DOE/EP-0002

OFFICE OF THE ASSISTANT SECRETARY FOR ENVIRONMENT STATUS OF ACTIVITIES on the Inactive Uranium Mill Tailings Sites Remedial Action Program

APRIL 1981

Prepared by
U.S. DEPARTMENT OF ENERGY
Assistant Secretary for Environment
Environemental and Safety Engineering Division
Office of Environmental Compliance and Overview

Prepared in Response to the
Requirements of Section 114(a)
to Public Law 95-604

Printed in the United States of America

Available from

National Technical Information Service
U.S. Department of Commerce
5285 Port Royal Road
Springfield, VA 22161

NTIS price codes

Printed Copy: $ 7.00
Microfiche Copy: $ 3.50

DOE/EP-0002
UC-2 & 11

OFFICE OF THE ASSISTANT SECRETARY FOR ENVIRONMENT STATUS OF ACTIVITIES on the Inactive Uranium Mill Tailings Sites Remedial Action Program

APRIL 1981

Prepared by
U.S. DEPARTMENT OF ENERGY
Assistant Secretary for Environment
Environemental and Safety Engineering Division
Office of Environmental Compliance and Overview
Washington, D.C. 20545

Prepared in Response to the Requirements of Section 114(a) to Public Law 95-604

CONTENTS

CONTENTS (Continued)

LIST OF TABLES

EXECUTIVE SUMMARY

This report on the status of the Office of Environment's program for inactive uranium mill tailings sites is in response to the requirements of Section 114(a) of Public Law 95-604, "Uranium Mill Tailings Radiation Control Act of 1978," which was enacted on November 8, 1978. It is designed for incorporation in the Department of Energy's Second Annual Status Report, which is due to Congress by January 1, 1981. Included is an analysis of the current status and a forecast of future activities of the Office of Environment. The termination date for receipt of information was September 30, 1980.

Aerial radiological surveys and detailed ground radiological assessments of properties within the communities in the vicinity of the designated processing sites in Canonsburg, Pennsylvania, Salt Lake City, Utah, and Boise, Idaho led to the designation of an initial group of vicinity properties for remedial action under the provisions of Section 102(e)(2) of the Act. In accordance with the provisions of Section 102(b), the potential health effects of the residual radioactive materials on or near these properties were estimated, and the Assistant Secretary for Environment recommended priorities for performing remedial action to the Department's Assistant Secretary for Nuclear Energy. In designating these properties and establishing recommended priorities for performing remedial action, the Office of Environment consulted with the Environmental Protection Agency, the Nuclear Regulatory Commission, representatives from the affected State and local governments, and individual property owners.

After notifying the Governors of each of the affected States and the Navajo Nation of the Secretary of Energy's designation of processing sites within their areas of jurisdiction and establishment of remedial action priorities, a Sample Cooperative Agreement was developed by the Department in consultation with the Nuclear Regulatory Commission and provided to the affected States and the Navajo Nation for comments. During September 1980, a Cooperative Agreement with the Commonwealth of Pennsylvania for

the designated Canonsburg processing site was executed by the Department. It is anticipated that a Cooperative Agreement between the State of Utah and the Department to perform remedial actions at the designated Salt Lake City site will be executed in the near future.

In Fiscal Year 1981, the Office of Environment will be (a) conducting additional radiological surveys to identify and verify other properties in the vicinity of the remaining designated processing sites that may qualify for remedial action, (b) continuing radon monitoring projects in the vicinity of the designated processing sites, and, (c) reviewing appropriate National Environmental Policy Act documents and remedial action plans prior to the conduct of specific remedial actions by the Department's Office of Nuclear Energy. Additionally, it is anticipated that the Office of Environment will be initiating its certification program at vicinity properties in the areas of Canonsburg, Pennsylvania and Salt Lake City, Utah.

I. INTRODUCTION

A. PURPOSE AND SCOPE OF REPORT

This report has been prepared by the Environmental and Safety Engineering Division, Office of Environment as input to the Department of Energy's Second Annual Status Report to the Congress in accordance with the requirements of Public Law 95-604, the "Uranium Mill Tailings Radiation Control Act of 1978," enacted on November 8, 1978 (Appendix A). Section 114(a) of the Act requires that, beginning on January 1, 1980 and each year thereafter until January 1, 1986, the Department submits a report to the Congress with respect to the status of the actions required to be taken by the Department, the Nuclear Regulatory Commission, the Department of the Interior, the Environmental Protection Agency, the Department of Justice, and the affected States and Indian tribes under the Act and any amendments to other laws made by this Act.

