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Hanford Surplus Facilities Program Plan

Fiscal Year 1990

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HANFORD SURPLUS FACILITIES PROGRAM PLAN FISCAL YEAR 1990

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ABSTRACT

The Hanford Surplus Facilities Program is responsible for the safe and cost-effective surveillance, maintenance, and decommissioning of surplus facilities at the Hanford Site. The management of these facilities requires a surveillance and maintenance program to keep them in a safe condition and development of a plan for ultimate disposition. Criteria used to evaluate each factor relative to decommissioning are based on the guidelines presented by the U.S. Department of Energy-Richland Operations Office, Defense Facilities Decommissioning Program Office, and are consistent with the Westinghouse Hanford Company commitment to decommission the Hanford Site retired facilities in the safest and most cost-effective way achievable. This document outlines the plan for managing these facilities to the end of disposition.

EXECUTIVE SUMMARY

The Hanford Surplus Facilities Program (HSFP) is responsible for the safe and cost-effective surveillance, maintenance, and decommissioning of surplus facilities at the Hanford Site. There are currently 115* facilities managed by the HSFP. These facilities have been retired from programmatic use and are contaminated with radioactive material. The majority of these facilities are located in the 100 and 200 Areas and include shutdown production reactors, chemical separators and processing plants, waste-handling facilities, and various support structures. The management of these facilities requires a surveillance and maintenance program to keep them in a safe condition, and development of a plan for ultimate disposition. This document outlines the plan for managing these facilities to the end of disposition.

The surveillance and maintenance cost for these facilities is approximately $5 million annually in FY 1991 values. This cost will vary, decreasing when facilities are decommissioned and increasing substantially if they are placed in a long-term protective storage mode.

The decommissioning costs of this program will total approximately $600 million and are projected over a period of 30 yr. This cost could vary significantly depending on the decommissioning alternative (e.g., in situ decommissioning, total dismantlement), regulatory requirements, and actual budget received per FY.

*Two facilities were completed during fiscal year (FY) 1989, and two facilities were added to the program.

The surveillance, maintenance, and decommissioning work will be accomplished by employees of the Westinghouse Hanford Company (Westinghouse Hanford) Decommissioning and Environmental Operations (EO), except in cases requiring specialists, such as divers or explosives experts. When specialties are required, the services will be contracted out under the direction of the EO.

The Westinghouse Hanford Management Control System is used for financial planning and scheduling work. Budget guidance is received annually from the U.S. Department of Energy (DOE), Defense Facilities Decommissioning Program Office. Projects and associated budgets and schedules are established based on this guidance. Project status is monitored and reported monthly. Control procedures have been established for routine surveillance and services. Controls, which ensure compliance with regulations, will be incorporated into the individual decommissioning project plans.

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ACWP	actual cost of work performed
ADM	action description memorandum
ALARA	as low as reasonably achievable
ARCL	allowable residual contamination limits
BCWP	budget cost of work performed
BCWS	budget cost of work scheduled
CAA	cost account authorizations
CAM	cost account manager
CAP	cost account plans
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CV	cost variance
D&D	decontamination and decommissioning
DFDP	Defense Facilities Decommissioning Programs
DFDPO	Defense Facilities Decommissioning Programs Office
DOE	U.S. Department of Energy
DOE-HQ	U.S. Department of Energy-Headquarters
DOE-RL	U.S. Department of Energy-Richland Operations Office
DOT	U.S. Department of Transportation
EA	environmental assessment
EAC	estimate at completion
Ecology	Washington State Department of Ecology
EE	environmental evaluation
EIS	environmental impact statement
EO	Decommissioning and Environmental Operations
ERD	Environmental Restoration Division
FDS	Financial Data System
FWP	field work proposals
FY	fiscal year
GE	Materials Production Program
GF	Defense Waste and Environmental Restoration Program
HRO	Hanford Restoration Operations
HSFP	Hanford Surplus Facilities Program
NEPA	National Environmental Policy Act
PNL	Pacific Northwest Laboratory
RCRA	Resource Conversation and Recovery Act
RHO	Rockwell Hanford Operations
RI/FS	remedial investigation/feasibility study
SFMP	surplus facilities maintenance program
SPRD-EIS	Surplus Production Reactors Decommissioning-Environmental Impact Statement
SV	schedule variance
TEC	total estimate cost
TRU	transuranic
UNC	United Nuclear Industries
VAR	variance analysis report
WAC	Washington Administrative Code
Westinghouse Hanford	Westinghouse Hanford Company

HANFORD SURPLUS FACILITIES PROGRAM PLAN FISCAL YEAR 1990

1.0 INTRODUCTION

1.1 PURPOSE

Many U.S. Department of Energy (DOE)-owned nuclear facilities at the Hanford Site that were used during the early nuclear energy programs have no current use and have been retired and declared excess. The majority of these facilities have residual radioactive contamination requiring surveillance, maintenance, and ultimate disposition.

This program plan identifies the work breakdown structure, cost, schedule, and priorities for decommissioning the surplus facilities at the Hanford Site. The plan also describes the activities of the Hanford Surplus Facilities Programs (HSFP) of Westinghouse Hanford Company (Westinghouse Hanford) in the management of these facilities to meet the objectives listed in Section 1.3 of this report and to comply with regulations set forth by the DOE directives.

1.2 SCOPE

This plan covers 115* separate retired facilities located on the Hanford Site. Included in these facilities are large concrete and cement block structures used to house chemical separation processes, nuclear production reactors, underground effluent water systems and storage tanks, and ancillary buildings.

Included within the scope of this document are the following increments of the overall program:

- Purpose, scope, and objectives
- Program organizational structure and responsibilities
- Budgeting and planning
- Assumptions and criteria
- Work elements
- Control.

*Two facilities were completed during fiscal year (FY) 1989, and two facilities were added to the program.

1.3 MAJOR SURPLUS FACILITIES MANAGEMENT OBJECTIVES

The following items are the major objectives in the management of the 115 separate retired facilities:

- Continue maintenance and surveillance of the retired HSFP facilities in a safe, cost-effective, and environmentally sound manner pending decontamination and decommissioning (D&D).
- Provide the planning and engineering necessary to ensure the efficient, cost-effective decommissioning of the HSFP retired facilities.
- Develop short- and long-range budgets and schedules, including identification of projects to complete decommissioning of all contaminated facilities within the program.
- Assess technical and economic feasibility of decommissioning and surveillance alternatives.
- Determine if there are any cost-effective reuses for shutdown facilities.
- Comply with the provisions of both state and federal environmental policies, and develop support documentation.
- Develop innovative, cost-effective decommissioning, surveillance, and asbestos abatement methods that comply with regulatory requirements for environmental and occupational safety.
- Decommission facilities in the safest and most cost-effective manner practicable.
- Maintain worker exposure to as low as reasonably achievable (ALARA) levels through the use of administrative or engineered controls.
- Review and update this program plan by September 25 of each year.

2.0 ORGANIZATIONAL STRUCTURE AND RESPONSIBILITIES

2.1 ORGANIZATION STRUCTURE

A block diagram of the organization structure is presented in Figure 1.

2.2 RESPONSIBILITIES

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

The U.S. Department of Energy-Richland Operations Office (DOE-RL) Environmental Restoration Division (ERD) oversees the Hanford Environmental Restoration Program.

2.2.2 Westinghouse Hanford, Decommissioning and Environmental Operations Function

The Westinghouse Hanford Decommissioning and Environmental Operations (EO) Function has overall responsibility for this program. The program is divided into two main missions:

- Provide technical and administrative guidance to other contractors and field offices in the National Defense Facilities Decommissioning Program through the lead field office at the DOE-RL.
- Provide for the surveillance, maintenance, and decommissioning of surplus defense facilities and contaminated soil sites at the Hanford Site.

2.2.3 Hanford Surplus Facilities Programs

At the Hanford Site, the programmatic responsibility within the EO Function for the surveillance, maintenance, and decommissioning of surplus facilities is the HSFP. The HSFP establishes the cost, schedule, and technical baselines for individual projects, such as the 100 Area shutdown reactor facilities, and provides the project management for completing the work. The work activities relative to projects are completed by various functional organizations through a matrix management system. Performing organizations are assigned work by the Program Office using cost account authorizations (CAA) and cost account plans (CAP). Project status is reported to the Program Office using an earned-value system. The majority of decommissioning field work and engineering at the Hanford Site is performed by Hanford Restoration Operations (HRO). Subcontracted work is managed through the HSFP. (Refer to Figure 1 for the organization structure.)

2.2.4 Environmental Restoration Programs

The main purpose in identifying this office at this time is to emphasize the need for a close working relationship in planning and implementing work.

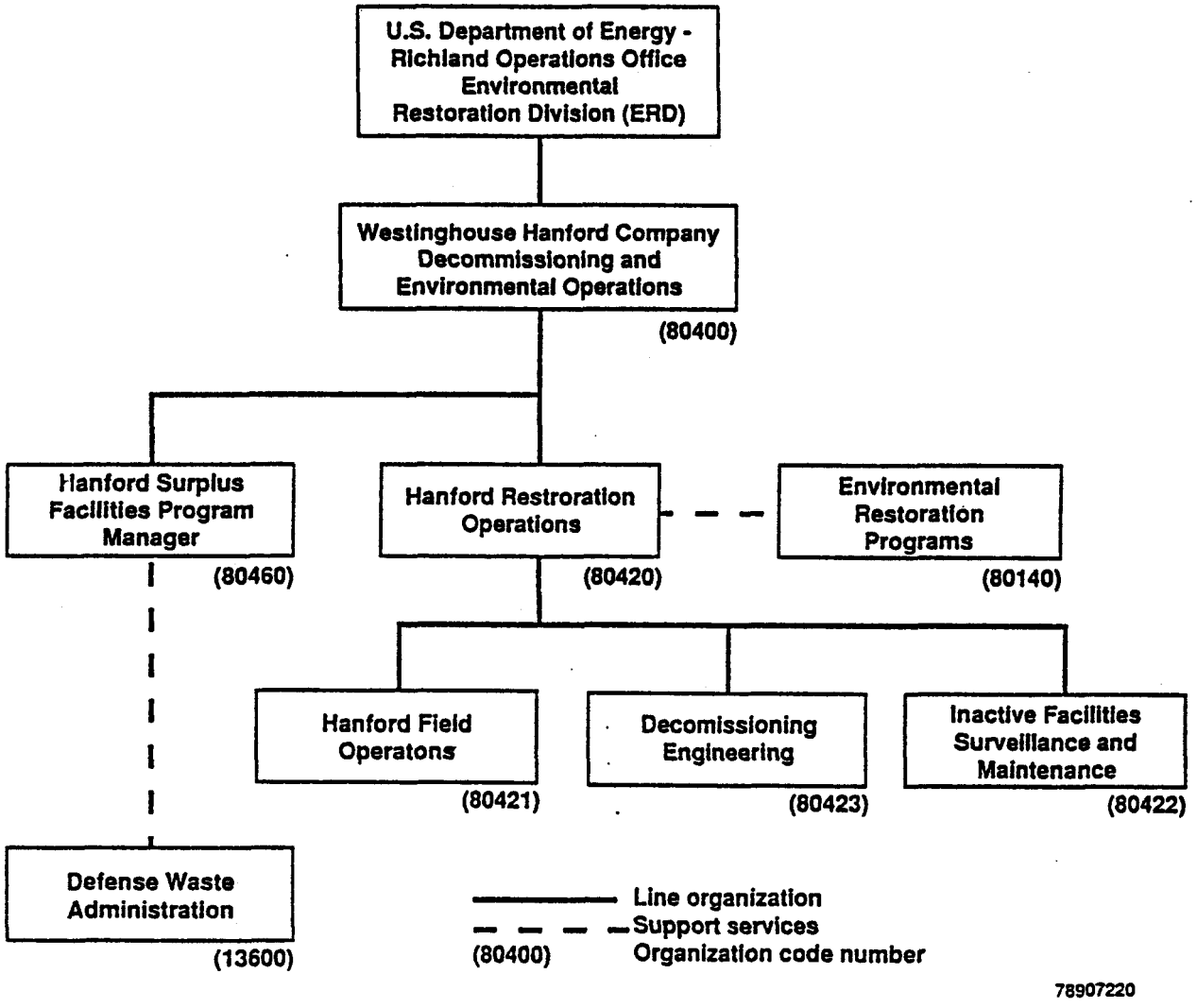

Figure 1. Organization Structure.

2.2.5 Defense Waste Administration

This office provides a full range of business management services for the Defense Waste Management and Environmental Divisions. Some of the direct support services provided to the HSFP include the detailed budget development and the associated monitoring, analysis, and reporting relative to cost and schedule.

2.2.6 Hanford Restoration Operations

The HRO performs the necessary surveillance and maintenance, decommissioning and environmental restoration field operations on the Hanford Site, including the engineering activities in support of these operations. The HRO also functions as landlord and plant manager for all contaminated surplus facilities and all inactive waste disposal sites.

3.0 BUDGETING AND PLANNING

The HSFP adheres to the guidelines and procedures set forth by the DOE-RL and Westinghouse Hanford with regard to the budgeting and planning of decontamination and decommissioning activities. Defined below are the processes followed by the HSFP in the development and preparation of detailed budgeting, planning, and scheduling of D&D activities.

The HSFP obtains funding for the D&D activities from two sources: (1) Defense Waste and Environmental Restoration (GF) Program, which is administered by Westinghouse Hanford through Defense Facilities Decommissioning Programs (DFDP) and (2) Materials Production (GE) Program, which is administered by Westinghouse Hanford through the Operations Division. The HSFP reports directly to DOE-RL Defense Facilities Decommissioning Program Office in the Environmental Division of the Richland Operations Office on both GE- and GF-funded D&D activities.

The budgeting cycle begins each FY (January time frame) with a "call letter" from the GF- and GE-administered programs, requesting the preparation of detailed 5-yr budget forecasts. Included in the call letter are guidance funding levels and escalation and inflation assumptions for the outyears. The 5-yr forecasts for each program include project descriptions, estimated cost to complete, manpower requirements, and impact statements if the requested funding is not approved. The HSFP's input is due the middle of February to the respective programs (GF and GE) for integration into each program's consolidated 5-yr budget forecast, which is then submitted to the U.S. Department of Energy-Headquarters (DOE-HQ).

The HSFP management initiates its detailed planning for the upcoming FY during the first quarter of the current FY. This planning begins by integrating guidance funding levels with long-range plan objectives and project priorities to derive a detailed list of projects for the year. The list is transmitted to HRO for Decommissioning Engineering to develop draft documents that detail the scope for the project. (These documents are known as "scoping" documents.) A project team (headed by the cognizant engineer, including a project coordinator, cost estimator, cost account manager (CAM), scheduler, and program business analyst) prepares the detailed scoping documents. The estimator prepares a project cost estimate based on the scoping document. This estimate is reviewed by the project team and used as a tool for preparing CAAs and the detailed work schedules. This process is targeted for completion by mid-July of each FY.

The CAAs are prepared by the activity manager and approved by the HSFP manager and program business analyst. The CAAs are sent to the appropriate CAM to generate the CAPs. The CAMs are responsible for coordination with work package and task package development. The CAAs and CAPs are approved by the HSFP manager before initiating work October 1 of the FY. (See Figure 2.)

The detailed planning and budgeting begin at the lowest level, the task package, where each task package manager provides the respective work package manager input into the development of the work package. The work package managers follow sequence by providing their input into the development of the cost accounts. This "rollup" process continues to the program level. These data are input into the Financial Data System (FDS) in a development mode until a consensus and approval by all responsible management have been achieved. Once all the GF- and GE-funded activities are approved and their total budget ties with the given funding parameters for the upcoming FY, the planned activities are ready for monitoring and reporting of cost and schedule status information.

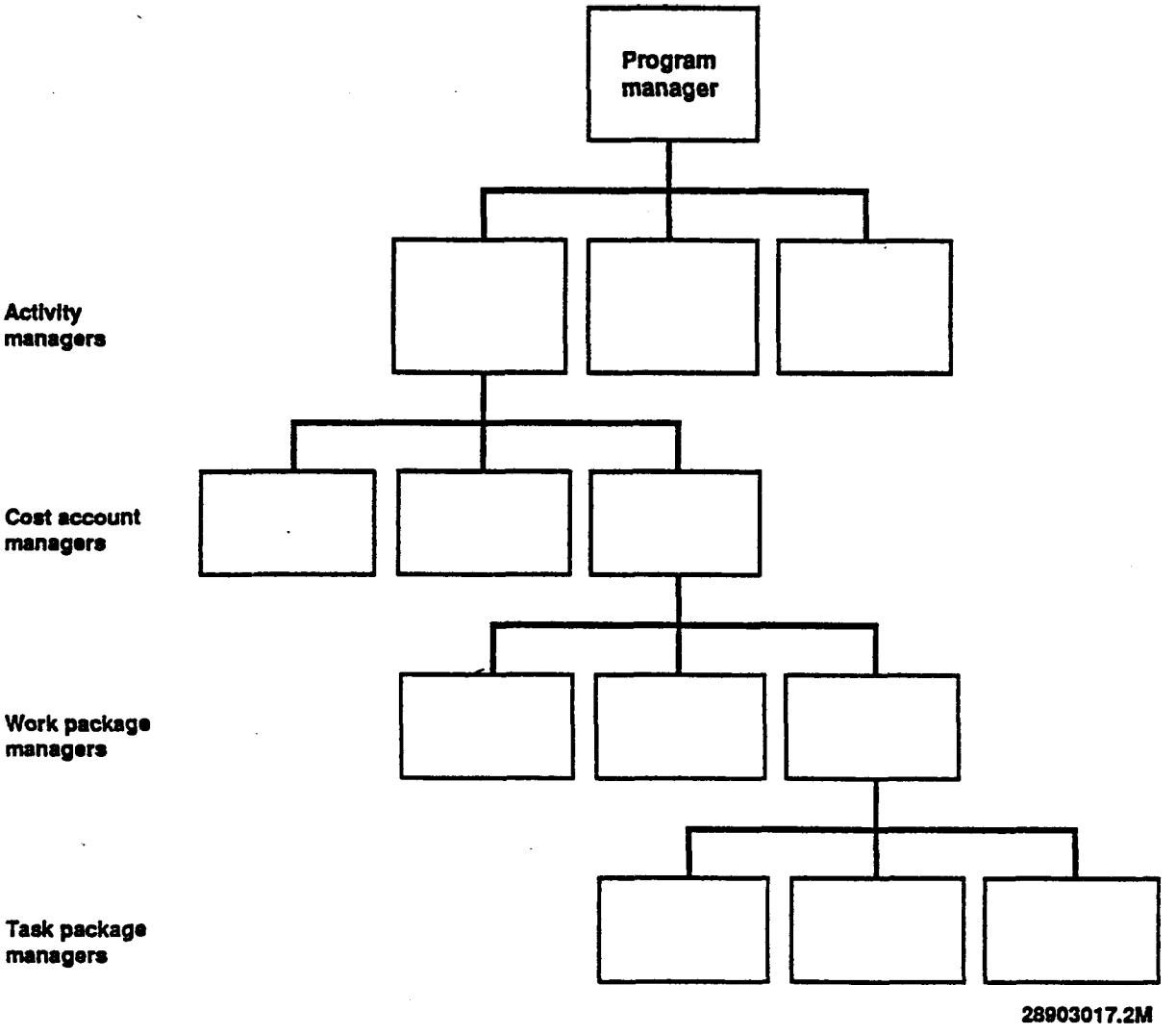

Figure 2. Rollup Process for Developing Cost Accounts.

