

INTERIM REPORT

ACCESSION NO. _____
ORNL/HASRD-83 _____

Contract Program or
Project Title:

Technology and Costs of Termination
Surveys Associated with Decommission-
ing Nuclear Facilities

Subject of this Document:

Technical Progress

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INTERIM REPORT
NRC Research and Technical
Assistance Report

MONTHLY PROGRESS REPORT FOR MAY 1980

TECHNOLOGY AND COSTS OF TERMINATION SURVEYS
ASSOCIATED WITH DECOMMISSIONING OF NUCLEAR FACILITIES
(189 No. A-9042)

PRINCIPAL SCIENTISTS: H. W. Dickson and C. F. Holoway

Objectives:

The technical objective of this project is to evaluate the technology and cost of conducting termination surveys at six different types of nuclear sites at three different levels of residual radioactivity. Major items for cost estimation include land surveying, radiological surveying, soil sampling, laboratory analysis, data analysis and report preparation. The anticipated sites requiring this evaluation include a representative power reactor, a fuel fabrication plant, an uranium conversion facility, a spent fuel storage site, a fuel reprocessing plant, and a non-fuel cycle facility.

Major Accomplishments:

A preliminary task progress report (ORNL/HASRD-78) was completed dealing with the technology and cost of conducting a termination survey at a representative pressurized water power reactor site. This document also included a discussion concerning the application of a reference monitoring program to a termination survey of an uranium mill tailings site.

A series of documents^{1,2,3} dealing with the decommissioning of three types of nuclear facilities have been used as the basis for generic site parameters used in the evaluation of technology and cost of conducting termination surveys at these sites. Thus, the basic site parameters have been defined for a power reactor site,¹ a fuel fabrication plant,² and a fuel reprocessing site.³ Radiological survey techniques and costs are being developed for the latter two types of facilities.

With respect to the evaluation of technology and costs of conducting a termination survey at a spent fuel storage site, the final environmental impact statement,⁴ which recently has been completed, will be used as the guide for generic site parameters. The remaining sites requiring definition of generic site parameters are an uranium conversion facility and a non-fuel cycle facility such as a rare earth processing facility or a radiopharmaceutical producer.

Status of Project:

The technology and cost for a termination survey at a power reactor site have been identified and a preliminary report has been prepared. Generic descriptions of three additional sites, a fuel reprocessing plant, a

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mixed oxide fuel fabrication facility, and a spent fuel storage site have been obtained. Work is in progress on applying a reference radiological monitoring program to these sites and estimating the cost for conducting the termination surveys. Information is being sought regarding generic descriptions of an uranium conversion facility and a non-fuel cycle facility as input for technology and cost evaluations.

The project is on schedule.

Manpower and Cost Summary:

Efforts in Man Months			Cost K\$			Additional cost to completion (est.)
May 1980	FY 1980	Total to date	May 1980	FY 1980	Total cost to date K\$	
2.0	3.0	3.0	13.0	19.8	19.8	\$60,000

REFERENCES

1. R. I. Smith, G. J. Konzek, and W. E. Kennedy, Jr., *Technology, Safety, and Costs of Decommissioning a Reference Pressurized Water Reactor Power Station*, NUREG/CR-0130, Vol. 1 and 2 (June 1978).
2. C. E. Jenkins, E. S. Murphy, and K. J. Schneider, *Technology, Safety, and Costs of Decommissioning a Reference Small Mixed Oxide Fuel Fabrication Plant*, NUREG/CR-0129, Vol. 1 and 2 (February 1979).
3. K. J. Schneider and C. E. Jenkins, *Technology, Safety, and Costs of Decommissioning a Reference Nuclear Fuel Reprocessing Plant*, NUREG/0278, Vol. 1 and 2 (October 1977).
4. U.S. Department of Energy, *Final Environmental Impact Statement, U.S. Spent Fuel Policy*, DOE/EIS-0015, Vol. 1-5 (May 1980).

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