This input to the Department's Second Annual Status Report describes the program activities of the Office of Environment for implementing Public Law 95-604 for the year following the submission of the Department's First Annual Status Report to Congress on December 28, 1979. It is intended to be used by the Office of Nuclear Energy, along with the inputs from the other Federal agencies and appropriate Departmental offices in the preparation of the Department's Second Annual Status Report. The termination date for receipt of information for the report was September 30, 1980.

B. PROGRAM AUTHORIZATION AND RESPONSIBILITIES

On November 8, 1978, Public Law 95-604 was enacted. The Act authorizes the Department of Energy in cooperation with the affected States, Indian tribes, and persons who own or control inactive uranium mill tailings sites, to establish assessment and remedial action programs at inactive uranium mill tailings sites, to stabilize and control tailings at these

sites in a safe and environmentally sound manner, and to minimize or eliminate potential radiation health hazards to the public.

The remedial action program is being implemented in the Department of Energy by the Office of Environment and the Office of Nuclear Energy. In keeping with the Department's intent to consolidate the management of all nuclear waste management programs, responsibility for the conduct of removal or stabilization activities at the inactive uranium mill tailings sites was transferred during Fiscal Year 1979 from the Office of Environment to the Office of Nuclear Energy. Subsequently, these Departmental responsibilities were reevaluated by the Office of Environment in consultation with the Office of Nuclear Energy and were modified to provide for a more effective interface between the two Offices. The current program responsibilities for the Office of Environment are:

- Designation of processing sites and vicinity properties for remedial action
- Participation in the determination of priorities in remedial action projects
- Determination of the need for and the potential extent of cleanup
- Conduct of radiological screening, aerial, ground, and post-remedial action radiological surveys; and radon monitoring projects before, during, and after remedial action.
- Review and approval of National Environmental Policy Act documentation prepared by the Office of Nuclear Energy
- Operational safety and environmental overview, including independent audits
- Certification of compliance of final conditions with applicable Federal, state, and local standards.

The Office of Environment activities are managed by the Environmental and Safety Engineering Division, Office of Environmental Compliance and Overview.

C. SUMMARY OF FIRST ANNUAL STATUS REPORT TO CONGRESS

The First Annual Status Report of the Inactive Uranium Mill Tailings Remedial Action Program was submitted to Congress by the Secretary of Energy on December 28, 1979. This report, which was prepared by the Office of Environment, provided a summary history of the remedial action program, an analysis of Departmental program accomplishments as of November 8, 1979, and a forecast of future effort required to implement the mandates of Public Law 95-604.

As of November 8, 1979, assessments of inactive uranium mill tailings sites in the United States led to the designation of 25 processing sites as candidates for remedial action under the provisions of Section 102(a) of the Act. The Environmental Control Technology Division (now Environmental and Safety Engineering Division) assessed the potential health effects to the public from the residual radioactive materials on or near the 25 sites and, with the advice of the Environmental Protection Agency, established for the Secretary of Energy the priorities for performing remedial action (Table 1).*

The report indicated that during Fiscal Year 1980, the Department would be focusing on (a) conducting further radiological assessments to verify the radiological characterization of a number of these designated processing sites as well as properties in their vicinities containing residual radioactive materials derived from these sites; (b) establishing Cooperative Agreements between the Department and the affected States to perform remedial actions at such sites; and (c) initiating the appropriate National Environmental Policy Act documentation prior to conducting any specific remedial action.

---

* Two of the designated sites located in Baggs, Wyoming, and Falls City, Texas, are currently under study by the Office of Environment to ascertain whether they fall within the provisions of the Act as defined in Section 101(6)(A). During May 1980, information was received that the Baggs site might be on land administered by the Bureau of Land Management. With respect to the designated Falls City site recent investigations have disclosed that portions of the site might be under active license. These matters are currently being investigated by the Office of Environment in consultation with the appropriate authorities in Wyoming and Texas.