4.0 SURPLUS FACILITIES MANAGEMENT PROGRAM ASSUMPTIONS, CRITERIA, AND PRIORITIES

4.1 ASSUMPTIONS

The program costs, management, and technical strategies presented in this plan are based on the assumptions listed below. These assumptions are based on experience gained in previous surveillance, maintenance, and decommissioning work; engineering studies; and radiological characterization data.

The following assumptions are consistent with the guidance provided by the DOE-RL. A change in any of the assumptions would result in the need to reevaluate this plan. The HSFP assumptions are as follows:

- Surveillance and maintenance requirements affecting safety and the environment have the highest priority and will be funded ahead of any other program activity. Additional maintenance activities are supported relative to the potential health risk involved and cost effectiveness.

- Radiological dose rates to personnel and to members of the public will be controlled in accordance with DOE standards for radiation protection and will be reduced to ALARA levels.

- Allowable residual contamination limits (ARCL) for in situ decommissioning will be calculated using the pathway analysis methodology as applicable.

- Future radiological and chemical potential characterization changes were not considered in the current overall decommissioning strategy. Estimated radionuclide inventories are based on the best data available when this plan was prepared.

- Radioactive wastes, transuranic (TRU), and mixed waste not decommissioned in situ will be handled in compliance with applicable DOE orders and with Westinghouse Hanford requirements.

- Material or equipment removed from the site and released for uncontrolled use will meet all radiological DOE requirements applicable at the time of removal.

- An annual budget of $15 million is projected for FY 1990 and FY 1991 in accordance with FY 1991 Defense D&D Program field work proposals (FWP). The outyear's annual budget (beyond FY 1991) projection, however, is based primarily on completing all project work by FY 2017, within the desired 30-yr time period. (See Appendix C for cost and schedule.)

- The reactor facilities and land they occupy can, if necessary, be controlled institutionally for a period of up to 100 yr. Institutional control means the controlled use of a decommissioned site or area through regulation by local, county, state, or federal agencies. Because of radiological conditions, institutional control may include access control, minor maintenance and surveillance, and site-use restrictions. Institutional control starts when a facility is considered to be decommissioned and ends at 100 yr, or any time within the 100-yr period.

- The site terrain will be restored to as near-natural condition as practicable.
- The program plan work element schedule and cost are based on the in situ decommissioning alternative. A change to other alternatives will require a review and update of these schedules and costs.

4.2 CRITERIA

4.2.1 Criteria Used in Assessing Decommissioning Alternatives

The following factors are used to assess the relative merits of several candidate decommissioning methods to determine objectively the preferred alternatives:

- Dollar expenditure
- Public and occupational radiation exposure
- Manpower requirements
- Project duration
- Radioactive waste disposal volume
- Potential for reuse of equipment, material, and facility
- Time until site can be restored to a near-natural condition.

Criteria used to evaluate each factor are based on the guidelines presented by the DOE-RL and are consistent with the Westinghouse Hanford commitment to decommission the Hanford Site retired facilities in the safest and most cost-effective way achievable.

4.2.2 Environmental Protection Criteria

Before starting any decommissioning work at the Hanford Site, Westinghouse Hanford, as a DOE-RL contractor, is required to comply with local, state, and federal environmental protection criteria. Compliance will require a review of all applicable regulations of the National Environmental Policy Act (NEPA), Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Resource Conservation and Recovery Act (RCRA), and the Washington Administrative Code (WAC) for dangerous waste. The requirements of these regulations are of particular concern because of the range of environmental issues that may have to be addressed and because of the potential for significant impact on decommissioning budget and schedule.

These processes will be implemented early in the planning stages to allow Westinghouse Hanford and the DOE-RL sufficient time to complete the necessary documentation. Westinghouse Hanford recommends to the DOE-RL program office a level of environmental documentation for each decommissioning project. The DOE-RL program office considers the recommendation, then advises Westinghouse Hanford of the required level of compliance for the NEPA process. Depending on the proposed project, the DOE may specify one of three levels of documentation, including an

environmental evaluation (EE), environmental assessment (EA), and environmental impact statement (EIS). The DOE may advise that an action description memorandum (ADM) be prepared. The ADM serves as a basis for determination of the required level of NEPA documentation.

In conjunction with the specified NEPA process, the DOE may direct that a remedial investigation/feasibility study (RI/FS) be conducted to satisfy the requirements of the RCRA and CERCLA and/or those specified by the WAC on Dangerous Waste Regulations (Ecology 1987).

4.2.3 Safety Criteria

Until decommissioning is complete, routine maintenance and surveillance will be conducted on the shutdown facilities to maintain an industrial and radiological safe status and to correct any safety conditions found to be out of standard.

Completing the decommissioning work safely is of primary concern to Westinghouse Hanford. Accordingly, the guidelines presented in DOE Order 5481.1A (DOE-RL 1983) will be followed for all decommissioning work. This Order establishes specific safety criteria for all DOE activities, including decommissioning work, and requires safety analyses be prepared on all projects.

The safety analysis process consists of two parts. The first part is a preliminary safety analysis that becomes a part of the planning documentation for a specific decommissioning activity and determines the level of safety review and approval required to authorize the activity.

The second part of the safety analysis process is documented in the startup readiness review to authorize starting the decommissioning activity. Both the preliminary and final safety analyses will follow the Westinghouse Hanford requirements. The suggested format of both the preliminary and final safety analyses will discuss the following general headings as applicable to decommissioning:

1.0 Summary
2.0 Introduction
3.0 Site Description
4.0 Facility and Process Description

- 4.1 Facility Description
- 4.2 Process Description
- 4.3 Waste Management
- 4.4 Safety Features

5.0 Design Criteria
6.0 Safety Analysis

- 6.1 Safety Analysis Methodology
- 6.2 Hazards Analysis
- 6.3 Risk Assessment
- 6.4 Summary

7.0 Operational Safety Limits
8.0 References
Appendixes (as necessary)

4.3 PROJECT PRIORITIES

4.3.1 Prioritization Criteria

Because of the large number of surplus facilities at the Hanford Site awaiting final disposition and the limited funds available to perform this work, decommissioning priorities must be set. Once priorities are established, detailed costs and schedules that reflect these priorities can be developed with more accuracy.

The Defense Facilities Decommissioning Programs Office (DFDPO) has established criteria to guide participating decommissioning contractors in determining project priorities and ranking (DOE-RL 1982). The six factors are listed below in order of priority assigned by DFDPO.

1. **Legal and Safety Standards**--The evaluation factor of greatest concern to DFDPO is legal or contractual obligations. Legal requirements generally pertain to the safety of the public, workers, and the environment. The DFDPO assigns highest priority to ensure that the facilities in the program pose no unacceptable safety risk. Surveillance and maintenance of surplus facilities in a safe condition (until a decommissioning project can be initiated) is considered to be the highest overall program priority.

2. **Economic Impact of Delayed Versus Immediate Decommissioning**--Consideration must be given to the tradeoff between the cost of continued maintenance and surveillance and the cost of final facility disposition. The DFDPO has developed an economic analysis model that uses a monetary discounting technique to calculate the "present value" cost for surveillance and maintenance, as well as for decommissioning.

3. **Health Risks of Delayed Decommissioning**--The health risk to onsite personnel and the general public as a result of postponing decommissioning must be considered. The DFDPO has developed a health-risk model that ranks each project relative to all other surplus facilities maintenance program (SFMP) projects based on the condition of the facility, the amount and types of radioactive material present in the facility, and the population and meteorological conditions of the area surrounding the facility.

4. **Future Site Plans**--The compatibility of the existing facility with future plans for the site is a factor used to identify facilities that are incompatible with either existing or projected future uses of the site on adjoining sites.

5. **Cost-Effectiveness Program Management**--Cost-effective program management is another evaluation factor that could result in early initiation of a decommissioning project or delay it until a later date. This factor concerns the availability of a developed, efficient organization for the facility project. Where organized programs are already in place at a site, D&D work for facilities on the site will proceed more efficiently and safely than for projects where staff development and training rampup are still required. Cost-effective program management may have important influence on the total cost of this project. The DFDPO assigns high weight to cost; thus, this factor may have significant bearing on project prioritization.

6. **Other Special Factors**--In some instances, special factors may be unique to a few projects and might contribute to the overall priority ranking of these projects. Special factors such as local government concerns and public opposition or acceptance of proposed D&D work may influence a project priority.

4.3.2 Prioritization of Projects

The criteria presented above have been considered in establishing the order in which the facilities are decommissioned. The listing of facilities scheduled for decommissioning presented in Appendix C are in order of priority; however, it should be recognized that changes in the ranking may be necessary to accommodate unforeseen change in the availability of funds, regulatory requirements, and changes to the above factors.

5.0 WORK ELEMENTS

5.1 GENERAL

The work elements fall in three general categories: (1) administrative, (2) surveillance and maintenance, and (3) decommissioning projects. The specific work elements and cost for these categories are identified in Appendix C.

5.1.1 Administrative

The administrative activity includes the HSFP manager, his staff, and the support services from the Environmental Program Control Office. This activity provides the long-range planning and program management oversight.

5.1.2 Surveillance and Maintenance

The surveillance and maintenance activity includes the staff dedicated to this activity and the support services received from Operational Health Physics and Operations Support Services. Cost for surveillance and maintenance will vary with the level of maintenance required to maintain the confinement of radioactive materials and provide the degree of safety required to comply with the goals and objectives of Westinghouse Hanford and the DOE-RL. For the purpose of planning, the surveillance and maintenance cost is estimated at $5 million annually.

5.1.3 Decommissioning Projects

A project is comprised of work elements that may include several individual facilities. The tables in Appendix A identify the facilities in each project and assign task numbers to the project. The budget requirement for disposing of the retired facilities is estimated at $600 million for the in situ decommissioning work.

5.1.4 Underground Storage Tanks

The removal of unserviceable underground tanks is being coordinated through the Surplus Facilities Program office. The implementation plan for this work is included in the work packages.

5.1.5 Asbestos Abatement

The asbestos abatement program is being consolidated by the representatives of HSFP office into one plant-wide program. The consolidated program plan will be documented under separate cover, and will outline the requirements to be followed in implementing asbestos abatement.

6.0 CONTROL

6.1 INDUSTRIAL AND RADIOLOGICAL SAFETY

6.1.1 Industrial Safety

Transfer of new facilities to the status of "retired" is accepted on completion of a Facilities Transfer Form, which requires the approval of the Manager, Decommissioning and Environmental Operations. Before approval, the facility is inspected and any deviation from conditions noted are resolved before acceptance. Once the facility has been accepted, it is placed on the surveillance and maintenance schedule to receive inspections, surveys, and maintenance as required to meet the goals and objectives of the ongoing safety program of Westinghouse Hanford.

The safety of a facility is the single most important factor in funding to eliminate the hazards or scheduling a facility for decommissioning. When a facility is targeted for decommissioning, a detailed engineering package is developed that includes a safety hazards analysis and a startup readiness review. Before starting work, the startup readiness review is made, evaluating the safety preparedness of the workers, adequacy of procedures to cope with potential hazards, and the safety conditions of the facility and/or site. The readiness review also ensures that all environmental and safety documentation is in place. During the progress of work, regular safety meetings and safety inspections are made. The personnel assigned to the project participate in all ongoing safety programs. At the completion of the project, a project closeout report is issued. This report identifies the status of the site at the end of the project and identifies surveillance and maintenance requirements, if needed beyond the closeout.

6.1.2 Radiological Safety

Monitoring for radiological and environmental safety will be in compliance with established controls.

Waste disposal will be made in compliance with DOE Order 5480.1A (DOE-RL 1988). The ARCL methodology developed by Pacific Northwest Laboratory (PNL) will be used, as applicable, to define the amount of radioactive material that may safely remain after decommissioning a facility.

6.1.2.1 Waste Removed from Site. Waste that is not appropriate for in situ disposal will be removed, packaged, and transported to the Hanford Site 200 Area for disposal. Such disposal will comply with the applicable DOE Orders and with the burial site operator regulations. Packaging and transport of the waste will be accomplished in accordance with established controls, providing for a degree of safety equal to that required by the U.S. Department of Transportation (DOT) for offsite shipments.

Projected waste volumes to be removed from the specific sites are low because the preferred in situ decommissioning alternative will leave the facilities in place, rather than remove them for disposal elsewhere.

6.1.2.2 Waste Left at the Site (Decommissioned In Situ). The majority of radioactive wastes will be left in place as the facilities are decommissioned. The amount (curies) that can remain safely in a decommissioned facility is the amount that will not produce an annual whole body dose or organ dose

greater than 25 mrem to an individual living on the site released. The ARCL methodology is used to estimate dose from the residual radioactivity by analysis. This methodology is explained in the following section.

6.1.2.3 Allowable Residual Contamination Levels. It has been the historic practice at the Hanford Site to release equipment and materials for unrestricted use when they were found to be "free of contamination." The definition of free of contamination generally has been less than detectable with portable radiation detection instrumentation, such as a Geiger Muller or portable alpha monitor. This same approach has been used for decontamination and decommissioning of surplus facilities, i.e., cleanup to less-than-detectable levels before release and demolition.

The DOE recently adopted the release limits defined in Regulatory Guide 1.86 (NRC 1974). These limits, in some cases, are less restrictive than the less-than-detectable criterion. In the spirit of the ALARA philosophy, the less-than-detectable criterion will be used whenever practicable. However, in all cases, material released for offsite use will, as a minimum, meet the limits defined in Regulatory Guide 1.86. Use of Regulatory Guide 1.86 release limits requires the previous approval of Westinghouse Hanford Environmental and Occupational Safety.

This conservative approach is considered a good practice when releasing equipment and materials for offsite use; however, when the less-than-detectable criterion is applied to clean up surplus facilities, it can result in unreasonably high cost. Therefore, the DOE-RL has directed the Hanford Site contractors to use the ARCL methodology, where applicable, to establish radiological release criteria for decommissioning surplus contaminated facilities on the Hanford Site.

The ARCL method, developed by PNL, defines the amount of radioactive material that may remain safely after a facility has been decommissioned. The ARCL method defines realistic exposure scenarios, based on an analysis of potential radiation exposure pathways. The scenarios consider the numerous ways in which persons could be exposed to the remaining radioactive materials during or after institutional control of the site.

The radiological inventory of the facility is estimated from sampling data and then, using the appropriate dose pathways, a dose along with a 90% upper-confidence limit is estimated. If the predicted potential dose to an individual determined by this method is less than 25 mrem/yr, then no further actions would be required for that site. If the predicted potential dose exceeds the limit, then additional remedial action must be taken.

6.1.2.4 Application of the Allowable Residual Contamination Limits Method. Current DOE guidance requires that the dose to a maximally exposed person, following the release of a decommissioned facility or land area for unrestricted use, be less than 25 mrem/yr to the whole body or any organ. (A maximally exposed site resident is assumed to receive the maximum possible radiation dose from all of the exposure pathways on a particular site.)

If the ARCL analysis indicates that the 25 mrem/yr criterion cannot be achieved cost effectively for a particular site, then the DOE-RL must approve the specific dose levels for that site, calculated by use of the ARCL method, before initiation of the decommissioning work. The ALARA philosophy is applicable whenever it is cost effective to reduce doses below the 25 mrem/yr level.

Table 1 lists dose levels to a maximally exposed person and how dose levels relate to site status after decommissioning. The ALARA philosophy and cost-effectiveness are of primary importance in determining which release level will be achieved for a particular site.

Table 1. Release Levels and Priorities for Decommissioned Facilities and Land Areas.

Priority	Release level	Site status
1	Decontaminate to less than detectable.	Site can be released immediately for unrestricted use.
2	ARCL[a] of 25 mrem/yr or less immediately following decommissioning.	Site can be released immediately for unrestricted use.
3	ARCL of 25 mrem/yr or less within 100-yr institutional control period.	Site can be released in the year that the radionuclides have decayed to ARCL value of less than 25 mrem/yr.
4	ARCL of up to 500 mrem/yr at end of 100-yr institutional control period.	DOE-RL[b] approval is needed to exceed 25 mrem/yr.

[a]Allowable residual contamination levels.
[b]U.S. Department of Energy-Richland Operations Office.

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6.1.2.5 Release of Materials for Unrestricted Offsite Use. The DOE recently adopted the release limits defined in Regulatory Guide 1.86 (NRC 1974). These limits, in some cases, are less restrictive than the less-than-detectable criterion. In the spirit of the ALARA philosophy, the less-than-detectable criterion will be used whenever practicable. However, in all cases, material released for offsite use will, as a minimum, meet the limits defined in Regulatory Guide 1.86. Use of Regulatory Guide 1.86 release limits requires the previous approval of Westinghouse Hanford Environmental and Occupational Safety. Table 2 lists these criteria.

6.1.2.6 Disposition of Contaminated Equipment. Equipment contaminated with radioactive materials should be dispositioned using the priorities listed below. The intent of these priorities is to practice the ALARA philosophy by minimizing the movement and handling of radioactive materials.

- **Reuse Equipment.** Equipment should be removed for reuse if it is cost effective to do so and if a new user for the equipment has been identified. The new user will provide the funds for removal and transport to the new location.

- **Leave Equipment in Place.** If a cost-effective reuse is not identified, equipment should be left in place. This priority should be used only if the radioactive material on the equipment can be contained during the demolition phase of decommissioning.

- **Relocate Equipment in Same Facility.** If there is a potential for release of radioactive material to the environment during demolition of the facility containing the equipment, the equipment should be relocated to an area in the same facility where it is protected (e.g., tunnel, basement) before demolition.

- **Relocate Equipment to Another Contaminated Facility.** If equipment cannot be left in place or relocated in its own facility, the equipment should be relocated to a below-grade void in another contaminated facility where it can be covered with a minimum of 1 m of clean fill.

Table 2. Acceptable Surface Contamination Levels for Materials Removed From the Site.

Radionuclide[a]	Average[b,c]	Maximum[b,d]	Removable[b,e]
Uranium (natural), ^{235}U, ^{238}U associated decay products	5,000 dpm alpha/ 100 cm^2	15,000 dpm alpha/cm^2	1,000 dpm alpha/cm^2
Transuranics, ^{226}Ra, ^{228}Ra, ^{230}Th, ^{228}Th, ^{231}Pa, ^{227}Ac, ^{125}I, ^{129}I	100 dpm/100 cm^2	300 dpm/100 cm^2	20 dpm/100 cm^2
Thorium (natural) ^{232}Th, ^{90}Sr, ^{223}Ra, ^{224}Ra, ^{232}U, ^{126}I, ^{131}I, ^{133}I	1,000 dpm/100 cm^2	3,000 dpm/100 cm^2	200 dpm/100 cm^2
Beta-gamma emitters (radionuclides with decay modes other than alpha emission or spontaneous fission, except ^{90}Sr and others noted above)	5,000 dpm/β-γ/ 100 cm^2	15,000 dpm/β-γ/ 100 cm^2	1,000 dpm/β-γ/ 100 cm^2

[a]Where surface contamination by both alpha-emitting and beta-gamma-emitting nuclides exists, the limits established for alpha-emitting and beta-gamma-emitting nuclides should apply independently.

