TOTAL 10	FY-84 0	FY-85 0	FY-86 0	FY-87 10	FY-88 0	FY-89 0	FY-90 0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Acid Pumps C-616

PLANT: PGDP EPMP PROJECT NO: 4.4.8 CATEGORY: Conventional Waste TEC($x1000): 8

FUNDING YEARS: 87 FUNDING TYPE: CF FUNDING STATUS: FUNDING SOURCE: CD

ENG. PROJECT NO: SCH. COMP. DATE: 87 LAST UPDATE: 3/14/85 CONTACT:

OMB-A-106 NO: ENVIR. MEDIA: Water STATUTORY REQ: CWA

PROGRAM CATEGORY: Water Pollution Control

SCOPE:

JUSTIFICATION:

FACILITIES:

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	8	0	0	0	8	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

414

PROJECT: Ground Water Monitoring

PLANT: PGDP **EPMP PROJECT NO:** 4.5.1 **CATEGORY:** Monitoring **TEC($x1000):** 55

FUNDING YEARS: 85 **FUNDING TYPE:** GPP **FUNDING STATUS:** FUNDED **FUNDING SOURCE:** CD

ENG. PROJECT NO: **SCH. COMP DATE:** 85 **LAST UPDATE:** 3/14/85 **CONTACT:**

OMB-A-10[illegible] OR-PAD-011 **AFFECTED MEDIA:** Water **STATUTORY REQ:** CWA/CERCLA

PROGRAM CATEGORY: Monitoring

SCOPE: Project will provide additional groundwater monitoring wells to complete ground water monitoring system.

JUSTIFICATION:

FACILITIES:

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	55	0	55	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

PROJECT: Vent Stack UF6 Monitors

PLANT: PGDP **EMP PROJECT NO:** 4.5.2 **CATEGORY:** Monitoring **TEC($x1000):** 100

FUNDING YEARS: 85 **FUNDING TYPE:** CR **FUNDING STATUS:** FUNDED **FUNDING SOURCE:** CD

ENG. PROJECT NO: **SCH. COMP. DATE:** 85 **LAST UPDATE:** 3/14/85 **CONTACT:** S.L. Shell

OMB-A-106 NO: **ENVIR. MEDIA:** Air **STATUTORY REQ:** CAA

PROGRAM CATEGORY: Monitoring

SCOPE: To provide vent stack UF6 monitors at C-310.

JUSTIFICATION:

FACILITIES: Vent stack monitors at C-310

SCHEDULE:	TOTAL	FY-84	FY-85	FY-86	FY-87	FY-88	FY-89	FY-90
FUNDING $x1000	100	0	100	0	0	0	0	0

PERMITS:
PROJECT STATUS:
REMARKS:

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Appendix A gives a detailed description of the environmental activities for which funds have been allocated or requested. This breakdown - by installation, by category, and then by individual projects - gives a brief description of the scope, funding status, facility description, and justification. In Appendix C, the budget is projected by year for the projects listed in Appendix A. Finally, Appendix D includes the project summary sheets for each project contained in the aforementioned appendix. Summary data on the costs are provided through FY-1990. Cost data are included in the data base for years beyond FY-1990.