TABLE 1. PROCESSING SITES AND PRIORITIES FOR REMEDIAL ACTION

STATE	LOCATION	PROCESSING SITE	PRIORITY
Arizona	Monument Valley	*Monument Valley	Low
	Tuba City	*Tuba City	Medium
Colorado	Durango	Durango	High
	Grand Junction	Grand Junction	High
	Gunnison	Gunnison	High
	Maybell	Maybell	Low
	Naturita	Naturita	Medium
	Rifle	New Rifle	High
	Rifle	Old Rifle	High
	Slick Rock	Slick Rock (NC)	Low
	Slick Rock	Slick Rock (UC)	Low
Idaho	Lowman	Lowman	Low
New Mexico	Ambrosia Lake	Ambrosia Lake	Medium
	Shiprock	*Shiprock	High
North Dakota	Belfield	Belfield	Low
	Bowman	Bowman	Low
Oregon	Lakeview	Lakeview	Medium
Pennsylvania	Canonsburg	Canonsburg	High
Texas	Falls City	Falls City	Medium
Utah	Green River	Green River	Low
	Mexican Hat	*Mexican Hat	Medium
	Salt Lake City	Salt Lake City	High
Wyoming	Baggs	Baggs	Low
	Converse County	Converse County	Low
	Riverton	**Riverton	High

*Processing site on tribal lands owned by the Navajo Nation.

**Processing site located on private property within the boundaries of the Wind River Indian Reservation.

II. PROGRAM STATUS AND ACTIVITIES

A. RADIOLOGICAL ASSESSMENTS

Under the provisions of Section 102(e)(2) of the Act, the Environmental and Safety Engineering Division is developing radiological assessment data on properties outside the boundaries of the 25 designated processing sites determined to be contaminated with residual radioactive materials derived from the sites. This radiological characterization program is being conducted on a site-by-site basis and incorporates, wherever available, the results of gamma radiation screening surveys initiated in 1972 by the Environmental Protection Agency. Data from these surveys resulted in an initial assessment of the possible extent of migration or removal of residual radioactive materials from processing sites onto properties in their vicinity. Some of the findings of these early surveys are summarized in Table 2. Since 1972, some State agencies, such as in Colorado and Utah, continued to collect radiological data to further identify the presence of residual radioactive materials outside the boundaries of inactive processing sites under their jurisdiction. However, in some instances, the Environmental and Safety Engineering Division has determined that more extensive radiological studies are required to more thoroughly define the extent of migration or removal of residual radioactive materials from the processing sites to vicinity properties.

The Environmental and Safety Engineering Division's vicinity property radiological assessment program consists of aerial and mobile ground gamma scan surveys and comprehensive ground radiological surveys of individual properties. These activities require assistance from the affected State and local governments, individual property owners, and the general public. During Fiscal Year 1980, the Environmental and Safety Engineering Division's efforts were focused on the processing sites located in Canonsburg, Pennsylvania (former Vitro Rare Metals Plant), and Salt Lake City, Utah (former Vitro site).

TABLE 2. SUMMARY OF ENVIRONMENTAL PROTECTION AGENCY INITIAL GAMMA SCREENING SURVEY RESULTS OF VICINITY PROPERTIES

SITE LOCATION	NUMBER OF ANOMALIES	CAUSE OF ANOMALY			
		CONFIRMED TAILINGS	OTHER RADIOACTIVE SOURCE OR ORE	NATURAL RADIOACTIVITY	UNKNOWN
Monument Valley, Arizona	19	15	4	0	0
Tuba City, Arizona	16	6	0	3	7
Durango, Colorado	354	118	67	67	102
Grand Junction, Colorado					
Gunnison, Colorado	47	3	9	28	7
Maybell, Colorado		No Properties in Vicinity of Site			
Naturita, Colorado	33	10	20	1	2
Rifle (2 Sites), Colorado	810	168	27	1	614
Slick Rock (2 Sites), Colorado	9	3	6	0	0
Lowman, Idaho	11	8	0	3	0
Ambrosia Lake, New Mexico	101	7	50	25	19
Shiprock, New Mexico	9	8	1	0	0
Belfield, North Dakota		Not Surveyed by the Environmental Protection Agency			
Bowman, North Dakota		Not Surveyed by the Environmental Protection Agency			

TABLE 2. SUMMARY OF ENVIRONMENTAL PROTECTION AGENCY INITIAL GAMMA SCREENING SURVEY RESULTS OF VICINITY PROPERTIES (Cont'd)