[b]As used in this table, dpm (disintegrations per minute) means the rate of emission by radioactive materials as determined by correcting the counts per minute observed by an appropriate detector for background, efficiency, and geometric factors associated with the instrumentation.

[c]Measurements of average contaminant should not be averaged over more than 1 m^2. For objects of less surface area, the average should be derived for each such object.

[d]The maximum contamination level applies to an area of not more than 100 cm^2.

[e]The amount of removable radioactive material per 100-cm^2 surface area should be determined by wiping that area with dry filter or soft, absorbent paper, applying moderate pressure, and assessing the amount of radioactive material on the wipe with an appropriate instrument of known efficiency. When removable contamination on objects of less surface is determined, the pertinent levels should be reduced proportionally, and the entire surface should be wiped. PST89-3259-2

- **Relocate Equipment to a Noncontaminated Facility**. If the equipment cannot be relocated to a void in another contaminated facility, it should be relocated to a void in a noncontaminated facility that is scheduled to be decommissioned. Special authorization from Westinghouse Hanford Environmental and Occupational Safety is required for this option.

- **Remove Equipment for Burial**. As a last resort, the equipment should be removed and packaged for disposal at the Hanford Site 200 Area low-level waste disposal site.

6.2 DISPOSITION OF NONRADIOACTIVE, HAZARDOUS MATERIAL

The disposition of nonradioactive, hazardous wastes and/or materials, including asbestos, mercury, polychlorinated biphenyl (PCB) oil, and possible other materials, will be addressed in the safety hazards assessment issued by Westinghouse Hanford, in accordance with DOE directives, before any actual decommissioning work begins on a facility. The applicable decommissioning work procedures will provide explicit instructions to control the release of any hazardous material during decommissioning work. Table 3 lists some of the significant nonradioactive hazardous materials present in the Hanford Site facilities.

Table 3. Nonradioactive, Hazardous Materials Present in the Hanford Site Shutdown Facilities.[a]

Material	Location	Preferred disposition
Asbestos	Pipe insulation in many facilities; siding material and floor covering on a number of facilities.	All friable asbestos will be removed and disposed of in accordance with established procedures.
Mercury	Panel gauges for control equipment in all facilities.	All mercury will be removed before decommissioning.
Polychlorinated biphenyl (PCB) oil shutdown	In transformers.	All PCB remaining in facilities will be removed before decommissioning. Sampling program currently is being conducted to determine PCB inventories.
Lead	Reactors, shielding caves, sanitary sewer joints and storage.	Pending.

[a]Listing is not all inclusive. Some chemical hazardous wastes have not been included.

PST89-3259-3

6.3 QUALITY ASSURANCE

A quality assurance compliance manual has been developed and will be followed in implementing the quality assurance requirements set forth by Westinghouse Hanford.

6.4 PROJECT MANAGEMENT AND CONTROL

The administrative controls for tracking cost and schedules are listed in the following.

6.4.1 Cost and Schedule Performance Monitoring

Defense Waste Administration will track cost and schedule, using Westinghouse Hanford Management Control System.

This earned-value system tracks cost, schedule, and performance on a monthly and to-date basis of all decommissioning projects as they progress toward completion. Cost-performance reports will be prepared through the FDS on a monthly basis. The reports will use the CAPs to establish a FY performance baseline. The report will compare scheduled cost, budget cost of work scheduled (BCWS), to work performance, budget cost of work performed (BCWP), to actual cost of work performed (ACWP). Any deviations from the planned schedules or spending will be reported as a schedule variance (SV) or a cost variance (CV). If the variances exceed the thresholds of 10% or $100,000, whichever is less, the CAM is required to complete a variance analysis report (VAR), which is to be returned to the activity manager by the tenth working day of the following month. The VAR will explain cause for the SVs and/or CVs, along with corrective action and/or impacts. Additionally, a current fiscal year and future year's estimate at completion (EAC), along with a total estimate cost (TEC), will be calculated. The VAR information will be reviewed by the activity manager and Environmental Program control analyst, and approved by the HSFP manager.

Changes to the work scheduled in the base plan will be documented by processing a change request. An approved copy of the change request will be filed by Program Administration in the Program Office.

6.5 REGULATORY REQUIREMENTS

The DOE regulatory requirements are implemented through the various control manuals developed by Westinghouse Hanford as management directives. These directives, as applicable to the HSFP, become a part of the activities associated with surveillance, maintenance, and decommissioning of the facilities. The requirements are to provide employees with clear, documented guidelines consisting of policies, work procedures, performance requirements, process or equipment operational limits, and rules of conduct as follows:

- Avoid or mitigate nuclear, radiological, environmental, or industrial safety incidents.
- Protect the general public and employees from injury.
- Avoid or mitigate production or property losses.
- Ensure compliance with DOE Orders, state and federal laws and regulations, industrial codes and standards, requirements of prime contract with the DOE, and Westinghouse Corporate policies.
- Ensure the financial integrity and cost effectiveness of operations of Westinghouse Hanford.
- Ensure the quality and technical excellence of work performed.

6.6 FACILITY ACCEPTANCE AND TRANSFER

6.6.1 Facility Transfer and Acceptance Requirements

To be eligible for acceptance in the HSFP, facilities must meet the following administrative, technical, and physical requirements:

- The facility and surrounding area will be in a radiologically safe condition, with a current radiation and hazardous chemical survey complete and available.
- The structure(s) and monitoring system will be in a condition adequate to contain and monitor for radiation/contamination and hazardous chemicals.
- All stored special nuclear materials, reactor fuels, radioactive contaminated liquids, and hazardous chemicals will have been removed from the facility. In addition, all bulk and containerized radioactive-contaminated waste and sludge will have been removed from the facility.
- Deactivation and shutdown status of the facility will have been documented (i.e., final radiological and hazardous substance survey, final configuration, and surveillance and maintenance records and requirements).
- If available, a formal surveillance and maintenance plan will be provided.
- Security systems and procedures will be adequate to prevent unauthorized entry.

6.6.2 Facility Transfer into the Program

The required actions to transfer a surplus facility into the HSFP are coordinated between the manager of HSFP and the building manager and are approved by the manager of EO.

If a facility is accepted, HSFP management incorporates it into the program plans and budget until disposition is complete and/or the facility is transferred out of the program. Identification of the funding source for surveillance, maintenance, and decommissioning will be determined at the time the facility is being considered for transfer, and the agreement then becomes part of the approval documentation.

6.6.3 Facility Transfer out of the Program

When it has been determined that there is a use for a facility currently in the HSFP or the decommissioning of a facility has been completed, a formal letter will be submitted to HSFP requesting its transfer out of the program. Organizations accepting the facility from the HSFP assume full responsibility for the facility and any further disposition, including decommissioning as appropriate.

6.6.4 Identification and Description of Surplus Facilities Questionnaire

A facility questionnaire form (which includes information that will assist users when filling out the form) and a suggested form letter for submitting a facility transfer request to HSFP is documented in special Program Management Instructions. The forms are in four parts and identified as follows:

Part 1. Facility Disposition Planning and Cost Data
(Form No. A3000-423)

Part 2. Facility Data
(Form No. A3000-424)

Part 3. Facility Radiological Data
(Form No. A3000-426)

Part 4. Surveillance Data
(Form No. A3000-425)

7.0 DOCUMENTATION AND APPROVALS

7.1 SURVEILLANCE AND MAINTENANCE GUIDELINES

Surveillance and maintenance guidelines unify the surveillance and maintenance activities concerning responsibility, surveillance inspection, maintenance, monitoring, and record keeping. These guidelines set forth the surveillance and maintenance requirements that will be used in documenting unit procedures and tasks performed in surveillance and maintenance as outlined in site-specific instructions. These guidelines require approval of the Manager, Hanford Restoration Operations.

The surplus facilities will be maintained to meet the requirements of protective storage until an alternative is opted and funded for final disposition. Before consolidation, Rockwell Hanford Operations (RHO) and United Nuclear Industries (UNC) each developed long-range program manuals that scheduled surveillance and maintenance for protective storage. If the decision is made to maintain the facilities in a protective storage mode, these program manuals will be reissued.

7.2 DECOMMISSIONING PROJECT WORK

All surplus facilities will be segregated into work packages. When the decision is made to decommission a facility and funding is available, a project proposal will be developed that includes detailed engineering, detailed procedures on how the job is to be done, safety hazard analysis, a start-up readiness review, and project closeout requirements. These elements of the project are documented in the project plan and require various levels of approval depending on the size of the project. Approval levels are set forth under the Westinghouse Hanford management control system. Work approval for the specific tasks is established in the work package project plan.

8.0 REFERENCES

DOE-RL, 1982, *Surplus Facilities Management Program Methodology for Establishing Decommissioning Priorities*, RLO/SFM-82-7, U.S. Department of Energy-Richland Operations Office, Richland, Washington.

DOE-RL, 1983, *Safety Analysis Review System*, DOE-RL Order 5481.1A, U.S. Department of Energy-Richland Operations Office, Richland, Washington.

DOE-RL, 1988, *Environment, Safety, and Health Program for Department of Energy Operations for Richland Operations*, DOE-RL Order 5480.1A, U.S. Department of Energy-Richland Operations Office, Richland, Washington.

Ecology, 1987, "Dangerous Waste Regulations," *Washington Administrative Code*, WAC 173-303, Washington State Department of Ecology, Olympia, Washington.

NRC, 1974, *Termination of Nuclear Operating Licenses for Nuclear Reactors*, Regulatory Guide 1.86, U.S. Nuclear Regulatory Commission, Washington, D.C.

APPENDIX A
WORK ELEMENTS

APPENDIX A

A.1 WORK ELEMENTS

Following is a list of facilities within the Hanford Surplus Facilities Programs (HSFP) that currently are being maintained and controlled in accordance with specific surveillance and maintenance procedures while awaiting decontamination and decommissioning (D&D).

Accompanying each facility identification title and/or number is a brief description, including type of construction, overall dimensions, estimated decommissioning cost, current plan for fiscal year project work to commence, and related work breakdown structure (WBS) numbers. All project costs are estimates and are in constant fiscal year (FY) 1991 dollars.

A.2 100 AREA REACTORS

1. 105-F Reactor Building and Associated Fuel Storage Basin WBS:UB204

General Description:	Reinforced concrete and concrete block construction approximately 250 ft long by 230 ft wide by 95 ft high.
Estimated Decommissioning Cost[a]:	$16,407,000 (Includes approximately 3,000,000 for Batch plant)
Commence D&D:	FY 1993[b]

2. 105-H Reactor Building and Associated Fuel Storage Basin WBS:UB203

General Description:	Reinforced concrete and concrete block construction approximately 250 ft long by 230 ft wide by 95 ft high.
Estimated Decommissioning Cost[a]:	$16,092,000
Commence D&D:	FY 1994[b]

3. 105-D Reactor Building and Associated Fuel Storage Basin WBS:UB201

General Description:	Reinforced concrete and concrete block construction approximately 250 ft long by 230 ft wide by 95 ft high.
Estimated Decommissioning Cost[a]:	$10,782,000
Commence D&D:	FY 1995[b]

4. 105-DR Reactor Building and Associated Fuel Storage Basin WBS:UB202

General Description:	Reinforced concrete and concrete block construction approximately 250 ft long by 230 ft wide by 95 ft high.
Estimated Decommissioning Cost[a]:	$15,554,000
Commence D&D:	FY 1995[b]

[a]Cost of a typical reactor, but does not include the 97.5 yr of well monitoring estimated at $9,750,000 per reactor, nor is the cost of the National Environmental Policy Act (NEPA) action (environmental impact statement [EIS]) included.

[b]Start of construction work.

A.2 100 AREA REACTORS - Continued

5. 105-C Reactor Building and Associated Fuel Storage Basin WBS:UA202

General Description:	Reinforced concrete and concrete block construction approximately 250 ft long by 230 ft wide by 95 ft high.
Estimated Decommissioning Cost[a]:	$15,170,000
Commence D&D:	FY 1996[b]

6. 105-KE Reactor Building and Associated Fuel Storage Basin WBS:UA204

General Description:	Reinforced concrete and concrete block construction approximately 275 ft long by 213 ft wide by 120 ft high.
Estimated Decommissioning Cost[a]:	$19,372,000
Commence D&D:	FY 1997[b]

7. 105-KW Reactor Building and Associated Fuel Storage Basin WBS:UA203

General Description:	Reinforced concrete and concrete block construction approximately 275 ft long by 213 ft wide by 120 ft high.
Estimated Decommissioning Cost[a]:	$19,098,000
Commence D&D:	FY 1998[b]

8. 105-B Reactor Building and Associated Fuel Storage Basin WBS:UA201

General Description:	Reinforced concrete and concrete block construction approximately 250 ft long by 230 ft wide by 95 ft high.
Estimated Decommissioning Cost[a]:	$13,354,000
Commence D&D:	FY 1998[b]

A.2 100 AREA REACTORS - Continued

9. 105-F Basin Fill Removal — WBS:UB204

General Description:	The removal of approximately 4,500 yd^3 of earth backfill may be removed.
Estimated Decommissioning Cost:	$2,736,000
Commence D&D:	FY 1990

10. 105-H Basin Fill Removal — WBS:UB203

General Description:	The removal of approximately 5,800 yd^3 of earth backfill may be removed.
Estimated Decommissioning Cost:	$2,200,000
Commence D&D:	FY 1991

11. 105-D & DR Water Tunnels — WBS:UB202

General Description:	The tunnel housed the primary water coolant-water piping from the 190 pumphouse to the reactor. These tunnels will be caved in to reduce subsidence.
Estimated Decommissioning Cost:	$50,000
Commence D&D:	FY 1990

12. 105-C Water Tunnel — WBS:UA202

General Description:	The tunnel housed the primary water coolant-water piping from the 190 pumphouse to the reactor. These tunnels will be caved in to reduce subsidence.
Estimated Decommissioning Cost:	$105,000
Commence D&D:	FY 1991

A.2 100 AREA REACTORS - Continued

13. 105-KE Water Tunnel — WBS:UA204

General Description:	The tunnel housed the primary water coolant-water piping from the 190 pumphouse to the reactor. These tunnels will be caved in to reduce subsidence.
Estimated Decommissioning Cost:	$105,000
Commence D&D:	FY 1992

14. 105-KW Water Tunnel — WBS:UA203

General Description:	The tunnel housed the primary water coolant-water piping from the 190 pumphouse to the reactor. These tunnels will be caved in to reduce subsidence.
Estimated Decommissioning Cost:	$105,000
Commence D&D:	FY 1992

15. 105-B Water Tunnel — WBS:UA201

General Description:	The tunnel housed the primary water coolant-water piping from the 190 pumphouse to the reactor. These tunnels will be caved in to reduce subsidence.
Estimated Decommissioning Cost:	$100,000
Commence D&D:	FY 1991

100 AREA REACTORS - TOTAL 15

A.3 100 AREA ANCILLARIES

1. 116-D Exhaust Air Stack — WBS:UBT01

General Description:	A monolithic, reinforced structure with a height above grade of 200 ft and 20 ft below grade and 16 ft in diameter at the base.
Estimated Decommissioning Cost:	$257,000
Commence D&D:	FY 1993

2. 116-DR Exhaust Air Stack[a] — WBS:UBT02

General Description:	A monolithic, reinforced structure with a height above grade of 200 ft and 20 ft below grade and 16 ft in diameter at the base.
Estimated Decommissioning Cost:	$257,000
Commence D&D:	FY 1993

3. 117-DR Exhaust Air Filter Building[a] — WBS:UBA03

General Description:	Reinforced concrete structure 59 ft long, 39 ft wide, and 35 ft high with only 8 ft of this height above grade.
Estimated Decommissioning Cost:	$235,000
Commence D&D:	FY 1993

4. 119-DR Exhaust Air Sampling Building — WBS:UBA02

General Description:	A small metal structure on a grade-level concrete pad.
Estimated Decommissioning Cost:	$15,000
Commence D&D:	FY 1993

[a]Also contains sodium lithium residue from past burn experiments.
[b]Facility has been decontaminated to unrestricted release levels, except for drain lines and area below foundation.
[c]Contaminated waste and equipment previously removed.
[d]Building was decontaminated previously and now is scheduled for decommissioning in FY 1989.

