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**Annual Summary Report on Surveillance
and Maintenance Activities of the
Surplus Contaminated Facilities
Program at Oak Ridge National
Laboratory for Period Ending
September 30, 1991**

**T. R. Cannon
M. K. Ford
L. Holder, Jr.**

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Environmental Restoration Division
ORNL Environmental Restoration Program

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EXECUTIVE SUMMARY

The Surplus Contaminated Facilities Program (SCFP) was established at the Oak Ridge National Laboratory (ORNL) in 1985 to provide support for inactive contaminated facilities that were largely abandoned by the programs which they formerly served. This support provides for routine surveillance and maintenance (S&M) and special projects beyond a routine nature when such actions are needed to ensure adequate protection of personnel or the environment. The facilities included in the program had been used for research, technology development, isotope production and processing, and waste management. Support for facilities in the SCFP has previously been provided by the Department of Energy's (DOE's) Office of Energy Research: Multiprogram Energy Laboratories—Facilities Support (ERKG) because of multiprogram use of the facilities or because of the landlord responsibility of Energy Research. Recently, an integrated Decontamination and Decommissioning (D&D) program within the DOE Office of Environmental Restoration and Waste Management has been established to collectively manage the former Surplus Facilities Management Program, Defense D&D Program, and the KG-funded, ORNL-originated SCFP. This report gives an overview of the S&M planning, routine S&M, and special maintenance project activities which have occurred at the SCFP facilities during the 1991 Fiscal Year.

1. INTRODUCTION

The Surplus Contaminated Facilities Program (SCFP) is an integral part of the surveillance and maintenance (S&M) function of the Oak Ridge National Laboratory (ORNL) Remedial Action Section. The objective of the S&M task is to ensure adequate containment and site control of the current inventory of inactive contaminated sites and facilities. These objectives are met through a structured program of routine S&M as well as through implementing interim corrective maintenance when deemed necessary as a result of site surveillance. These activities ensure that adequate site control is achieved prior to decontamination of a facility for reuse or until final decommissioning is initiated. Program activities are conducted in three principal areas:

1. S&M planning—program-level planning and coordination of surveillance activities conducted by divisions responsible for specific facilities, including routine reporting;
2. routine S&M—scheduled site inspections, sampling and analysis of contaminant pathways, and periodic maintenance as a result of inspections and monitoring; and
3. special maintenance—correction of serious site deficiencies beyond the scope of routine maintenance.

SCFP provides this support for facilities that are contaminated with radioactivity or hazardous chemical waste and that are no longer supported by active programs. Facilities included in the program formerly supported research, technology development, or waste management activities; these facilities vary greatly in size and physical configuration.

2. SURVEILLANCE AND MAINTENANCE PLANNING

The purpose of the S&M planning subtask is to establish and maintain an organized and systematic program. In addition to fulfilling routine reporting requirements, this element also ensures that all of the other S&M subtasks are integrated into a safe, responsive, and cost-effective effort to meet the program objectives.

A review of the facilities comprising the SCFP was completed by the Department of Energy (DOE) Headquarters Decontamination and Decommissioning (D&D) Program office to determine if the facilities are eligible for acceptance into the EM-40 D&D Program. In addition to six facilities already accepted into the D&D Program, the following three facilities appear to meet the criteria for acceptance:

1. Decontamination Facility (Building 7819);
2. Off-Gas Filter House (Building 3121); and
3. Isotope Production Filter House (Building 3110, including the Isotope Ductwork).

Applications for acceptance into the D&D Program have been prepared for these three facilities.

The ORNL was also notified that the remaining nine facilities currently do not appear to meet the D&D acceptance criteria and therefore would not be eligible for acceptance into the program. Because the facilities do not meet the acceptance criteria, funding will be provided only through FY 1992 for the following facilities:

3503 Storage Pad,
3019-B High-Level Radiation Analytical Facility,
3029 Cobalt-60 Storage Garden,
Strontium-90 Power Generators,
9201-2 86-Inch Cyclotron,
9204-3 Plutonium Processing Facility,
9204-3 Curium Handling Glovebox,
9204-1 Contaminated Attic, and
9204-1 East End Basement.

An application for acceptance into the D&D Program has been prepared for the 3503 Storage Pad which may qualify for the program based on information provided in the application.

3. ROUTINE SURVEILLANCE AND MAINTENANCE

Routine S&M were conducted at the SCFP facilities as scheduled. No major facility problems were encountered as a result of site inspections or radiological surveillance.