SITE LOCATION	NUMBER OF ANOMALIES	CAUSE OF ANOMALY			
		CONFIRMED TAILINGS	OTHER RADIOACTIVE SOURCE OR ORE	NATURAL RADIOACTIVITY	ANOMALY UNKNOWN
Lakeview, Oregon	18	0	2	10	6
Canonsburg, Pennsylvania		Not Surveyed by the Environmental Protection Agency			
Falls City, Texas	5	2	0	3	0
Green River, Utah	23	1	14	1	7
Mexican Hat, Utah	5	0	5	0	0
Salt Lake City, Utah	230	70	15	76	69
Baggs, Wyoming		Not Surveyed by the Environmental Protection Agency			
Converse County, Wyoming	28	13	10	3	2
Riverton, Wyoming	85	14	15	33	23

1. Canonsburg, Pennsylvania

Investigations to determine the extent of migration or removal of radioactive materials from the designated Canonsburg processing site (former Vitro Rare Metals Plant) to vicinity properties began in 1978. The results of an aerial radiological survey conducted during April 1978 provided evidence of the presence of radium-bearing materials from the site in the surrounding communities of Canonsburg, Strabane, and Houston, Pennsylvania. A subsequent mobile ground gamma radiation survey was followed by a pilot ground survey program to assess the radiological status of selected properties in the community of Strabane. The results of the pilot study were provided to all affected property owners during July 1979. The reports included the location of elevated radiation levels, the significance of the findings, and, where appropriate, Departmental recommendations regarding personnel exposure.

A second, more extensive, aerial survey conducted in August 1979 provided additional evidence of residual radioactive materials in the Boroughs of Canonsburg and Houston to the north and west of the processing site, respectively. Using the data from this aerial survey and from previous mobile scan surveys, an intensive radiological assessment of private properties in the communities of Canonsburg, Strabane, and Houston which were believed to contain residual radioactive material derived from the Canonsburg site was initiated in April 1980. Initially, a mobile ground survey was conducted to identify specific properties or locations that exhibited radioactivity levels above background for the local area. Local government and public participation was solicited by the Environmental and Safety Engineering Division staff through daily communications to identify additional areas believed to contain residual radioactive materials. All identified properties for which the owners' consent could be obtained, were comprehensively surveyed during the period of April through August 1980.

2. Salt Lake City, Utah

The Environmental Protection Agency's initial gamma screening surveys of the Salt Lake City area in 1972 disclosed some 230 gamma radiation anomalies in excess of background radiation readings (Table 2). The presence of uranium mill tailings was identified as the source of the radioactive anomalies at approximately 70 of the 230 locations. The conclusion was that tailings had either migrated from the processing site (former Vitro Plant) by natural wind and water action or had been removed from the site for use in construction related projects.

The results of the Environmental and Safety Engineering Division aerial radiological survey of about 36 square miles of area in the vicinity of the processing site were used by the State of Utah and Salt Lake City County authorities to verify those properties previously identified by the Environmental Protection Agency's gamma screening survey and to identify any other properties that might contain radioactive materials derived from the Salt Lake City processing site. Since the first aerial survey indicated radiation anomalies that had not been detected by mobile gamma radiation surveys, a second aerial survey was conducted and covered an additional 158 square miles. Preliminary results indicated about 10 locations in the new area that might contain tailings. Two aerial survey reports are to be published in the near future. In addition, detailed radiological ground surveys are in the process of being conducted at these identified properties by the Environmental and Safety Engineering Division to collect data for the designation process.

3. Other Radiological Assessment Activities

In addition to the aerial radiological surveys of the Canonsburg, Pennsylvania and Salt Lake City, Utah areas, aerial radiological surveys were conducted during Fiscal Year 1980 at all of the high priority sites (Table 1), Mexican Hat, Utah and Monument Valley, Arizona.

An extensive radon monitoring program was initiated at Canonsburg, Pennsylvania during February 1980. The purposes of the program were to (1) determine the effect of current radon releases from the site on the radon concentrations in the surrounding environment; (2) monitor increases in the radon emissions around the site during remedial actions; and, (3) verify that subsequent remedial actions would be effective. Currently, there are a total of 50 radon monitors installed around the site. A further discussion of this radon monitoring program is presented in Section IIH.

In addition to the radiological surveys and radon monitoring program, post-remedial action surveys of each site and associated vicinity properties will be conducted by the Office of Environment upon completion of the remedial actions by the Office of Nuclear Energy. These surveys will characterize the final radiological environment for comparison with pre-remedial action levels and general standards as promulgated by the Environmental Protection Agency. In the case of the tailings piles at inactive sites, two categories of remedial action are being considered:

- Stabilization of a tailings pile at its current location.
- Removal of a tailings pile to a new location (disposal site) and stabilization.