A.3 100 AREA ANCILLARIES - Continued

5. 108-F Biology Laboratory Building[b] WBS:UB801

General Description:	A four-story reinforced concrete and concrete block structure 200 ft long, 100 ft wide, and 50 ft above grade.
Estimated Decommissioning Cost:	$3,140,000
Commence D&D:	FY 1993

6. 103-D Unirradiated Fuel Element Storage Building WBS:UBA01

General Description:	A one-story reinforced concrete and concrete block structure 53 ft long, 26 ft wide, and 14 ft high.
Estimated Decommissioning Cost:	$37,000
Commence D&D:	FY 1993

7. 115-B/C Gas Recirculation Building WBS:UAA27

General Description:	A concrete block and reinforced concrete structure, including tunnels, pit annex, and piping adjoining the 105-B and 105-C Buildings. The building is 113 ft long, 34 ft wide, and 40 ft high with 20 ft of this height below grade. The tunnel is 1,440 ft long.
Estimated Decommissioning Cost:	$315,000[c]
Commence D&D:	FY 1989 (Project completed in FY 1989)

8. 115-KE Gas Recirculation Building WBS:UAA28

General Description:	A concrete block and reinforced concrete structure, including tunnels, pit annex, and piping adjoining the 105-KE Building. The building is 113 ft long, 34 ft wide, and 40 ft high with 20 ft of this height below grade. The tunnel is 100 ft long.
Estimated Decommissioning Cost:	$1,029,000
Commence D&D:	FY 1992

A.3 100 AREA ANCILLARIES - Continued

9. 115-KW Gas Recirculation Building — WBS:UAA29

General Description:	A concrete block and reinforced concrete structure, including tunnels, pit annex, and piping adjoining the 105-KW Building. The building is 113 ft long, 34 ft wide, and 40 ft high with 20 ft of this height below grade. The tunnel is 100 ft long.
Estimated Decommissioning Cost:	$1,029,000
Commence D&D:	FY 1995

10. 117-C Exhaust Air Filter Building[d] — WBS:UAA32

General Description:	Reinforced concrete structure 59 ft long, 39 ft wide, and 35 ft high with only 8 ft of this height above grade.
Estimated Decommissioning Cost:	$105,000
Commence D&D:	FY 1989 (Project completed in FY 1989)

11. 117-KE Exhaust Air Filter Building — WBS:UAA30

General Description:	Reinforced concrete structure 59 ft long, 39 ft wide, and 35 ft high with only 8 ft of this height above grade.
Estimated Decommissioning Cost:	$235,000
Commence D&D:	FY 1992

12. 117-KW Exhaust Air Filter Building — WBS:UAA31

General Description:	Reinforced concrete structure 59 ft long, 39 ft wide, and 35 ft high with only 8 ft of this height above grade.
Estimated Decommissioning Cost:	$235,000
Commence D&D:	FY 1993

A.3 100 AREA ANCILLARIES - Continued

13. 116-B Exhaust Air Stack — WBS:UAT01

General Description:	A monolithic, reinforced structure with a height above grade of 200 ft and 20 ft below grade and 16 ft in diameter at the base.
Estimated Decommissioning Cost:	$257,000
Commence D&D:	FY 1991

14. 116-KE Exhaust Air Stack — WBS:UAT02

General Description:	A monolithic, reinforced structure 16 ft below grade, 16 ft in diameter at the base; height was reduced from 300 ft to 200 ft in 1982.
Estimated Decommissioning Cost:	$441,000
Commence D&D:	FY 1993

15. 116-KW Exhaust Air Stack — WBS:UAT03

General Description:	A monolithic, reinforced structure 16 ft below grade, 16 ft in diameter at the base; height was reduced from 300 ft to 200 ft in 1982.
Estimated Decommissioning Cost:	$441,000
Commence D&D:	FY 1993

16. 104-B-1 Tritium Vault — WBS:UA902

General Description:	The vault is a 130 ft^2 concrete structure.
Estimated Decommissioning Cost:	$26,000
Commence D&D:	FY 1991

A.3 100 AREA ANCILLARIES - Continued

17. 104-B-2 Tritium Laboratory — WBS:UA903

General Description:	The laboratory is a reinforced concrete structure about 325 ft^2.
Estimated Decommissioning Cost:	$26,000
Commence D&D:	FY 1991

18. 119-KE Exhaust Air Sampling Building — WBS:UAA20

General Description:	The building is a small metal structure on a grade-level concrete pad.
Estimated Decommissioning Cost:	$15,000
Commence D&D:	FY 1993

19. 119-KW Exhaust Air Sampling Building — WBS:UAA02

General Description:	The building is a small metal structure on a grade-level concrete pad.
Estimated Decommissioning Cost:	$15,000
Commence D&D:	FY 1993

20. 1706-KE Reactor Loop Testing Facility — WBS:UAH06

General Description:	This building was a multipurpose test facility, constructed of concrete block and reinforced concrete, and is approximately 13,500 ft^2.
Estimated Decommissioning Cost:	$3,039,000
Commence D&D:	FY 1994

A.3 100 AREA ANCILLARIES - Continued

21. 103-B Unirradiated Fuel Element Storage Building WBS:UA325

General Description:	A one-story reinforced concrete and concrete block structure 53 ft long, 26 ft wide, and 14 ft high.
Estimated Decommissioning Cost:	$37,000
Commence D&D:	FY 1991

22. 111-B Decontamination Station WBS:UA904

General Description:	Remaining is a reinforced below-grade concrete structure. The above-grade wooden structure was dispositioned in 1984.
Estimated Decommissioning Cost:	$179,000
Commence D&D:	FY 1991

100 AREA ANCILLARIES - TOTAL 22

A.4 100 AREA EFFLUENTS

1. 107-B Retention Basin — WBS:UA906

General Description:	A 467 ft long by 230 ft wide by 15 ft high reservoir used to hold up effluent coolant water from the reactors long enough to permit radioactive decay of short-lived radionuclides before returning to the Columbia River.
Estimated Decommissioning Cost:	$735,000
Commence D&D:	FY 2000

2. 107-C Retention Basin — WBS:UA905

General Description:	Two cylindrical carbon steel open-top tanks sitting on concrete pads. Each tank is 16 ft high and 330 ft in diameter, and used to hold up effluent coolant water from the reactors long enough to permit radioactive decay of short-lived radionuclides before returning to the Columbia River.
Estimated Decommissioning Cost:	$956,000
Commence D&D:	FY 2000

3. 107-KE Retention Basin — WBS:UA907

General Description:	Three cylindrical open-top tanks sitting on concrete pads. Each tank is 29 ft high and 250 ft in diameter.
Estimated Decommissioning Cost:	$956,000
Commence D&D:	FY 2002

4. 107-KW Retention Basin — WBS:UA908

General Description:	Three cylindrical open-top tanks sitting on concrete pads. Each tank is 29 ft high and 250 ft in diameter.
Estimated Decommissioning Cost:	$956,000
Commence D&D:	FY 2002

A.4 100 AREA EFFLUENTS - Continued

5. 1904-B1/B2 Effluent Water Outfall Structures WBS:UAA33

General Description:	The outfall structures are reinforced, compartmentalized concrete water boxes located on the bank of the Columbia River. The associated spillways are constructed also of reinforced concrete. The structures are 27 ft long, 14 ft wide, and 25 ft deep.
Estimated Decommissioning Cost:	$224,000
Commence D&D:	FY 2001

6. 1904-C Effluent Water Outfall Structure WBS:UAA35

General Description:	The outfall structure is reinforced, compartmentalized concrete water box located on the bank of the Columbia River. The associated spillway also is constructed of reinforced concrete. The structure size is 27 ft long, 14 ft wide, and 24 ft deep.
Estimated Decommissioning Cost:	$224,000
Commence D&D:	FY 2001

7. 1908-K Effluent Water Outfall Structure WBS:UAA34

General Description:	The outfall structure is constructed of reinforced concrete as is the spillway. This facility is currently in use to handle discharge water because of the storage of N Area irradiated fuel elements in the KE and KW fuel storage basins. The structure is 30 ft long, 40 ft wide, 20 ft above grade, and 20 ft below grade.
Estimated Decommissioning Cost:	$435,000
Commence D&D:	FY 2001

8. 100-B/C Effluent Lines WBS:UA425

General Description:	At 100-B Area, there are approximately 4.25 mi of 5-ft to 6-ft diameter effluent piping.
Estimated Decommissioning Cost:	$231,000
Commence D&D:	FY 1992

A.4 100 AREA EFFLUENTS - Continued

9. 100-KE/KW Effluent Lines WBS:UA424

General Description:	At 100-K Area, there are approximately 4.16 mi of various diameter-size effluent piping (12 in. to 72 in.).
Estimated Decommissioning Cost:	$284,000
Commence D&D:	FY 1992

10. 100-B/C, KE, KW Effluent Discharge Water River Lines WBS:UA425

General Description:	There remains approximately 3,300 ft of 42-in. to 84-in. diameter steel effluent piping underwater in the Columbia River.
Estimated Decommissioning Cost:	$535,000
Commence D&D:	FY 1991

11. (a)183-H Solar Evaporation Basins WBS:1UA901

General Description:	Originally these basins were used as a sedimentation facility for coolant water supply to H Reactor. They were converted to solar ponds for spent chemical waste from the 300 Area Fuels Manufacturing Plant in early 1970. There are four separate bays constructed of reinforced concrete and concrete blocks. The basin is 5 ft above grade, 15 ft below grade, 600 ft in length, and 273 ft wide. The basins are being remediated, based on information submitted to the Washington State Department of Ecology.
Estimated Decommissioning Cost:	$17,250,000
Commenced D&D:	FY 1986

A.4 100 AREA EFFLUENTS - Continued

11. (b)183-H Groundwater Monitoring — WBS:1UA905

General Description:	As part of the closure activities, additional groundwater monitoring wells were installed in 1986 and 1987. The decommissioning cost shown includes the estimated cost to sample and analyze the wells and perform routine surveillance and maintenance through FY 2017.
Estimated Decommissioning Cost:	$12,175,000
Commenced D&D:	FY 1986

12. 107-F Retention Basin — WBS:UBA04

General Description:	A 467 ft long by 230 ft wide by 15 ft high reservoir used to hold up effluent coolant water from the reactors long enough to permit radioactive decay of short-lived radionuclides before returning to the Columbia River.
Estimated Decommissioning Cost:	$735,000
Commence D&D:	FY 2003

13. 107-H Retention Basin — WBS:UBA05

General Description:	Rectangular concrete reservoirs used to hold up effluent coolant water from the reactors long enough to permit radioactive decay of short-lived radionuclides before returning them to the Columbia River. Approximate size of the basin is 600 ft long, 480 ft wide, and 20 ft deep.
Estimated Decommissioning Cost:	$735,000
Commence D&D:	FY 2003

A.4 100 AREA EFFLUENTS - Continued

14. 107-D Retention Basin — WBS:UBA06

General Description:	A 467 ft long by 230 ft wide by 15 ft high reservoir used to hold up effluent coolant water from the reactors long enough to permit radioactive decay of short-lived radionuclides before returning to the Columbia River.
Estimated Decommissioning Cost:	$735,000
Commence D&D:	FY 2004

15. 107-DR Retention Basin — WBS:UBA07

General Description:	Rectangular concrete reservoirs used to hold up effluent coolant water from the reactors long enough to permit radioactive decay of short-lived radionuclides before returning them to the Columbia River. Approximate size of the basin is 600 ft long, 480 ft wide, and 20 ft deep.
Estimated Decommissioning Cost:	$735,000
Commence D&D:	FY 2005

16. 1904-F Effluent Water Outfall Structure — WBS:UBA08

General Description:	The outfall structure is a reinforced, compartmentalized concrete water box located on the bank of the Columbia River. The associated spillway also is constructed of reinforced concrete. The structure size is 27 ft long, 14 ft wide, and 25 ft deep.
Estimated Decommissioning Cost:	$224,000
Commence D&D:	FY 2003

A.4 100 AREA EFFLUENTS - Continued

17. 1904-H Effluent Water Outfall Structure — WBS:UBA09

General Description:	The outfall structure is a reinforced, compartmentalized concrete water box located on the bank of the Columbia River. The associated spillway also is constructed of reinforced concrete. The structure size is 27 ft long, 14 ft wide, and 25 ft deep.
Estimated Decommissioning Cost:	$224,000
Commence D&D:	FY 2003

18. 1904-D Effluent Water Outfall Structure — WBS:UBA10

General Description:	The outfall structure is a reinforced, compartmentalized concrete water box located on the bank of the Columbia River. The associated spillway also is constructed of reinforced concrete. The structure size is 27 ft long, 14 ft wide, and 25 ft deep.
Estimated Decommissioning Cost:	$224,000
Commence D&D:	FY 2003

19. 1904-DR Effluent Water Outfall Structure — WBS:UBA11

General Description:	The outfall structure is a reinforced, compartmentalized concrete water box located on the bank of the Columbia River. The associated spillway also is constructed of reinforced concrete. The structure size is 27 ft long, 14 ft wide, and 25 ft deep.
Estimated Decommissioning Cost:	$224,000
Commence D&D:	FY 2003

20. 100-F, H, D, DR Water River Lines — WBS:UB401

General Description:	Approximately 5,000 ft of 42-in. to 84-in. diameter steel effluent piping remains underwater in the Columbia River.
Estimated Decommissioning Cost:	$525,000
Commence D&D:	FY 2003

A.4 100 AREA EFFLUENTS - Continued

21. 100-F, H, D, and DR Effluent lines WBS-UB-402

General Description:	At 100D and H there are approximately 4.57 mi of effluent piping ranging from 1 ft to 6 ft in diameter. At 100F Area, all the above-ground effluent pipe has been removed. There remains about 0.50 mi to be decommissioned.
Estimated Decommissioning Cost:	$300,000
Commence D&D:	FY 2003

100 AREA EFFLUENTS - TOTAL 21

A.5 200 AREA SMALL SUPPORT BUILDINGS

1. 205-A Silica Gel Facility — WBS:UEA13

General Description:	A metal-framed transite building 12 ft long, 10 ft wide, and 9 ft above grade.
Estimated Decommissioning Cost:	$353,000
Commence D&D:	FY 1998

2. 241-A-431 Tank Farm Ventilation Building — WBS:UEA14

General Description:	A reinforced concrete building approximately 22 ft long, 16 ft wide, 9 ft above grade, and 14 ft below grade.
Estimated Decommissioning Cost:	$684,000
Commence D&D:	FY 1999

3. 215-C Gas Preparation Building — WBS:UEA03

General Description:	A reinforced concrete building, 41 ft long, 21 ft wide, and 13 ft above grade. The facility provides instrument air to 271-C.
Estimated Decommissioning Cost:	[a], [b]
Commence D&D:	[a]

[a]Cost and schedule included in 201-C Project.
[b]The completion of D&D is scheduled for FY 1993.
[c]Cost and schedule included in 202-S Canyon Building (REDOX) Project.
[d]Cost and schedule included in the 233-S Plutonium Concentration Project.
[e]Decommissioning of control structures and weir boxes scheduled to start in FY 1999 and is estimated to cost $1,677,000.
[f]Cost and schedule included in the 241 High-Level-Waste Tanks Project.
[g]Cost and schedule included in the 221-U Plant Project.

A.5 200 AREA SMALL SUPPORT BUILDINGS - Continued

4. 241-C-801 Cesium Loadout Facility — WBS:UEA04

General Description:	A reinforced concrete and metal building 32 ft long, 26 ft wide, 12 ft above grade, and 11 ft below grade.
Estimated Decommissioning Cost:	$538,000
Commence D&D:	FY 1999

5. 291-C Fan House and Filter — WBS:UE304

General Description:	A wooden-framed asbestos-shingled building 36 ft long, 24 ft wide, and 11 ft above grade.
Estimated Decommissioning Cost:	a, b
Commence D&D:	a

6. 2707-C Storage and Change House — WBS:UC336

General Description:	A wooden-framed asbestos-shingled building 60 ft long, 24 ft wide, and 10 ft above grade.
Estimated Decommissioning Cost:	a, b
Commence D&D:	a

7. 291-S Fan House and Filter — WBS:UE302

General Description:	A concrete structure 20 ft long, 14 ft wide, and approximately 10 ft above grade.
Estimated Decommissioning Cost:	c
Commence D&D:	c

8. 292-S Jet Pit House — WBS:UEA06

General Description:	A reinforced concrete structure approximately 27 ft long, 14 ft wide, 12 ft above grade, and 34 ft below grade.
Estimated Decommissioning Cost:	c
Commence D&D:	c

A.5 200 AREA SMALL SUPPORT BUILDINGS - Continued

9. 293-S Offgas Treatment Facility — WBS:UEA05

General Description:	A reinforced concrete structure 42 ft long, 25 ft wide, 30 ft above grade, and 16 ft below grade.
Estimated Decommissioning Cost:	c
Commence D&D:	c

10. 2711-S Stack Monitoring Building — WBS:UEA09

General Description:	A wooden structure 14 ft long, 13 ft wide, and 9 ft above grade.
Estimated Decommissioning Cost:	c
Commence D&D:	c

11. 2718-S Sand Filter Sampler — WBS:UEA08

General Description:	A wooden structure 14 ft long, 13 ft wide, and 9 ft above grade.
Estimated Decommissioning Cost:	c
Commence D&D:	c

12. 233-SA Exhaust Air Filter Building — WBS:UE303

General Description:	A concrete structure 24 ft long, 15 ft wide, and 9 ft above grade.
Estimated Decommissioning Cost:	d
Commence D&D:	d

13. 2904-SA Sampler Building — WBS:UEA07

General Description:	A wooden structure 8 ft long, 8 ft wide, 7 ft above grade, and 4 ft below grade.
Estimated Decommissioning Cost:	e
Commence D&D:	e

A.5 200 AREA SMALL SUPPORT BUILDINGS - Continued

14. 241-SX-401 Condenser Shielding Building — WBS:UEA10

General Description:	A reinforced concrete structure 36 ft long, 24 ft wide, 18 ft above grade, and 7 ft below grade.
Estimated Decommissioning Cost:	f
Commence D&D:	f

15. 241-SX-402 Condenser Shielding Building — WBS:UE401

General Description:	A reinforced concrete structure 36 ft long, 24 ft wide, 18 ft above grade, and 7 ft below grade.
Estimated Decommissioning Cost:	f
Commence D&D:	f

16. 291-U Fan House and Filter — WBS:UE301

General Description:	A reinforced, thick concrete structure 19 ft long, 18 ft wide, 14 ft above grade.
Estimated Decommissioning Cost:	g
Commence D&D:	g

200 AREA SMALL SUPPORT BUILDINGS - TOTAL 16

A.6 200 AREA LARGE SUPPORT BUILDINGS

1. 224-B Plutonium Concentration Facility — WBS:UEA12

General Description:	A reinforced concrete and concrete block structure 197 ft long, 60 ft wide, 53 ft above grade, and 20 ft below grade.
Estimated Decommissioning Cost:	$10,041,000
Commence D&D:	FY 1997[a]

2. 271-C Makeup Control Room — WBS:UC931

General Description:	A structural steel-and-metal-sided building 56 ft long, 41 ft wide, and 35 ft above grade.
Estimated Decommissioning Cost:	[b, c]
Commence D&D:	[b]

3. 276-C Solvent Handling Facility — WBS:UDA12

General Description:	A structural steel-and-metal sided building 49 ft long, 18 ft wide, and 40 ft above grade.
Estimated Decommissioning Cost:	[b, c]
Commence D&D:	[b]

4. 212-N, 212-P, 212-R Storage Buildings — WBS:UCA19 (N), UCA20 (P), UCA21 (R)

General Description:	Steel truss and concrete block structures 90 ft long, 74 ft wide, 30 ft above grade, and 37 ft below grade.
Estimated Decommissioning Cost:	$2,822,000[d]
Commence D&D:	FY 2000

[a]Some previous decommissioning has been accomplished. Restart is scheduled for FY 1999.
[b]Cost and schedule included in 201-C Project.
[c]Completion of D&D is scheduled for FY 1993.
[d]This figure represents the total cost for all three like facilities.
[e]Cost and schedule included in the 221-U Plant Project.