An examination was performed on the top of the hot cells at the High-Level Radiation Analytical Facility (Building 3019-B) for possible asbestos. This area contains a filter cell bank with asbestos insulation. The filters were removed, the asbestos located, identified, and temporarily isolated.

S&M requirements for the High Level Chemical Development Laboratory (Building 4507) facility are being reassessed to ensure they adequately address environmental, safety, and health and program requirements. As part of the ORNL-wide effort to update safety documentation for all facilities, a preliminary hazard screening work sheet was completed for the 3110 Filter House.

4. SPECIAL MAINTENANCE PROJECTS

4.1 BUILDING 4507 FILTER CHANGE

Inadvertent valving of process water wet the roughing and absolute filters in the cell-vent system for the High-Level Chemical Development Laboratory (Building 4507) in FY 1990. The wetted filters were scheduled in FY 1990 to be changed pending approval of National Environmental Policy Act (NEPA) compliance documentation. This approval was granted in August 1991; and the filters were changed, the quality of the new filters was checked, and

the filtering system was placed back into operation.

During a period of extremely heavy rain, >6 in. within 30 h, flooding of a ventilation duct caused temporary loss of ventilation to Building 4507 on December 23, 1990. The building was isolated, and additional surveillance for radioactivity in the areas surrounding the hot cells was carried out, with no indication of loss of containment. Normal drainage cleared the problem on the following day, and, after a subsequent review of building drawings, an additional drainage valve was opened on December 28, 1990. Since no personnel exposure, equipment damage, loss of production, or other adverse effects occurred, this incident had no negative impact and was reported as a nonroutine occurrence.

4.2 BUILDING 3110 FILTER CHANGE

There has been no activity on the project to replace the highly contaminated roughing and high-efficiency particulate air filters in the 3110 Filter House during this reporting period. A categorical exclusion from further National Environmental Policy Act (NEPA) documentation has been prepared and is awaiting DOE approval to continue the project.

4.3 9419-1 DECONTAMINATION FACILITY CLEANUP

The objective of this project is to clean up the facility to a safe shutdown condition by removing stored chemicals and other hazardous materials that presently occupy the building and present a risk to continued containment. This project was temporarily delayed awaiting DOE approval of a categorical exclusion (CX). During a recent Resource Conservation and Recovery Act (RCRA) inspection of the facility by the Tennessee Department of Environment and Conservation, several chemicals were identified as requiring immediate removal. Oak Ridge National Laboratory Environmental Compliance personnel approved the removal of the chemicals stored in the Decontamination Facility (9419-1) prior to receiving NEPA approval from DOE-HQ. All the chemicals were subsequently relocated to an approved storage facility to await disposal. DOE approval of the CX has since been received and work will resume after an internal environmental assessment has been completed and outfall locations of facility drain lines have been determined. The building has been locked to control access during the delay.

4.4 9204-1 EAST END BASEMENT ACCESS CONTROL IMPROVEMENTS

All excess material was removed from the 9204-1 East End Basement prior to the interruption of authorized use of funds for this project by DOE-HQ.

4.5 9201-2 86-INCH CYCLOTRON FACILITY

There are three special projects associated with the 86-Inch Cyclotron Facility: (1) removal of Z-Oil lines, (2) source removal and cleanup, and (3) a filter change. Asbestos was removed from the Z-oil lines and Z-oil heaters this year. Abatement was necessary prior to the Z-oil system removal. Work was also interrupted on these projects by DOE-HQ when

it was deemed the facility did not meet D&D Program acceptance criteria. Work is expected to continue in FY 1992 however, based on current funding guidance.

4.6 BUILDING 7819 EQUIPMENT REMOVAL AND DISPOSAL

Planning is in progress for continued removal of contaminated material from Building 7819. Most of the remaining material is large machinery associated with the original operation.

4.7 3019-B HIGH-LEVEL RADIATION ANALYTICAL FACILITY (HLRAF) DECONTAMINATION

The decontamination of HLRAF progressed in FY 1991 with removal and disposal of a highly contaminated filter in the off-gas system from Cell #6. Work also progressed on decontaminating and removal of surplus debris from behind the cells prior to suspension of activity necessitated by the DOE-HQ interruption in authorized use of funds.

5. SUMMARY

S&M activities are planned for FY 1992 in the three main task areas described above. Routine S&M will continue as scheduled, operations for the 3110 filter change will resume when approval for NEPA documentation is obtained, and work on the 86-Inch Cyclotron, East End Basement, and High-Level Radiation Analytical Facility, corrective actions will be conducted as funding permits .

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