In either case, post-remedial action surveys will be conducted to determine if final conditions are in complaince with applicable standards and criteria. When a tailings pile is moved to a new location (off-site disposal), post-remedial action surveys will be conducted at the processing and repository sites and transportation routes will be monitored.

B. DESIGNATION OF VICINITY PROPERTIES

Under the provisions of Section 102(e)(2) of the Act and the Secretary of Energy's subsequent delegation of authority on November 8, 1979, the Assistant Secretary for Environment is authorized to designate for remedial action those properties in the vicinities of the 25 designated processing sites

containing residual radioactive materials derived from the sites. In developing these vicinity property designations, the Office of Environment consults with the Nuclear Regulatory Commission, the Environmental Protection Agency, the affected State and local governments, and the current property owners. Public participation is encouraged through daily written and oral correspondence, and by meetings held in the affected communities when it was determined by State and local officials to be of value in the vicinity property designation process. The Assistant Secretary for Environment has so far designated 25 vicinity properties in the Canonsburg, Pennsylvania, 24 in the Salt Lake City, Utah, and one in Boise, Idaho and referred them to the Assistant Secretary for Nuclear Energy for appropriate action.

C. ESTABLISHMENT OF RECOMMENDED VICINITY PROPERTY PRIORITIES

The Office of Environment has assessed the potential health effects from the residual radioactive material at the 27 properties in the Canonsburg, Pennsylvania, and Salt Lake City, Utah, areas. To be in consonance with the priorities that were established for the 25 designated processing sites on November 8, 1979, a ranking of high, medium, and low categories are utilized by the Office of Environment in recommending remedial action priorities for vicinity properties.

D. ESTABLISHMENT OF COOPERATIVE AGREEMENTS

After notifying the Governors of each of the 10 affected States and the Navajo Nation on December 7, 1979 of the Secretary of Energy's designation of processing sites within their area of jurisdiction and establishment of remedial action priorities, the Secretary was authorized to enter into Cooperative Agreements with the affected States and Indian Nations. This authority, under the provisions of Sections 103 and 105 of the Act, is required to perform the remedial actions at each of the 25 designated processing sites and applicable vicinity properties.

As was reported to the Congress in the First Annual Status Report, a Sample Cooperative Agreement was developed by the Department of Energy in consultation with the Nuclear Regulatory Commission. It was also provided to the individual States and Navajo Nation for comments. Subsequently, a determination was made by the Department's Office of Procurement and Contracts Management in consultation with the Offices of the General Counsel and Administration that each Cooperative Agreement be prepared on a case by case basis to satisfy any unique procurement requirements that might arise with each of the designated processing sites. As a result, an Appendix to each of the Cooperative Agreements involving the Canonsburg, Pennsylvania and Salt Lake City, Utah sites was developed by the Department and provided to the appropriate State officials. During September 1980, the Cooperative Agreement for the Canonsburg site was consummated between the Department of Energy and the Commonwealth of Pennsylvania. It is anticipated that a similar agreement will be executed in the near future by the Department and State of Utah for the Salt Lake City site.

E. NATIONAL ENVIRONMENTAL POLICY ACT

Before any remedial action is initiated at a processing site by the Office of Nuclear Energy, the documentation requirements of the National Environmental Policy Act must be complied with by the Department of Energy. These documents will be reviewed and approved by the Office of Environment along with the corollary site specific remedial action plan describing the type, schedule, and nature of anticipated remedial action for each of the sites.

F. PROMULGATION OF GENERAL STANDARDS

Under the provisions of Section 206(a) of Public Law 95-604, the Environmental Protection Agency is required to promulgate general cleanup standards for remedial actions at inactive uranium mill tailings sites. On April 22, 1980, the Environmental Protection Agency by Federal Register notice issued "Interim Cleanup Standards for Inactive Uranium Processing

Sites" and "Proposed Cleanup Standards for Inactive Uranium Processing Sites". After thorough review by the Environmental and Safety Engineering Division, the Environmental Protection Agency was informed that the Assistant Secretary for Environment did not support publishing these proposed standards for the limit on indoor radon concentration (0.015 WL) is too low. It is less than that which exists in a significant fraction of the homes across the country that are not associated with mill tailings.

Further delays in the promulgation of final standards could have a significant impact on the Division's ability to schedule and fund radiological surveys to accomplish the mandates of the Act.