A.6 200 AREA LARGE SUPPORT BUILDINGS - Continued

5. 233-S Plutonium Concentration Facility — WBS:UE502

General Description:	A concrete and steel structure with metal siding 86 ft long, 43 ft wide, and 34 ft above grade.
Estimated Decommissioning Cost:	$12,521,000
Commence D&D:	FY 1999[a]

6. 276-S Solvent Handling Facility — WBS:UEA01

General Description:	A reinforced concrete and steel structure with transite siding 58 ft long, 43 ft wide, 24 ft above grade, and 13 ft below grade.
Estimated Decommissioning Cost:	$760,000
Commence D&D:	FY 2003

7. 271-U Office Building — WBS:UD501

General Description:	A concrete frame and concrete block structure 160 ft long, 48 ft wide, 56 ft above grade, and 11 ft below.
Estimated Decommissioning Cost:	[e]
Commence D&D:	[e]

8. 232-Z Waste Incinerator Facility — WBS:UEA11

General Description:	A concrete block structure 57 ft long, 37 ft wide, and 19 ft above grade.
Estimated Decommissioning Cost:	$483,000
Commence D&D:	FY 1999

A.6 200 AREA LARGE SUPPORT BUILDINGS - Continued

9. 242 B & BL Facility WBS:UE305

General Description:	A 3,000 ft^2 reinforced concrete structure.
Estimated Decommissioning Cost:	$525,000
Commence D&D:	FY 1998

200 AREA LARGE SUPPORT BUILDINGS - TOTAL 9

A.7 200 AREA MAJOR PROCESSING FACILITIES

1. 201-C Process Building — WBS:UE503

General Description:	A concrete and transite structure 104 ft long, 80 ft wide, 30 ft above grade, and 30 ft below grade.
Estimated Decommissioning Cost:	$5,942,000
Commenced D&D:	FY 1985

2. 202-S Canyon Building (REDOX) — WBS:UE501

General Description:	A thick, reinforced concrete structure 468 ft long, 161 ft wide, a maximum of 120 ft above grade, and approximately 25 ft below grade.
Estimated Decommissioning Cost:	$128,438,000
Commence D&D:	FY 2002

3. 221-U Canyon Building (U Plant) — WBS:UEA02

General Description:	A concrete structure 810 ft long, 66 ft wide, 51 ft above grade, and 26 ft below grade.
Estimated Decommissioning Cost:	$114,970,000
Commence D&D:	FY 2004

200 AREA MAJOR PROCESSING FACILITIES - TOTAL 3

A.8 200 AREA NEAR-SURFACE CONCRETE STRUCTURES

1. 216-A-524 Control Structure — WBS:UC301

General Description:	A reinforced concrete structure 16 ft long, 8 ft wide, 1 ft above grade, and 10 ft below grade.
Estimated Decommissioning Cost:	[a]
Commence D&D:	[a]

2. 241-CX-72 Tank and Vault — WBS:UCU01

General Description:	The structure is 20 ft long, 7 ft wide, and 12 ft below grade.
Estimated Decommissioning Cost:	[b, c]
Commence D&D:	[b]

3. 207-S Retention Basin — WBS:UC931

General Description:	A reinforced concrete structure 141 ft long, 132 ft wide, approximately 1 ft above grade, and 9 ft below grade.
Estimated Decommissioning Cost:	$1,537,000
Commence D&D:	FY 2003

4. 216-S-172 Weir and Control Structure — WBS:UCU02

General Description:	A thick, reinforced concrete structure 14 ft long, 11 ft wide, approximately 1 ft above grade, and 9 ft below grade.
Estimated Decommissioning Cost:	[a]
Commence D&D:	[a]

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[a]Decommissioning of control structures and weir boxes is scheduled to start in FY 1999 and is estimated to cost $1,677,000.

[b]Cost and schedule is included in 201-C Project.

[c]Completion of D&D is scheduled for FY 1993.

[d]Decommissioning of storage vaults is scheduled to start in FY 1999 and is estimated to cost $4,289,000.

A.8 200 AREA NEAR-SURFACE CONCRETE STRUCTURES - Continued

5. 2904-S-160 Control Structure — WBS:UCU03

General Description:	A thick, reinforced concrete structure 9 ft long, 7 ft wide, approximately 1 ft above grade, and 9 ft below grade.
Estimated Decommissioning Cost:	a
Commence D&D:	a

6. 2904-S-170 Weir Box — WBS:UCU04

General Description:	A reinforced concrete structure 16 ft long, 7 ft wide, 1 ft above grade, and 10 ft below grade.
Estimated Decommissioning Cost:	a
Commence D&D:	a

7. 2904-S-171 Weir Box — WBS:UCU05

General Description:	A thick, reinforced concrete structure 13 ft long, 12 ft wide, about 1 ft above grade, and 10 ft below grade.
Estimated Decommissioning Cost:	a
Commence D&D:	a

8. 244-UR Vault — WBS:UCU06

General Description:	Four stainless steel tanks of various capacity ranging from 8,000 gal to 50,000 gal. These tanks lay in an area 90 ft long, 26 ft wide, about 2 ft above grade, and 46 ft below grade.
Estimated Decommissioning Cost:	d
Commence D&D:	d

A.8 200 AREA NEAR-SURFACE CONCRETE STRUCTURES

9. 241-WR Vault WBS:UCU07

General Description:	Nine steel 50,000-gal tanks inside a reinforced concrete structure 125 ft long, 63 ft wide, 8 ft above grade, and 58 ft below grade.
Estimated Decommissioning Cost:	d
Commence D&D:	d

200 AREA NEAR-SURFACE CONCRETE STRUCTURES - TOTAL 9

A.9 200 AREA DIRECT-BURIED TANKS

1. 241-B-361 Settling Tank — WBS:UCU08

General Description:	A buried concrete tank 20 ft in diameter and 5 ft below grade.
Estimated Decommissioning Cost:	[a]
Commence D&D:	[a]

2. 241-CX-70 Tank — WBS:UCU09

General Description:	A buried stainless steel tank 15 ft tall, 20 ft in diameter, and 28 ft below grade.
Estimated Decommissioning Cost:	[b, c]
Commence D&D:	[b]

3. 241-CX-71 Tank — WBS:UCU10

General Description:	A buried stainless steel tank 9 ft tall, 9 ft in diameter, and undetermined distance below grade.
Estimated Decommissioning Cost:	[b, c]
Commence D&D:	[b, c]

4. 270-E Neutralization Tank — WBS:UCU11

General Description:	A buried stainless steel tank 9 ft in diameter and 20 ft below grade.
Estimated Decommissioning Cost:	[a]
Commence D&D:	[a]

[a]Decommissioning of buried tanks is scheduled to start in FY 2002 and is estimated to cost $281,000.
[b]Cost and schedule is included in 201-C Project.
[c]Completion of D&D is scheduled for FY 1993.
[d]Cost and schedule is included in the 276-S Solvent Handling System Project.

A.9 200 AREA DIRECT-BURIED TANKS - Continued

5. 276-S-141 Hexone Storage Tank — WBS:UCU12

General Description:	A buried steel tank 23 ft tall, 12 ft in diameter, and 14 ft below grade.
Estimated Decommissioning Cost:	d
Commence D&D:	d

6. 276-S-142 Hexone Storage Tank — WBS:UCU13

General Description:	A buried steel tank 23 ft tall, 12 ft in diameter, and 14 ft below grade.
Estimated Decommissioning Cost:	d
Commence D&D:	d

7. 241-T-361 Settling Tank — WBS:UCU14

General Description:	A buried concrete tank 20 ft in diameter and 5 ft below grade.
Estimated Decommissioning Cost:	a
Commence D&D:	a

8. 241-U-361 Settling Tank — WBS:UCU15

General Description:	A buried concrete tank 20 ft in diameter and 5 ft below grade.
Estimated Decommissioning Cost:	a
Commence D&D:	a

A.9 200 AREA DIRECT-BURIED TANKS - Continued

9. 241-Z-361 Settling Tank — WBS:UCU16

General Description:	A buried concrete structure 28 ft tall, 15 ft wide, and 21 ft below grade.
Estimated Decommissioning Cost:	a
Commence D&D:	a

200 AREA DIRECT-BURIED TANKS - TOTAL 9

A.10 200 AREA ABOVE-GRADE TANKS

1. 276-U Solvent Handling Facility WBS:UCU17

General Description:	A concrete basin 66 ft long, 54 ft wide, 35 ft above grade, and 7 ft below grade. Basin contains three tanks ranging in capacity from 2,500 gal to 29,000 gal.
Estimated Decommissioning Cost:	[a]
Commence D&D:	[a]

200 AREA ABOVE-GRADE TANKS - TOTAL 1

[a]Cost and schedule is included in the 221-U Plant Project.

A.11 200 AREA STACKS

1. 291-C-1 Stack — WBS:UCT01

General Description:	A reinforced concrete outer stack and acid- resistant brick inner stack 200 ft in diameter at base, 200 ft above grade, and 5 ft below grade.
Estimated Decommissioning Cost:	[a], [b]
Commence D&D:	[a]

2. 296-C-2 Stack — WBS:UCT02

General Description:	A sheet metal stack 2 ft by 2 ft square, 30 ft above grade.
Estimated Decommissioning Cost:	[a], [b]
Commence D&D:	[a]

3. 291-S-1 Stack — WBS:UCT03

General Description:	A reinforced concrete stack, lined with acid-resistant brick, 14 ft in diameter at base, 200 ft above grade, and 15 ft below grade.
Estimated Decommissioning Cost:	[c]
Commence D&D:	[c]

4. 296-S-1 Stack — WBS:UCT04

General Description:	A sheet metal stack 14 in. wide and 70 ft above grade.
Estimated Decommissioning Cost:	[c]
Commence D&D:	[c]

---

[a]Cost and schedule is included in 201-C Project.
[b]Completion of D&D is scheduled for FY 1993.
[c]Cost and schedule is included in REDOX Project.
[d]Cost and schedule is included in the 233-S Plutonium Concentration Project.
[e]Cost and schedule is included in the 276-S Solvent Handling System Project.
[f]Cost and schedule is included in the 221-U Plant Project.
[g]Decommissioning of storage vaults is scheduled to start in FY 1999 and is estimated to cost $4,289,000.

A.11 200 AREA STACKS - Continued

5. 296-S-2 Stack — WBS:UCT05

General Description:	A sheet metal stack 14 in. wide and 50 ft above grade.
Estimated Decommissioning Cost:	c
Commence D&D:	c

6. 296-S-4 Stack — WBS:UCT06

General Description:	A sheet metal stack 18 in. wide and 48 ft above grade.
Estimated Decommissioning Cost:	c
Commence D&D:	c

7. 296-S-6 Stack — WBS:UCT07

General Description:	A sheet metal stack 30 in. in diameter and 75 ft above grade.
Estimated Decommissioning Cost:	c
Commence D&D:	c

8. 296-S-7 Stack — WBS:UCT08

General Description:	Two sheet metal stacks, each 24 in. in diameter and 25 ft above grade.
Estimated Decommissioning Cost:	d
Commence D&D:	d

9. 296-S-12 Stack — WBS:UCT09

General Description:	Two sheet metal stacks each 21 in^2 and about 11 ft long.
Estimated Decommissioning Cost:	e
Commence D&D:	e

A.11 200 AREA STACKS - Continued

10. 291-U-1 Stack — WBS:UCT13

General Description:	A reinforced concrete stack with an acid-resistant brick liner 14 ft in diameter, 200 ft above grade, and 6 ft below grade.
Estimated Decommissioning Cost:	221-U
Commence D&D:	f

11. 296-U-6 Stack — WBS:UCT11

General Description:	A carbon steel stack 18 in. in diameter, 50 ft above grade, and 3 ft below grade.
Estimated Decommissioning Cost:	g
Commence D&D:	g

12. 296-U-10 Stack — WBS:UCT12

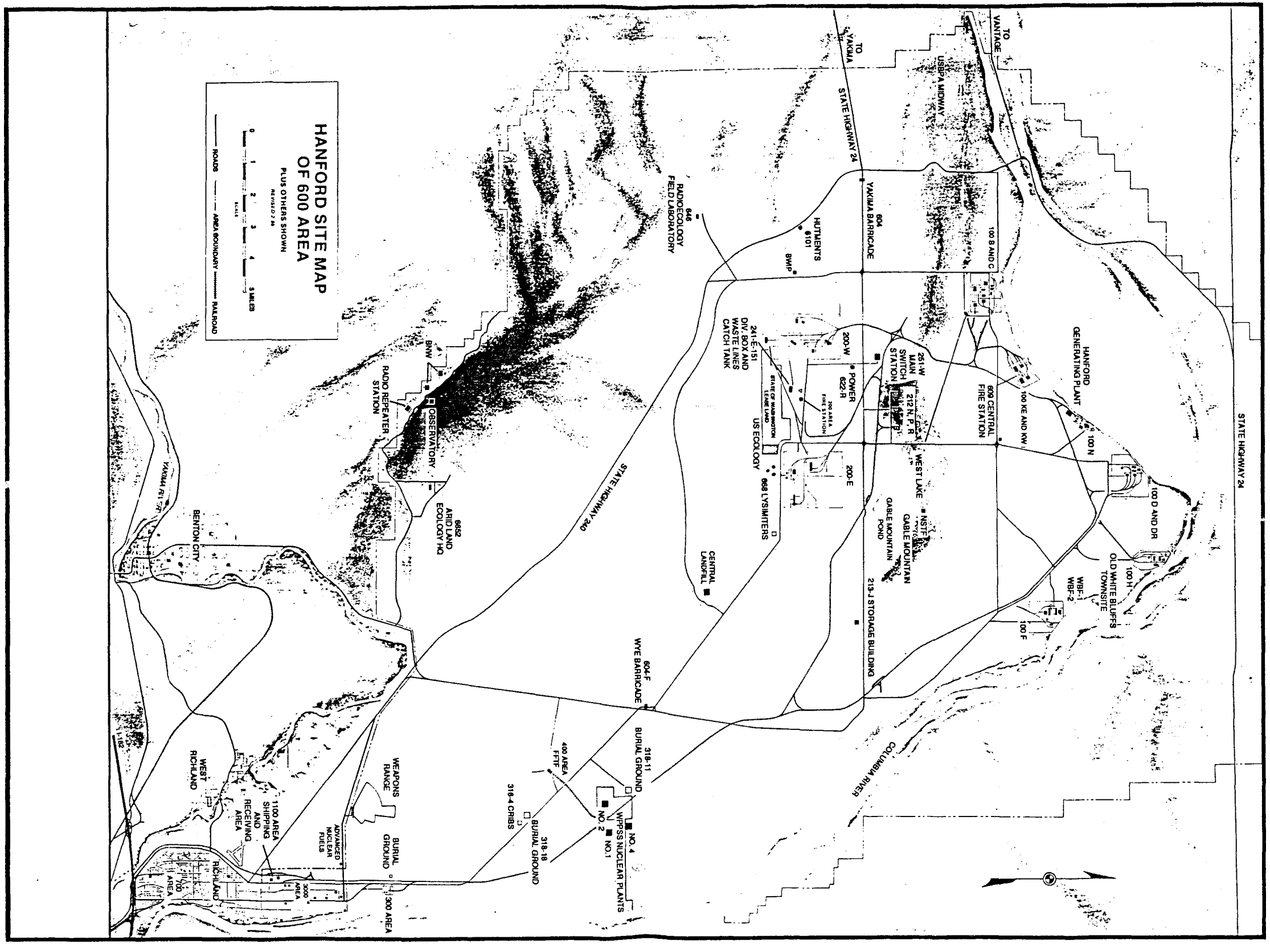
General Description:	A carbon steel stack 24 in. in diameter and 10 ft above grade. Roof of 271-U Building.
Estimated Decommissioning Cost:	f
Commence D&D:	f

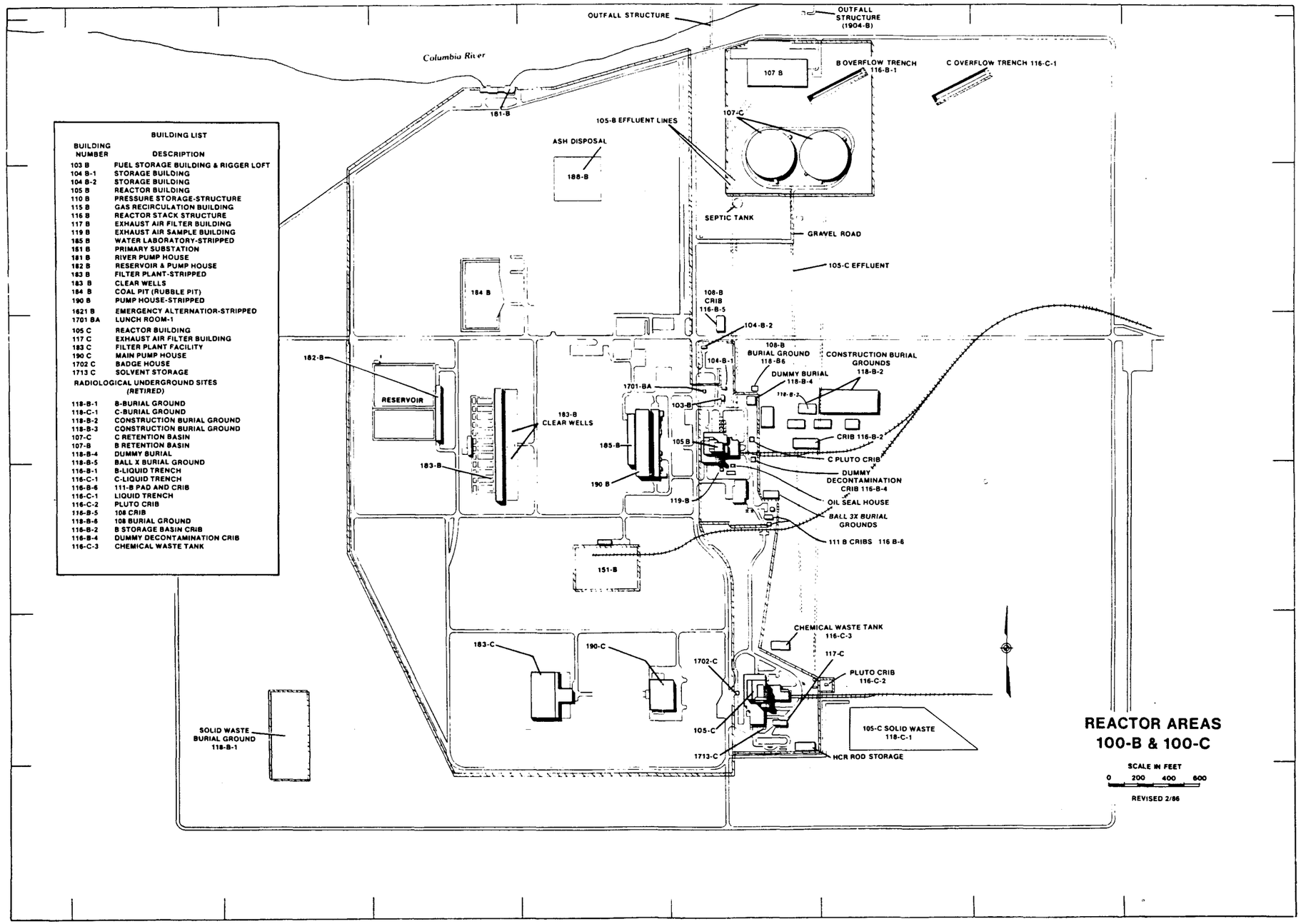
200 AREA STACKS - TOTAL 12

APPENDIX B

AREA SITE MAPS

NOTE: The 600 Area map is included to show the location of 212-N, 212-P, and 212-R Storage Buildings, which are the only facilities in the Hanford Surplus Facilities Program (HSFP) Plan that are not inside or in close proximity to the 100 and 200 Area boundaries.


HANFORD SITE MAP
OF 600 AREA
PLUS OTHERS SHOWN
REVISED 7-84
SCALE
0 1 2 3 4 5 MILES
ROADS
AREA BOUNDARY
RAILROAD
STATE HIGHWAY 24
TO VANTAGE
TO YAKIMA
STATE HIGHWAY 240
YAKIMA BARRICADE
604
HUTMENTS
BMP
RADIOECOLOGY FIELD LABORATORY
646
USBR MIDWAY
100 B AND C
HANFORD GENERATING PLANT
100 N
100 KE AND KW
600 CENTRAL FIRE STATION
100 D AND DR
100 H
OLD WHITE BLUFFS TOWNSITE
WBF-1
WBF-2
100 F
200-W
POWER
622-R
200 AREA FIRE STATION
241-E-151
DIV. BOX AND
WASTE LINES
CATCH TANK
STATE OF WASHINGTON LEASE LAND
US ECOLOGY
668 LYSIMETERS
200-E
CENTRAL LANDFILL
291-W
MAIN
SWITCH
STATION
212-N, P, R
WEST LAKE
NSTF
GABLE MOUNTAIN
GABLE MOUNTAIN POND
213-J STORAGE BUILDING
BNW
RADIO REPEATER STATION
OBSERVATORY
ARID LAND ECOLOGY HQ
6652
BENTON CITY
WEST RICHLAND
1100 AREA
SHIPPING
AND
RECEIVING
AREA
RICHLAND
3000
AREA
1100
AREA
ADVANCED NUCLEAR FUELS
WEAPONS RANGE
BURIAL GROUND
300 AREA
400 AREA
FFTF
316-4 CRIBS
318-10
BURIAL GROUND
604-F
WYE BARRICADE
318-11
BURIAL GROUND
NO. 4
NO. 2
NO. 1
WPPSS NUCLEAR PLANTS
COLUMBIA RIVER



BUILDING LIST

BUILDING NUMBER	DESCRIPTION
103 B	FUEL STORAGE BUILDING & RIGGER LOFT
104 B-1	STORAGE BUILDING
104 B-2	STORAGE BUILDING
105 B	REACTOR BUILDING
110 B	PRESSURE STORAGE-STRUCTURE
115 B	GAS RECIRCULATION BUILDING
116 B	REACTOR STACK STRUCTURE
117 B	EXHAUST AIR FILTER BUILDING
119 B	EXHAUST AIR SAMPLE BUILDING
185 B	WATER LABORATORY-STRIPPED
151 B	PRIMARY SUBSTATION
181 B	RIVER PUMP HOUSE
182 B	RESERVOIR & PUMP HOUSE
183 B	FILTER PLANT-STRIPPED
183 B	CLEAR WELLS
184 B	COAL PIT (RUBBLE PIT)
190 B	PUMP HOUSE-STRIPPED
1621 B	EMERGENCY ALTERNATIOR-STRIPPED
1701 BA	LUNCH ROOM-1
105 C	REACTOR BUILDING
117 C	EXHAUST AIR FILTER BUILDING
183 C	FILTER PLANT FACILITY
190 C	MAIN PUMP HOUSE
1702 C	BADGE HOUSE
1713 C	SOLVENT STORAGE

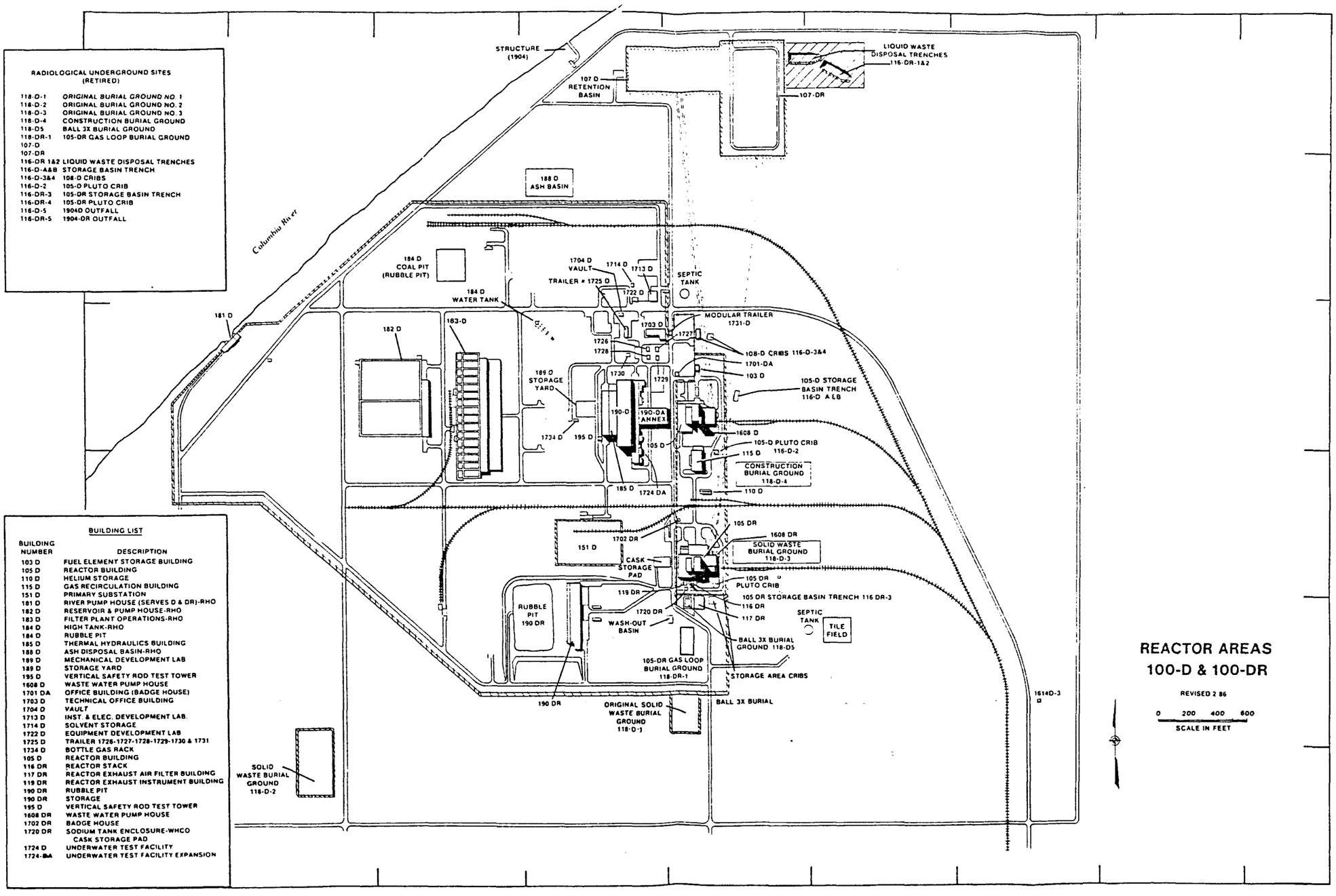
RADIOLOGICAL UNDERGROUND SITES *(RETIRED)*

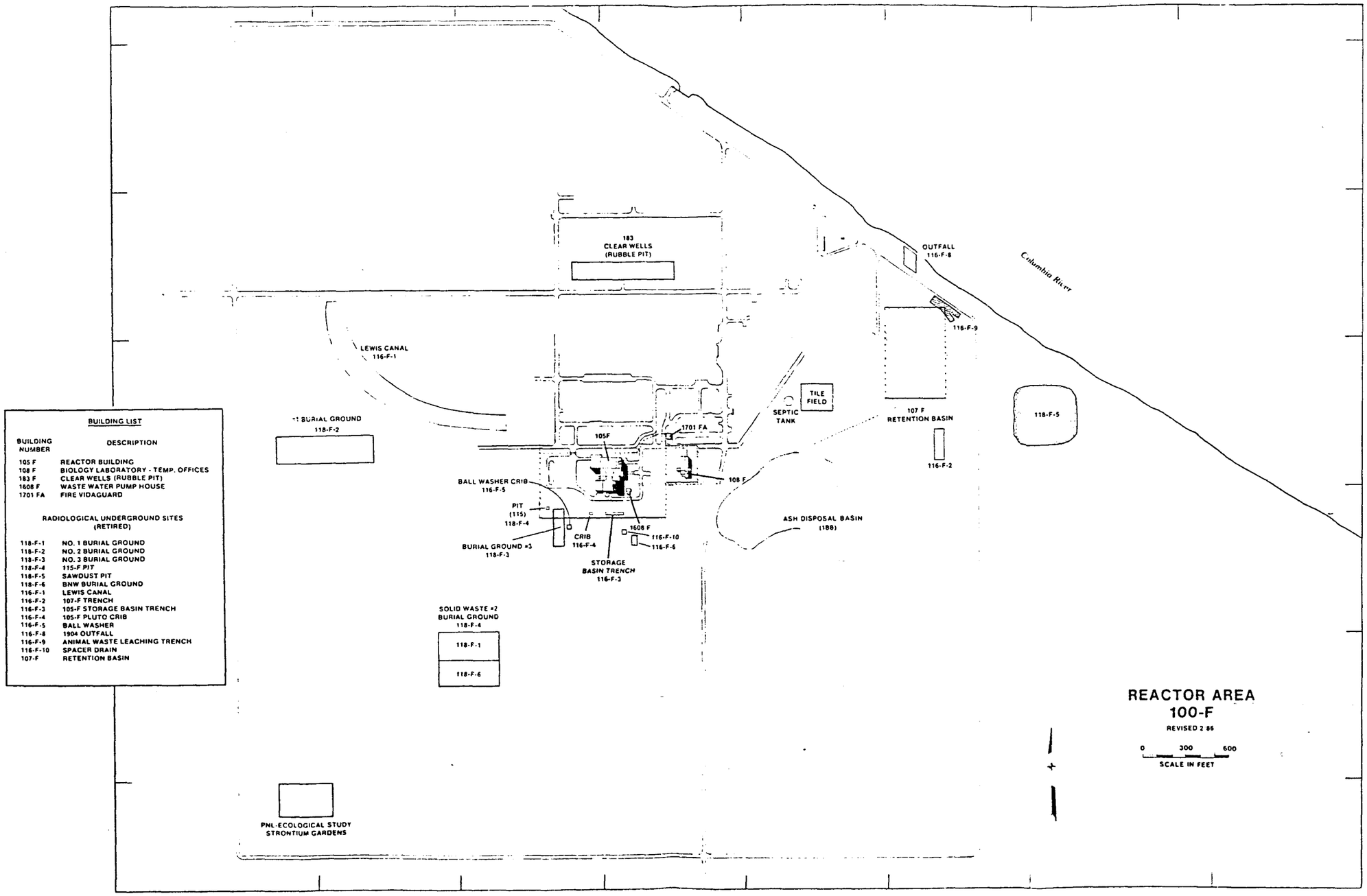
118-B-1	B-BURIAL GROUND
118-C-1	C-BURIAL GROUND
118-B-2	CONSTRUCTION BURIAL GROUND
118-B-3	CONSTRUCTION BURIAL GROUND
107-C	C RETENTION BASIN
107-B	B RETENTION BASIN
118-B-4	DUMMY BURIAL
118-B-5	BALL X BURIAL GROUND
116-B-1	B-LIQUID TRENCH
116-C-1	C-LIQUID TRENCH
116-B-6	111-B PAD AND CRIB
116-C-1	LIQUID TRENCH
116-C-2	PLUTO CRIB
116-B-5	108 CRIB
118-B-6	108 BURIAL GROUND
116-B-2	B STORAGE BASIN CRIB
116-B-4	DUMMY DECONTAMINATION CRIB
116-C-3	CHEMICAL WASTE TANK

REACTOR AREAS
100-B & 100-C

SCALE IN FEET
0 200 400 600

REVISED 2/86


RADIOLOGICAL UNDERGROUND SITES
(RETIRED)
118-D-1 ORIGINAL BURIAL GROUND NO. 1
118-D-2 ORIGINAL BURIAL GROUND NO. 2
118-D-3 ORIGINAL BURIAL GROUND NO. 3
118-D-4 CONSTRUCTION BURIAL GROUND
118-D5 BALL 3X BURIAL GROUND
118-DR-1 105-DR GAS LOOP BURIAL GROUND
107-D
107-DR
116-DR 1&2 LIQUID WASTE DISPOSAL TRENCHES
116-D-A&B STORAGE BASIN TRENCH
116-D-3&4 108-D CRIBS
116-D-2 105-D PLUTO CRIB
116-DR-3 105-DR STORAGE BASIN TRENCH
116-DR-4 105-DR PLUTO CRIB
116-D-5 1904D OUTFALL
116-DR-5 1904-DR OUTFALL
BUILDING LIST
BUILDING NUMBER DESCRIPTION
103 D FUEL ELEMENT STORAGE BUILDING
105 D REACTOR BUILDING
110 D HELIUM STORAGE
115 D GAS RECIRCULATION BUILDING
151 D PRIMARY SUBSTATION
181 D RIVER PUMP HOUSE (SERVES D & DR)-RHO
182 D RESERVOIR & PUMP HOUSE-RHO
183 D FILTER PLANT OPERATIONS-RHO
184 D HIGH TANK-RHO
184 D RUBBLE PIT
185 D THERMAL HYDRAULICS BUILDING
188 D ASH DISPOSAL BASIN-RHO
189 D MECHANICAL DEVELOPMENT LAB
189 D STORAGE YARD
195 D VERTICAL SAFETY ROD TEST TOWER
1608 D WASTE WATER PUMP HOUSE
1701 DA OFFICE BUILDING (BADGE HOUSE)
1703 D TECHNICAL OFFICE BUILDING
1704 D VAULT
1713 D INST. & ELEC. DEVELOPMENT LAB.
1714 D SOLVENT STORAGE
1722 D EQUIPMENT DEVELOPMENT LAB
1725 D TRAILER 1726-1727-1728-1729-1730 & 1731
1734 D BOTTLE GAS RACK
105 D REACTOR BUILDING
116 DR REACTOR STACK
117 DR REACTOR EXHAUST AIR FILTER BUILDING
119 DR REACTOR EXHAUST INSTRUMENT BUILDING
190 DR RUBBLE PIT
190 DR STORAGE
195 D VERTICAL SAFETY ROD TEST TOWER
1608 DR WASTE WATER PUMP HOUSE
1702 DR BADGE HOUSE
1720 DR SODIUM TANK ENCLOSURE-WHCO CASK STORAGE PAD
1724 D UNDERWATER TEST FACILITY
1724-DA UNDERWATER TEST FACILITY EXPANSION
STRUCTURE (1904)
107 D RETENTION BASIN
LIQUID WASTE DISPOSAL TRENCHES 116-DR-1&2
107-DR
188 D ASH BASIN
Columbia River
184 D COAL PIT (RUBBLE PIT)
1704 D VAULT
1714 D
1713 D
TRAILER # 1725 D
1722 D
SEPTIC TANK
184 D WATER TANK
181 D
182 D
183-D
1703 D
MODULAR TRAILER 1731-D
1727
1726
1728
108-D CRIBS 116-D-3&4
1701-DA
1730
1729
103 D
189 D STORAGE YARD
105-D STORAGE BASIN TRENCH 116-D A&B
190-D
190-DA ANNEX
1734 D
195 D
1608 D
105 D
105-D PLUTO CRIB 116-D-2
115 D
CONSTRUCTION BURIAL GROUND 118-D-4
185 D
1724 DA
110 D
105 DR
1608 DR
1702 DR
151 D
SOLID WASTE BURIAL GROUND 118-D-3
CASK STORAGE PAD
105 DR PLUTO CRIB
119 DR
105 DR STORAGE BASIN TRENCH 116 DR-3
RUBBLE PIT 190 DR
1720 DR
116 DR
117 DR
SEPTIC TANK
WASH-OUT BASIN
TILE FIELD
BALL 3X BURIAL GROUND 118-D5
105-DR GAS LOOP BURIAL GROUND 118-DR-1
STORAGE AREA CRIBS
190 DR
ORIGINAL SOLID WASTE BURIAL GROUND 118-D-1
BALL 3X BURIAL
1614D-3
SOLID WASTE BURIAL GROUND 118-D-2
REACTOR AREAS
100-D & 100-DR
REVISED 2 86
0 200 400 600
SCALE IN FEET



BUILDING LIST

BUILDING NUMBER	DESCRIPTION
105 F	REACTOR BUILDING
108 F	BIOLOGY LABORATORY - TEMP. OFFICES
183 F	CLEAR WELLS (RUBBLE PIT)
1608 F	WASTE WATER PUMP HOUSE
1701 FA	FIRE VIDAGUARD

RADIOLOGICAL UNDERGROUND SITES
(RETIRED)

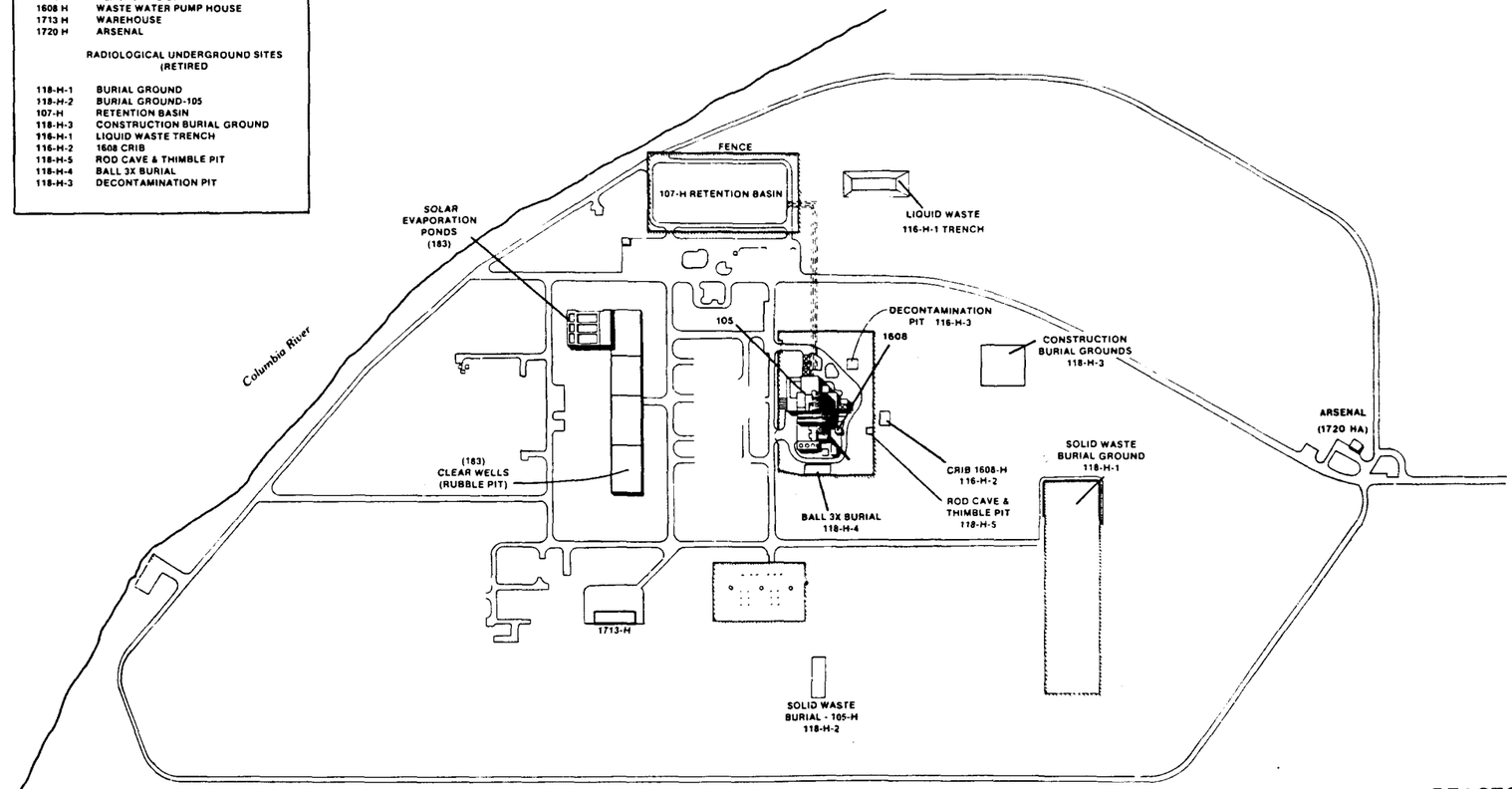
118-F-1	NO. 1 BURIAL GROUND
118-F-2	NO. 2 BURIAL GROUND
118-F-3	NO. 3 BURIAL GROUND
118-F-4	115-F PIT
118-F-5	SAWDUST PIT
118-F-6	BNW BURIAL GROUND
116-F-1	LEWIS CANAL
116-F-2	107-F TRENCH
116-F-3	105-F STORAGE BASIN TRENCH
116-F-4	105-F PLUTO CRIB
116-F-5	BALL WASHER
116-F-8	1904 OUTFALL
116-F-9	ANIMAL WASTE LEACHING TRENCH
116-F-10	SPACER DRAIN
107-F	RETENTION BASIN