G. PUBLIC PARTICIPATION

In carrying out its responsibilities under the provisions of Title I of the Act, which includes the conduct of radiological assessments, the designation of vicinity properties for remedial action, and the establishment of recommended remedial action priorities for such properties, the Office of Environment encouraged public participation through public meetings and daily communications with all interested parties. A public meeting was conducted at Canonsburg, Pennsylvania by the Environmental and Safety Engineering Division to outline and explain the Department's radon monitoring program at the Canonsburg Site. The meeting was attended by the members of the news media, property owners, and State and local government officials as well as the general public. In addition, interagency coordination meetings were conducted by the Environmental and Safety Engineering Division with representatives of the Environmental Protection Agency, Nuclear Regulatory Commission, Department of the Interior, Department of Justice and other applicable Departmental offices to plan for and consult on the implementation of the Department's remedial action program.

H. OTHER SUPPORT ACTIVITIES

In implementing its assigned Departmental responsibilities, the Office of Environment has utilized the technical support of Oak Ridge National Laboratory, Mound Facility, EG&G, Idaho, Inc., the Environmental Measurements

Laboratory, and Argonne National Laboratory. There follows a discussion of the activities performed by each of these organizations.

1. Oak Ridge National Laboratory

Radiological ground surveys of properties in the vicinities of designated processing sites are performed by the Oak Ridge National Laboratory under a contract between the Department and the Union Carbide Corporation. The Department's Oak Ridge Operations Office is responsible for providing the Oak Ridge National Laboratory with implementation-level policy, strategy and programmic direction in accordance with plans and schedules approved by the Environmental and Safety Engineering Division.

As presented in Section IIA of this report, in the spring and early summer of 1980, a ground-level mobile gamma-ray scan was performed in and around the Canonsburg/Houston/Strabane, Pennsylvania areas to identify vicinity properties with gamma radiation levels which were higher than those considered normal for that part of Pennsylvania. Such properties were then subjected to more detailed radiological surveys to determine if they should be designated for remedial action under the provisions of Section 102(e)(2) of Public Law 95-604.

The mobile gamma-ray scanning system developed by Oak Ridge National Laboratory for this purpose, is mounted in a customized van with its own power generator. The system uses two 10 cm x 10 cm sodium iodide scintillation detectors, each mounted in a collimated lead shield. One detector is mounted facing down, the other is pointed approximately 45 degrees below the horizontal. Each detector has its own electronic analysis system. A mini-computer is used to control the analyzers and all associated electronic equipment such as a dual floppy disk data storage system, automatic distance measuring equipment, dual chart recorders, and a high-speed line printer.

Since 1978, approximately 90 locations within the Canonsburg area have been identified by the mobile scanning van as subjects for more detailed

radiological surveys. Radiological surveys have been conducted at each of these locations where the property owner has consented to such a survey. More than 95 percent of these properties contained radioactive materials similar in nature to those found at the designated Canonsburg processing site. The radioactive materials were found in many different media, but were most commonly encountered in fill material for yards, gardens, and driveways; in bricks and lumber used for sheds, garages, work benches, and retaining walls; and in sands and aggregates used in concrete mixes poured for sidewalks, driveways, and garages.

In addition, other properties have been surveyed in the Canonsburg area at the owner's request. To date, ground radiological surveys have encompassed municipal, industrial, private recreational, and private residential properties. Municipal properties have included a city park, a city-owned parking area, four points of access in a sanitary sewer system, six locations in city streets, and a National Guard Armory. One industrial property, one private recreational property, and 70 private residences have been surveyed. Survey reports have been submitted by Oak Ridge National Laboratory to the Environmental and Safety Engineering Division for 33 of these properties while analysis of environmental samples is currently underway for the other properties surveyed.

At the request of the Environmental and Safety Engineering Division in May 1980, environmental samples collected by the North Dakota State Department of Health from the two designated processing sites near Belfield and Bowman, North Dakota, are currently undergoing radiochemical analysis by the Oak Ridge National Laboratory. The samples included soil and vegetation collected in the vicinity of the two former uraniferous lignite upgrading mills. The results are to be used in further characterizing the conditions at these sites.

The final reports of the radiological surveys performed at 22 designated processing sites in the Western States have been published by the Laboratory. The radiological data from these surveys were used in the detailed engineering evaluations of many of these sites during the period of

1975 through 1977 by the Energy Research and Development Administration, the predecessor to the Department of Energy. A list of these reports is included in the bibliography to this report.

2. Mound Facility

In 1979, the Environmental Assessment and Planning Section of the Mound Facility, at the request of the Environmental and Safety Engineering Division, began the development of a comprehensive radon monitoring program in the environment surrounding the former Vitro site in Canonsburg, Pennsylvania. The program is an extension and expansion of a program initiated by the Department's Environmental Measurements Laboratory in 1978 to determine the concentrations of radon and its decay products in the onsite buildings.

The purposes of Mound Facility's radon monitoring program are:

- To measure the current radon releases from the site in order to determine its effect in the surrounding environment
- To monitor the effects in the surrounding environment of possible increased radon emissions from the site during remedial action
- To verify that the remedial action taken at the site was effective.

Mound implemented the radon monitoring network in the Canonsburg area in February 1980. Presently, there are 50 monitors surrounding the former Vitro site. Most of the monitors are housed in aluminum shelters for protection from rain, vandalism, etc. The monitors are serviced and maintained by the University of Pittsburg, Graduate School of Public Health. Samples are collected on a weekly basis and are sent to the Mound Facility for analysis. Quarterly reports of the radon monitoring efforts are issued to the Environmental and Safety Engineering Division for evaluation.

As a quality assurance measure, each monitor in the radon monitoring network is reinforced with a second integrating radon monitoring device called a Track-Etch cup that is changed on a quarterly basis for processing. This provides a second set of radon measurements for comparison with the data from the primary monitors. In addition, the Mound Facility will use a small group of primary monitors for making other duplicate measurements. The latter monitoring will be moved from location to location to provide approximately eight to ten duplicate measurements at each location over a period of one year.

The radon monitoring program at the Canonsburg site should continue until approximately one year after the completion of remedial activities. Similar radon monitoring network projects are being forecasted for the remaining eight high priority sites. Radon monitoring networks will be setup at the Salt Lake City, Utah and Durango, Colorado sites during Fiscal Year 1981.

3. EG&G Idaho, Incorporated

The prelude to remedial action is a careful assessment of the extent and intensity of the radioactivity at each of the 25 designated inactive processing sites. The Office of Environment has been conducting aerial radiological surveys at these sites through its contractor, EG&G Idaho, Incorporated. Priorities for conducting these surveys are established by the Environmental and Safety Engineering Division with operations being monitored by the Department's Nevada Operations Office.

The aerial surveys serve as preliminary indicators as to the location and extent of the radioactivity around the site. The aerial survey data is processed at the site. A computer then generates radiation isopleth contour maps at the assigned scale and labels each contour line with the appropriate letter code. The resulting map is superimposed on a recent aerial color photograph or a topological contour map of the site. With these techniques both the dispersion and intensity of the uranium mill tailings can be readily correlated with the local geography for use in subsequent ground radiological surveys.

4. Environmental Measurements Laboratory

The Environmental Measurements Laboratory initiated radon monitoring at the Canonsburg site in late February 1978. Approximately 700 week-long integrated radon measurements were obtained on-site (600 indoors and 100 outdoors), and approximately 300 week-long integrated working level measurements were obtained indoors.

Key observations were that in the buildings, concentrations of radon varied seasonably with the minimum concentrations occurring during the summer months. The average radon concentrations during the winter months were two to three times greater due to reduced building ventilation.

Additionally, outside, onsite radon concentrations were substantially in excess of background to a distance of about one kilometer downwind in the easterly direction. As in the case of indoor radon concentrations, seasonal variations were noticeable except that the lowest values were observed during the cold winter months when the radon emanation rate from soil would be expected to be lower.

5. Argonne National Laboratory

In accordance with a request of the Environmental and Safety Engineering Division, the Argonne National Laboratory conducted a complete radiological survey of the State of Idaho's Parks and Recreation Facility located in Boise, Idaho. Investigations revealed that a portion of this facility included four buildings previously utilized by the former owners of the designated Lowman site and had been involved with material derived from the site.

As a result of this survey, it was determined that the Parks and Recreation Facility should be considered for remedial action under the provisions of Section 102(e)(2) of the Act.

III. PROGRAM FORECASTS AND FUNDING

The authority of the Department of Energy to perform remedial action under the provisions of Title I of Public Law 95-604 is to terminate seven years after the date of promulgation of general standards by the Environmental Protection Agency unless such a termination date is specifically extended by an Act of Congress. This section of the report addresses the specific activities to be conducted by the Office of Environment during Fiscal Year 1981.