BUILDING LIST

BUILDING NUMBER	DESCRIPTION
183 H	SOLAR PONDS & CLEAR WELLS (RUBBLE PIT)
105 H	REACTOR BUILDING
1608 H	WASTE WATER PUMP HOUSE
1713 H	WAREHOUSE
1720 H	ARSENAL

RADIOLOGICAL UNDERGROUND SITES (RETIRED

118-H-1	BURIAL GROUND
118-H-2	BURIAL GROUND-105
107-H	RETENTION BASIN
118-H-3	CONSTRUCTION BURIAL GROUND
116-H-1	LIQUID WASTE TRENCH
116-H-2	1608 CRIB
118-H-5	ROD CAVE & THIMBLE PIT
118-H-4	BALL 3X BURIAL
118-H-3	DECONTAMINATION PIT



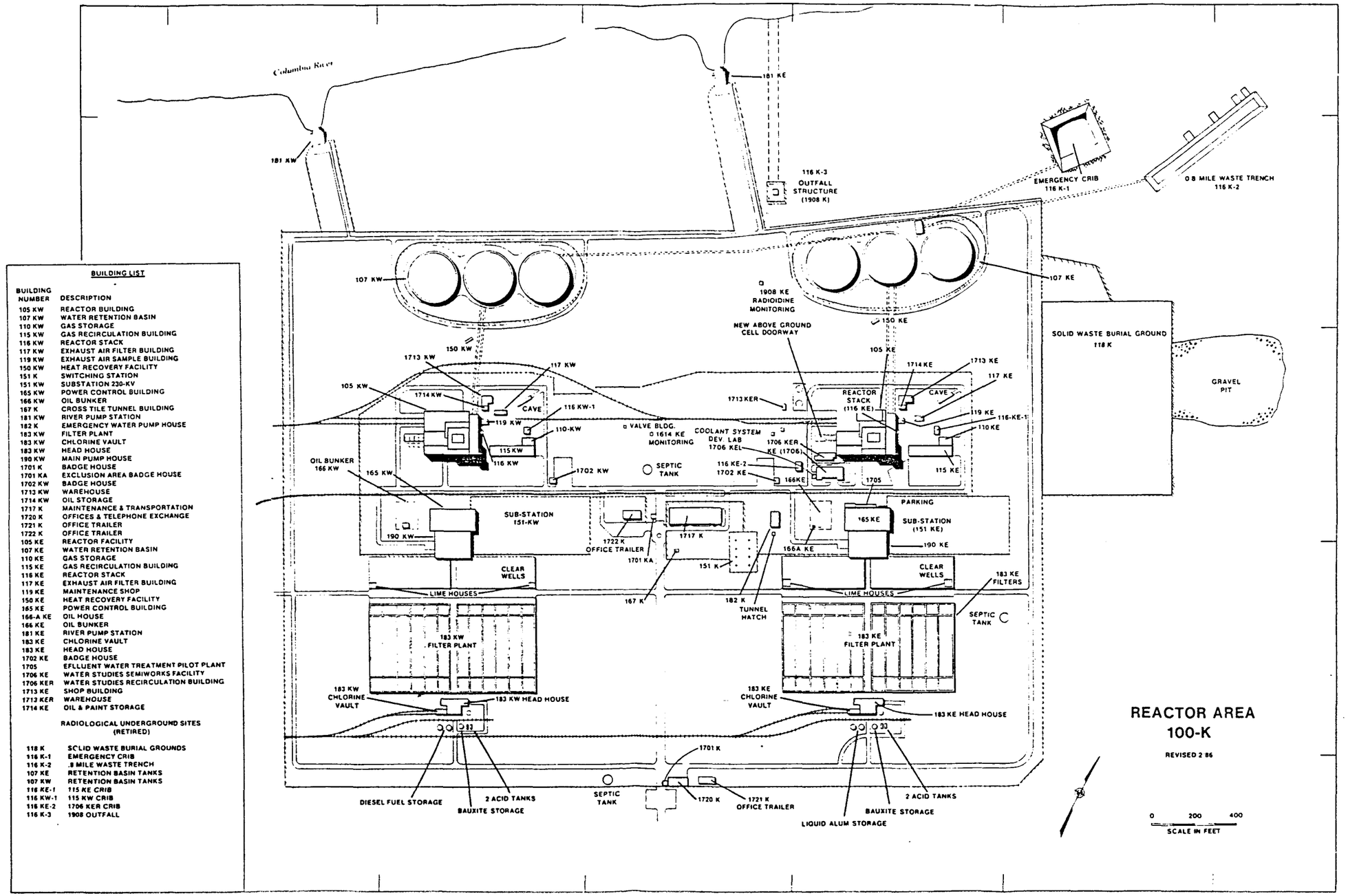
REACTOR AREA

100-H

REVISED 2/86

SCALE IN FEET

0 200 400 600



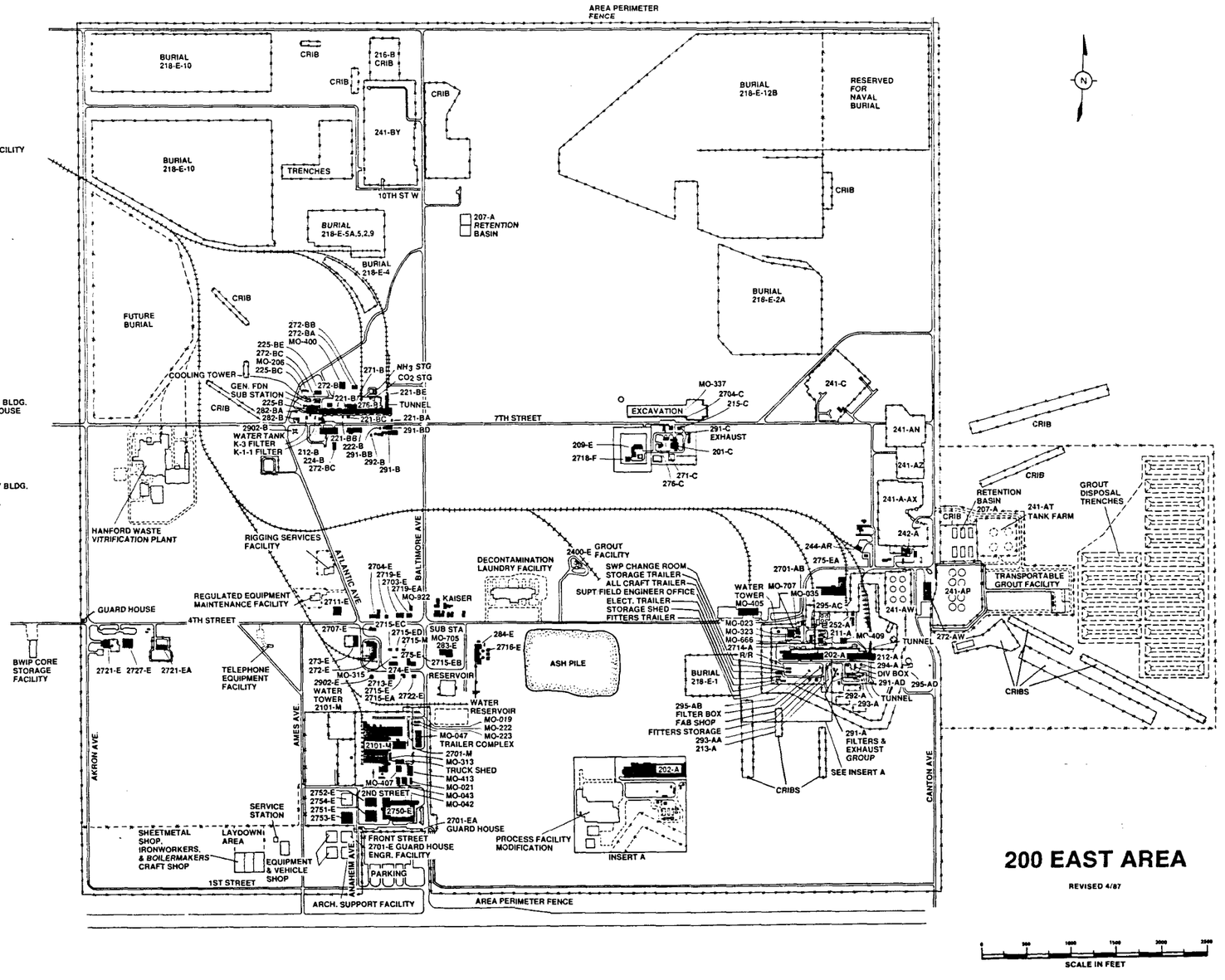
BUILDING LIST

BUILDING NUMBER	DESCRIPTION
105 KW	REACTOR BUILDING
107 KW	WATER RETENTION BASIN
110 KW	GAS STORAGE
115 KW	GAS RECIRCULATION BUILDING
116 KW	REACTOR STACK
117 KW	EXHAUST AIR FILTER BUILDING
119 KW	EXHAUST AIR SAMPLE BUILDING
150 KW	HEAT RECOVERY FACILITY
151 K	SWITCHING STATION
151 KW	SUBSTATION 230-KV
165 KW	POWER CONTROL BUILDING
166 KW	OIL BUNKER
167 K	CROSS TILE TUNNEL BUILDING
181 KW	RIVER PUMP STATION
182 K	EMERGENCY WATER PUMP HOUSE
183 KW	FILTER PLANT
183 KW	CHLORINE VAULT
183 KW	HEAD HOUSE
190 KW	MAIN PUMP HOUSE
1701 K	BADGE HOUSE
1701 KA	EXCLUSION AREA BADGE HOUSE
1702 KW	BADGE HOUSE
1713 KW	WAREHOUSE
1714 KW	OIL STORAGE
1717 K	MAINTENANCE & TRANSPORTATION
1720 K	OFFICES & TELEPHONE EXCHANGE
1721 K	OFFICE TRAILER
1722 K	OFFICE TRAILER
105 KE	REACTOR FACILITY
107 KE	WATER RETENTION BASIN
110 KE	GAS STORAGE
115 KE	GAS RECIRCULATION BUILDING
116 KE	REACTOR STACK
117 KE	EXHAUST AIR FILTER BUILDING
119 KE	MAINTENANCE SHOP
150 KE	HEAT RECOVERY FACILITY
165 KE	POWER CONTROL BUILDING
166-A KE	OIL HOUSE
166 KE	OIL BUNKER
181 KE	RIVER PUMP STATION
183 KE	CHLORINE VAULT
183 KE	HEAD HOUSE
1702 KE	BADGE HOUSE
1705	EFLLUENT WATER TREATMENT PILOT PLANT
1706 KE	WATER STUDIES SEMIWORKS FACILITY
1706 KER	WATER STUDIES RECIRCULATION BUILDING
1713 KE	SHOP BUILDING
1713 KER	WAREHOUSE
1714 KE	OIL & PAINT STORAGE

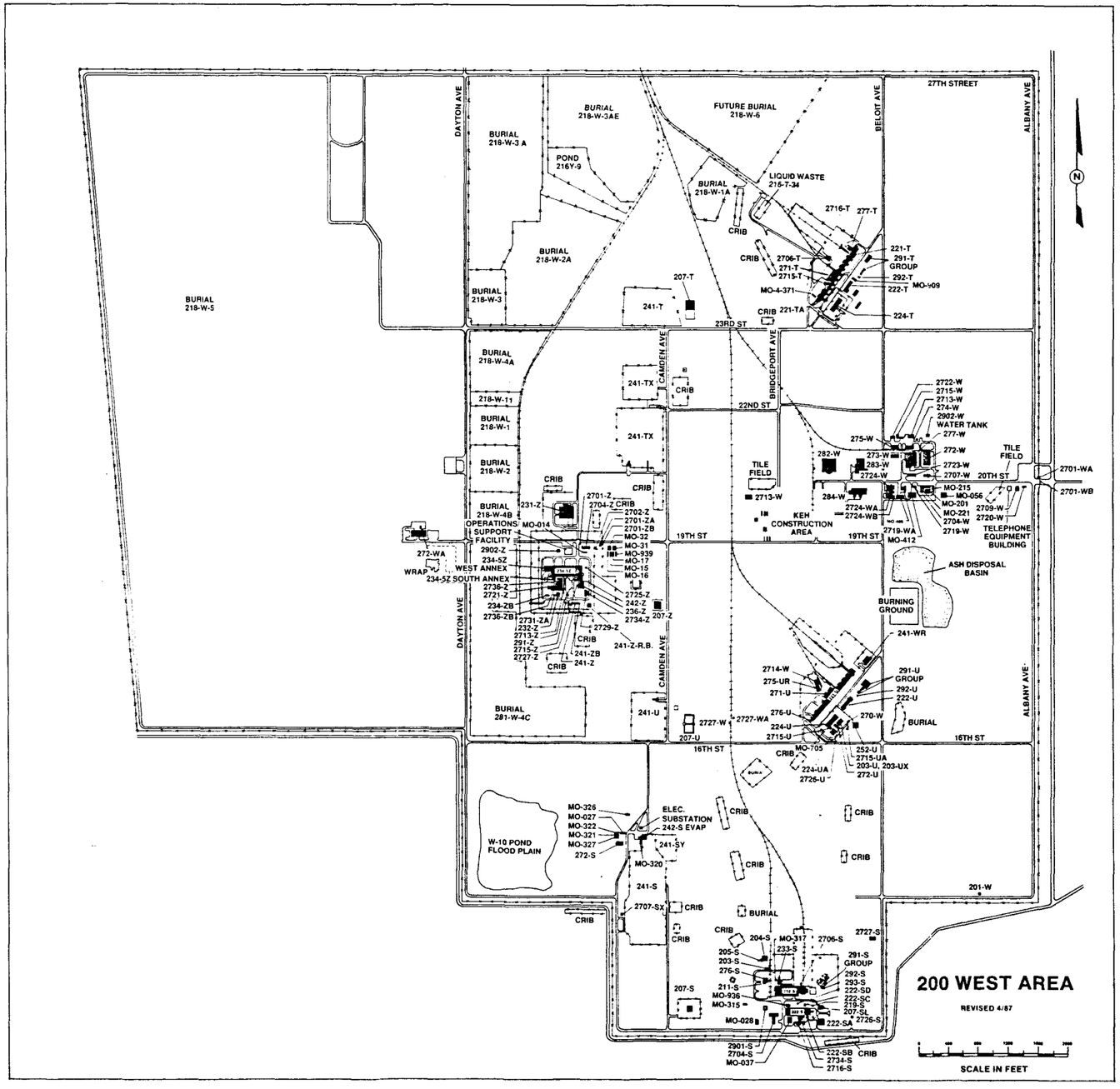
RADIOLOGICAL UNDERGROUND SITES (RETIRED)

118 K	SOLID WASTE BURIAL GROUNDS
116 K-1	EMERGENCY CRIB
116 K-2	.8 MILE WASTE TRENCH
107 KE	RETENTION BASIN TANKS
107 KW	RETENTION BASIN TANKS
116 KE-1	115 KE CRIB
116 KW-1	115 KW CRIB
116 KE-2	1706 KER CRIB
116 K-3	1908 OUTFALL

BUILDING NUMBER	DESCRIPTION
201-C	STRONTIUM SEMI WORKS
202-A	PUREX
207-A	RETENTION BASIN
209-A	B/W CRITICAL MASS LAB
211-A	CHEMICAL MAKE-UP TANK FARM
212-A,212-B	FISSION PRODUCTS, LOADOUT STATION
215-C	GAS PREPARATION BUILDING
216-C	GAS PREPARATION BUILDING
218-E-4,5,5A,2,9	BURIAL GROUNDS
218-E-10	BURIAL GROUND
218-E-12B	BURIAL GROUND
221-E	SEPARATION BUILDING
211-BF	CONDENSATE EFFLUENT DISCHARGE FACILITY
222-B	OFFICE BUILDING
224-B	STORAGE BUILDING
225-B	ENCAPSULATION BUILDING
241-A,AX	WASTE STORAGE TANK FARM
241-AN	TANK FARM
241-AY	TANK FARM
241-BY	TANK FARM
241-AW	WASTE STORAGE TANK FARM
241-AZ	WASTE STORAGE TANK FARM
241-C	WASTE STORAGE TANK FARM
242-A	EVAPORATION BUILDING
244-A,AR,BXR	VAULTS
271-B	SERVICE BUILDING
271-CR	CONTROL HOUSE
272-BC,E	SHOP
273-E	ABANDONED
274-E	MAINTENANCE SHOP
275-E	CARPENTER'S PAINT SHOP
275-EA	WAREHOUSE
275-B	SOLVENT STORAGE
282-E	RESERVOIR
283-E	FILTER PLANT
284-E	POWER HOUSE
291-A	FAN HOUSE & STACK
291-B	SAND FILTERS
291-BC,BD,BF	NEW FILTERS
291-BE	STACK
2910-BG	STACK AIR SAMPLER
291-C,292-B	VENTILATING STACKS
293-A	OFF GAS TREATMENT & ACID RECOVERY BLDG.
2101-M	SPARE PARTS AND ELECTRICAL WAREHOUSE
2400-E	DRY MATERIAL HANDLING FACILITY
2701-M	STORAGE BUILDING
2703-E	CHEMICAL TESTING FACILITY
2704-C,E	OFFICE BUILDING
2707-E	CHANGE HOUSE
2709-E	VACANT
2713-E	OFFICE BUILDING
2715-E	OIL & PAINT STORAGE BUILDING
2715-M	INFLAMMABLE STORAGE & PAINT SPRAY BLDG.
2716-E	STORAGE
2718-E	CRITICAL MASS FISSILE STORAGE BLDG.
2719-E	FIRST AID STATION
2720-E	VACANT
2721-E	PATROL HEADQUARTERS
2721-EA	HELICOPTER FACILITY
2722-E	OFFICE BUILDING
2727-E	OFFICE BUILDING
2750-E	OFFICE BUILDING
2751-E	OFFICE BUILDING
2752-E	OFFICE BUILDING
2753-E	OFFICE BUILDING



BUILDING NUMBER	DESCRIPTION
201-W	INSTRUMENT BUILDING
202-S	REDOX CANYON & SERVICE FACILITY
203-S	METAL STORAGE TANKS
203-U, 203-UX	UNH STORAGE & GAS STORAGE
204-S 205-S	UNH LAG STORAGE
207-SL	UNH STORAGE
211-S	REAGENT TANK FARM
216-T-34, 35	BNW LIQUID WASTE DISPOSAL
218-W-1,2,3,4,4-B	BURIAL GROUND
218-W-1A,2A	INDUSTRIAL BURIAL GROUND
218-W-3A, 9	DRY WASTE BURIAL
219-S	WASTE TREATMENT BUILDING
221-T	EQUIPMENT DECONTAMINATION FACILITY
221-TA	FAN HOUSE
221-U	CANYON BUILDING SHUTDOWN
222-S	REDOX LABORATORY
222-SB	FILTER BUILDING
222-T	OFFICE BUILDING
222-U	LABORATORY BUILDING
224-T	Pu STORAGE
224-U	UO_3 PLANT - UNH CONCENTRATION & CENTRAL CONTROL
224-UA	UO_3 PLANT - UNH CALCULATION & LOADOUT
231-Z	PLUTONIUM METALLURGY LABORATORY
232-Z	INCINERATOR
233-S	CONCENTRATION FACILITY
234-5-ZB	STORAGE
234-5-Z	PLUTONIUM FINISHING FACILITY
236-Z	PLUTONIUM RECLAMATION FACILITY
241-S	WASTE STORAGE TANK FARM
241-SY	WASTE STORAGE TANK FARM
241-TX	WASTE STORAGE TANK FARM
241-TV	WASTE STORAGE TANK FARM
241-U	WASTE STORAGE TANK FARM
241-WR	THORIUM STORAGE VAULT
241-Z	WASTE STORAGE TANK FARM
242-S-702	TURBINE BUILDING, VENTILATION
242-Z	WASTE TREATMENT AND AMERICIUM
252-U	ELECTRICAL SUBSTATIONS
271-T	
272-T, 271-U	OFFICE BUILDINGS
272-W	MACHINE SHOP BUILDING
272-WA	TANK FARM OPERATIONS BUILDING
273-W	SHOPS STORAGE
274-W	CHANGE HOUSE & SHOP
275-W	CHANGE HOUSE & SHOP
276-S, 276-U	SOLVENT HANDLING BUILDING
277-W	FABRICATION SHOP
282-W	RESERVOIR
283-W	FILTER PLANT
284-W	POWER HOUSE
291-S	EXHAUST FAN CONTROL HOUSE STACK
291-T, 291-U	STACK AND SAND FILTERS
291-Z	EXHAUST AIR FILTER STACK BUILDING
292-S	STACK MONITORING BUILDING
292-T	FISSION PRODUCTS RELEASE LAB
292-U	STACK MONITORING STATION
293-S	OFF GAS TREATMENT & ACID RECOVERY BUILDING
2701-Z	GATEHOUSE
2701-ZA	EXCLUSION AREA GATEHOUSE
2704-S, 2704-W, 2704-Z	OFFICE BUILDINGS
2706-S	STACK
2706-T	EQUIPMENT DECONTAMINATION BUILDING
2707-SX, 2707-W	CHANGE HOUSES
2709-W	OFFICE BUILDING
2714-U	UO_3 STORAGE
2715-T	PAINT STORAGE
2715-W	INFLAMMABLE STORAGE
2716-T	ROOM CHECK-OUT STATION
2722-W	WELDING LAB
2723-W	MASK LAUNDRY, OFFICE BUILDING
2724-W	LAUNDRY
2725-Z	STORAGE BUILDING, LAUNDRY
2726-U	PROPANE STORAGE
2729-Z	STORAGE
2734-Z	CYLINDER STORAGE
2736-Z	Pu STORAGE



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Original Document

Hanford 100 Area and 200 Area Decommissioning Baseline Long-Range Projection.
($000)

GF Funded projects	FY 1990	FY 1991	FY 1992	FY 1993	FY 1994	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Total
Surveillance and maintenance																													
100 Area	565	600	600	600	500	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	12,065
200 Area	1,756	2,142	2,142	1,865	1,865	1,865	1,865	1,855	1,855	1,855	1,855	1,855	1,855	1,855	1,855	1,255	1,255	1,255	1,255	1,255	1,255	1,255	1,255	1,255	1,255	1,255	1,255	1,255	44,655
200 Area -- asbestos abatement	233	245	245	245	245	245	140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,598
Subtotal	2,554	2,987	2,987	2,710	2,610	2,510	2,405	2,255	2,255	2,255	2,255	2,255	2,255	2,255	2,255	1,655	1,655	1,655	1,655	1,655	1,655	1,655	1,655	1,655	1,655	1,655	1,655	1,655	58,318
Program management and administration	1,161	1,233	1,233	1,440	1,440	1,440	1,440	1,440	1,750	1,750	1,750	1,750	1,750	1,450	1,450	1,450	1,450	1,450	1,450	1,450	1,450	1,450	1,450	1,450	1,450	1,450	1,450	1,450	41,327
Capital equipment	342	315	125	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	4,532
Subtotal	1,503	1,548	1,358	1,590	1,590	1,590	1,590	1,590	1,900	1,900	1,900	1,900	1,900	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	45,859
100 Area Reactors																													
SPRD-EIS (PNL)	174	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	174
SPRD-EIS (Westinghouse Hanford) (see program management /administration)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
105-F Basin fill removal	2,204	532	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,736
105-H Basin fill removal	0	2,200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,200
105-F Reactor decommissioning preparation	164	200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	364
105-F Reactor engineering/procurement	0	500	184	92	188	64	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,028
105-F Reactor decommissioning	0	0	0	5,111	5,013	2,275	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12,399
105-H Reactor decommissioning preparation	0	298	102	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	400
105-H Reactor engineering/procurement	0	0	684	0	95	94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	873
105-H Reactor decommissioning	0	0	0	381	7,053	4,415	3,343	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15,192
105-D,DR Water tunnels	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50
105-D Reactor decommissioning preparation	0	0	280	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	280
105-D Reactor engineering/procurement	0	0	0	208	303	80	61	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	652
105-D Reactor decommissioning	0	0	0	0	608	6,172	3,249	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10,029
105-DR Reactor decommissioning preparation	0	0	250	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	250
105-DR Reactor engineering/procurement	0	0	0	208	240	61	98	52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	659
105-DR Reactor decommissioning	0	0	0	0	0	4,714	8,516	1,517	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14,747
RCRA/CERCLA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Post D&D well monitoring	0	0	0	0	0	0	118	355	475	475	475	475	475	475	475	475	475	475	475	475	475	475	475	475	475	475	475	475	9,973
Capital equipment--batch plant	0	0	1,535	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,535
Subtotal	2,592	3,730	3,035	6,000	13,500	17,875	15,385	1,924	475	475	475	475	475	475	475	475	475	475	475	475	475	475	475	475	475	475	475	475	73,541

NOTE: Five percent annual escalation through FY 1991. The FY 1992 through FY 2017 in constant FY 1991 dollars.

PST89-3259-C

Hanford 100 Area and 200 Area Decommissioning Baseline Long-Range Projection.
($000)

GE Funded projects	FY 1990	FY 1991	FY 1992	FY 1993	FY 1994	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Total
100 Area ancillaries	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
116-D Exhaust air stack	0	0	0	257	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	257
103-D Fuel element storage	0	0	0	37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37
108-F Laboratory/office	0	0	0	3,140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,140
116-DR Exhaust air stack	0	0	0	257	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	257
117-DR Exhaust air filter	0	0	0	235	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	235
119-DR Exhaust air sampling	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
Subtotal	0	0	0	3,941	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,941
100 Area effluents	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100-F, -H, -D, and -DR Water river lines	0	0	0	0	0	0	0	0	0	0	0	0	0	525	0	0	0	0	0	0	0	0	0	0	0	0	0	0	525
100-F, -H, -D, and -DR Effluent lines	0	0	0	0	0	0	0	0	0	0	0	0	0	300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	300
107-F Retention Basin	0	0	0	0	0	0	0	0	0	0	0	0	0	735	0	0	0	0	0	0	0	0	0	0	0	0	0	0	735
1904-F Effluent water outfall	0	0	0	0	0	0	0	0	0	0	0	0	0	224	0	0	0	0	0	0	0	0	0	0	0	0	0	0	224
107-H Retention Basin	0	0	0	0	0	0	0	0	0	0	0	0	0	735	0	0	0	0	0	0	0	0	0	0	0	0	0	0	735
1904-H Effluent water outfall	0	0	0	0	0	0	0	0	0	0	0	0	0	224	0	0	0	0	0	0	0	0	0	0	0	0	0	0	224
107-D Retention Basin	0	0	0	0	0	0	0	0	0	0	0	0	0	0	735	0	0	0	0	0	0	0	0	0	0	0	0	0	735
1904-D Effluent water outfall	0	0	0	0	0	0	0	0	0	0	0	0	0	224	0	0	0	0	0	0	0	0	0	0	0	0	0	0	224
107-DR Retention Basin	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	735	0	0	0	0	0	0	0	0	0	0	0	0	735
1904-DR Effluent water outfall	0	0	0	0	0	0	0	0	0	0	0	0	0	224	0	0	0	0	0	0	0	0	0	0	0	0	0	0	224
Subtotal	0	0	0	0	0	0	0	0	0	0	0	0	0	3,191	735	735	0	0	0	0	0	0	0	0	0	0	0	0	4,661
200 Area small support buildings	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
205-A Silica gel	0	0	0	0	0	0	0	0	353	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	353
241-A-431 Ventilation	0	0	0	0	0	0	0	0	0	684	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	684
241-C-801 Cesium loadout	0	0	0	0	0	0	0	0	0	538	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	538
Subtotal	0	0	0	0	0	0	0	0	353	1,222	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,575

NOTE: Five percent annual escalation through FY 1991. The FY 1992 through FY 2017 in constant FY 1991 dollars.

PST89-3259-C

Hanford 100 Area and 200 Area Decommissioning Baseline Long-Range Projection.
($000)

GF Funded projects	FY 1990	FY 1991	FY 1992	FY 1993	FY 1994	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Total
200 Area large support buildings	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
224-B Plutonium concentration	0	0	2,000	0	0	0	0	3,040	4,725	778	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10,543
212-N Storage	0	0	0	0	0	0	0	0	0	0	987	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	987
212-P Storage	0	0	0	0	0	0	0	0	0	0	0	0	987	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	987
212-R Storage	0	0	0	0	0	0	0	0	0	0	0	0	987	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	987
233-S Plutonium concentration	0	0	0	0	0	0	0	0	0	599	2,100	5,250	4,572	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12,521
276-S Solvent handling	0	0	0	0	0	0	0	0	0	0	0	0	0	760	0	0	0	0	0	0	0	0	0	0	0	0	0	0	760
232-Z Waste incinerator	0	0	0	0	0	0	0	0	0	483	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	483
242-B/BL	0	0	0	0	0	0	0	0	525	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	525
Subtotal	0	0	2,000	0	0	0	0	3,040	5,250	1,860	3,087	5,250	6,546	760	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27,793
200 Area major processing facilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
202-S Canyon (REDOX)	0	0	0	0	0	0	0	0	0	0	0	0	5,250	5,250	5,250	5,250	10,500	15,750	15,750	15,750	15,750	15,750	18,188	0	0	0	0	0	128,438
221-U Canyon (U Plant)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4,720	15,750	15,750	15,750	15,750	15,750	15,750	10,500	5,250	0	0	0	0	0	114,970
201-C Processing	886	1,558	1,810	1,300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5,554
Subtotal	886	1,558	1,810	1,300	0	0	0	0	0	0	0	0	5,250	5,250	9,970	21,000	26,250	31,500	31,500	31,500	31,500	26,250	23,438	0	0	0	0	0	248,962
200 Area control structures and weir boxes	0	0	0	0	0	0	0	0	0	525	525	627	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,677
200 Area storage vaults	0	0	0	0	0	0	0	0	0	1,050	1,050	1,050	1,050	89	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4,289
207-S Retention Basin	0	0	0	0	0	0	0	0	0	0	0	0	0	1,050	487	0	0	0	0	0	0	0	0	0	0	0	0	0	1,537
200 Area direct buried tanks	0	0	0	0	0	0	0	0	0	0	0	0	0	281	0	0	0	0	0	0	0	0	0	0	0	0	0	0	281
Burial grounds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL GF FUNDED PROJECTS	7,535	9,823	11,190	15,541	17,700	21,975	19,380	8,809	10,233	9,287	9,292	11,557	17,476	14,951	15,522	25,465	29,980	35,230	35,230	35,230	35,230	29,980	27,168	3,730	3,730	3,730	3,730	3,730	472,434

NOTE: Five percent annual escalation through FY 1991. The FY 1992 through FY 2017 in constant FY 1991 dollars.

PST89-3259-C

Hanford 100 Area and 200 Area Decommissioning Baseline Long-Range Projection.
($000)

GE Funded projects	FY 1990	FY 1991	FY 1992	FY 1993	FY 1994	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Total
Surveillance and maintenance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100 Area	1,700	1,785	1,785	1,785	1,785	1,785	1,575	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	34,250
Program management and administration	1,000	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	22,600
Capital equipment	0	0	0	100	100	100	100	100	100	100	100	100	100	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	1,750
Subtotal	1,000	1,050	1,050	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	650	650	650	650	650	650	650	650	650	650	650	650	650	650	650	24,350
100 Area Reactors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
105-C Water tunnels	0	105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	105
105-C Reactor decommissioning preparation	500	300	0	500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,300
105-C Reactor engineering/procurement	0	0	0	0	0	449	31	97	84	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	661
105-C Reactor decommissioning	0	0	0	0	0	0	754	9,154	4,240	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14,148
105-KE Water tunnels	0	0	105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	105
105-KE Reactor decommissioning preparation	0	0	0	500	1,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,500
105-KE Reactor engineering/procurement	0	0	0	0	0	547	161	96	97	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	920
105-KE Reactor decommissioning	0	0	0	0	0	0	0	2,252	13,386	2,630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18,268
105-KW Water tunnels	0	0	105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	105
105-KW Reactor decommissioning preparation	0	0	0	0	500	1,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,500
105-KW Reactor engineering/procurement	0	0	0	0	0	83	365	0	56	96	49	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	649
105-KW Reactor decommissioning	0	0	0	0	0	0	0	0	7,408	10,860	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18,268
105-B Water tunnels	0	105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	105
105-B Reactor decommissioning preparation	400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	400
105-B Reactor engineering/procurement	0	0	0	0	0	220	122	0	35	95	87	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	560
105-B Reactor decommissioning	0	0	0	0	0	0	0	0	3,042	7,613	2,012	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	00	12,667
Post D&D well monitoring	0	0	0	0	0	0	0	0	479	479	479	479	479	479	479	479	479	479	479	479	479	479	479	479	479	479	479	479	9,576
Capital equipment--batch plant	0	0	1,535	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,535
Balance 5-year plan delta	0	490	790	0	150	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,430
Subtotal	900	1,000	2,535	1,000	1,650	2,300	1,433	11,598	28,827	21,792	2,627	479	479	479	479	479	479	479	479	479	479	479	479	479	479	479	479	479	83,802

NOTE: Five percent annual escalation through FY 1991. The FY 1992 through FY 2017 in constant FY 1991 dollars.

PST89-3259-C

Hanford 100 Area and 200 Area Decommissioning Baseline Long-Range Projection.
($000)

GE Funded projects	FY 1990	FY 1991	FY 1992	FY 1993	FY 1994	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Total
100 Area ancillaries																													
115-B/C Gas recirculation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
103-B Fuel element storage	0	37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37
111-B Decontamination station	0	179	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	179
116-B Exhaust air stack	0	257	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	257
104-B1 Tritium vault	0	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26
104-B2 Tritium laboratory	0	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26
117-C Exhaust air filter	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115-KE Gas recirculation	0	0	1,029	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,029
117-KE Exhaust air filter	0	0	235	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	235
116-KE Exhaust air stack	0	0	0	441	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	441
119-KE Exhaust air sampling	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
1706-KE/KEL/KER Test facility	0	0	0	0	3,039	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,039
115-KW Gas recirculation	0	0	0	0	0	1,029	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,029
117-KW Exhaust air filter	0	0	0	235	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	235
116-KW Exhaust air stack	0	0	0	441	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	441
119-KW Exhaust air sampling	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
Balance 5-year plan delta	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Subtotal	0	525	1,264	1,147	3,039	1,029	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7,004

NOTE: Five percent annual escalation through FY 1991. The FY 1992 through FY 2017 in constant FY 1991 dollars.

PST89-3259-C

Hanford 100 Area and 200 Area Decommissioning Baseline Long-Range Projection.
($000)

GE Funded projects	FY 1990	FY 1991	FY 1992	FY 1993	FY 1994	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Total
100 Area effluents	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
107-B Retention Basin	0	0	0	0	0	0	0	0	0	0	735	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	735
1904-B1 B2 Outfalls	0	0	0	0	0	0	0	0	0	0	0	224	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	224
100-B C Effluent lines	0	0	231	0	0	0	284	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	515
107-C Retention Basins	0	0	0	0	0	0	0	0	0	0	956	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	956
1904-C Outfall	0	0	0	0	0	0	0	0	0	0	0	224	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	224
107-KE Retention Basins	0	0	0	0	0	0	0	0	0	0	0	0	956	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	956
100-KE KW Effluent lines	0	0	284	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	284
107-KW Retention Basins	0	0	0	0	0	0	0	0	0	0	0	0	956	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	956
1908-K Outfall	0	0	0	0	0	0	0	0	0	0	0	435	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	435
B C, KE KW River lines	0	150	385	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	535
Balance 5-year plan delta	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0
Subtotal	0	150	900	0	0	0	284	0	0	0	1,691	883	1,912	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5,820
183-H Solar Basins	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
183-H Basin cleanout	6,250	5,500	5,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17,250
183-H Well monitoring	550	500	500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,550
183-H Basin surveillance and maintenance	0	0	0	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	2,750
183-H Well monitoring	0	0	0	315	315	315	315	315	315	315	315	315	315	315	315	315	315	315	315	315	315	315	315	315	315	315	315	315	7,875
Subtotal	6,800	6,000	6,000	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	29,425
Burial grounds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL GE FUNDED PROJECTS	10,400	10,510	13,534	5,507	8,049	6,689	4,867	14,223	31,452	24,417	6,943	3,987	5,016	2,604	2,604	2,604	2,604	2,604	2,604	2,604	2,604	2,604	2,604	2,604	2,604	2,604	2,604	2,604	184,651
TOTAL GF FUNDED PROJECTS	7,535	9,823	11,190	15,541	17,700	21,975	19,380	8,809	10,233	9,287	9,292	11,557	17,476	14,951	15,522	25,465	29,980	35,230	35,230	35,230	35,230	29,980	27,168	3,730	3,730	3,730	3,730	3,730	472,434
GRAND TOTAL	17,935	20,333	24,724	21,048	25,749	28,664	24,247	23,032	41,685	33,704	16,235	15,544	22,492	17,555	18,126	28,069	32,584	37,834	37,834	37,834	37,834	32,584	29,972	6,334	6,334	6,334	6,334	6,334	657,085

NOTE: Five percent annual escalation through FY 1991. The FY 1992 through FY 2017 in constant FY 1991 dollars.

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