A. RADIOLOGICAL ASSESSMENTS

As discussed in Section IIA, the Environmenal and Safety Engineering Division is conducting aerial and ground level radiological surveys and developing radon monitoring networks to further characterize the radiological conditions at the designated processing sites and identifying and verifying vicinity properties as candidates for remedial action. During Fiscal Year 1981, the Division will be initiating an extensive site specific and vicinity property certification survey program after general standards are promulgated by the Environmental Protection Agency and site specific remedial activities are underway. Listed below are each of the four different types of radiological assessments by processing sites that are forecast by the Environmental Safety and Engineering Division for attention in Fiscal Year 1981. It should be noted, these forecasts are based on the assumption that the Environmental Protection Agency will promulgate general standards for remedial action by the middle of Fiscal Year 1981 and are predicated upon the assumption that remedial action activities will be completed within seven years of the general standards promulgation as mandated by Section 112(a) of the Act.

1. Fiscal Year 1981 Aerial Survey Forecasts

- o Ambrosia Lake
- o Lakeview
- o Naturita
- o Tuba City
- o Green River
- o Maybell
- o Slick Rock (2 sites)

2. Fiscal Year 1981 Radiological (Ground) Survey Forecasts

- Canonsburg (Continuation of Fiscal Year 1980 Survey)
- Salt Lake City (Continuation of Fiscal Year 1980 Survey)
- Durango
- Gunnison
- Rifle (2 sites)
- Riverton
- Shiprock
- Mexican Hat
- Lowman (Continuation of Fiscal Year 1980 Survey)

3. Fiscal Year 1981 Radon Monitoring Forecasts

- Canonsburg (Continuation of Fiscal Year 1980 Program)
- Durango
- Salt Lake City

B. PROGRAM REPORTS AND PLANS

To facilitate the implementation of Public Law 95-604, the Office of Environment planning documents currently under development for publication include project management plans, certification plans, and background and radiological assessment reports.

1. Background Report

During Fiscal Year 1980, the Environmental and Safety Engineering Division completed a document entitled a Background Report for the Inactive Uranium Mill Tailings Sites Remedial Action Program. The document provides a consolidated historical summary of the 25 designated processing sites and current status from site assessment studies. Applicable sections of the draft report were provided for review and comments to the appropriate designated representatives of the 10 affected States, the Navajo Nation, the current owners of each of the designated sites, the National Laboratories

and other applicable Departmental Offices. It is anticipated that the report will be published in early Fiscal Year 1981 with update supplements being published on a periodic basis throughout the duration of the Department of Energy's remedial action program.

2. Generic Program Plan

The purpose of this document is to outline in generic form a program plan to assess, evaluate, and reduce the potential radiological health hazard to the public from the accumulated uranium mill tailings resulting from the milling of uranium ore. The document was developed in draft during Fiscal Year 1980 by the Office of Environment and is currently under review by the Office of Nuclear Energy. It should be issued as a joint Departmental publication by these two Offices. The plan addresses all remedial action program activities (from the identification of candidate remedial action sites and vicinity properties to the decontamination and decommissioning, and certification for unrestricted use of such sites and properties). The forecasted joint publication date for the generic plan is mid-Fiscal Year 1981.

3. Certification Plan

Development of a certification plan is currently in progress by the Environmental and Safety Engineering Division with an anticipated publication date in mid Fiscal Year 1981. During remedial action activities by the Office of Nuclear Energy, the Office of Environment will obtain progressive radiological data by analyzing soil samples and by performing radiological surveys to ascertain the thoroughness of the decontamiantion effort. These activities will provide the necessary data to certify that the remedial action site and associated vicinity properties are in compliance with the Environmental Protection Agency's promulgated standards.

C. PROGRAM FUNDING REQUIREMENTS

As reported to Congress in the Department's First Annual Status Report, the initial Department of Energy funding for the execution of the

mandates of Public Law 95-604 was included as an element of the Department's Decontamination and Decommissioning Program when managed by the Office of Environment. However, as a result of the transfer of programmatic functions from the Office of Environment to the Office of Nuclear Energy (Section IB), the management responsibility for remedial action was transferred to the latter office and included as an element of their Nuclear Waste Management Program. The Office of Environment's total funding levels and estimated costs for Fiscal Year 1980, and projected costs for Fiscal Year 1981 are as follows:

1. Fiscal Year 1980 Estimated Costs

Program Activity	Estimated Costs
Aerial Surveys	$ 440,000
Radiological (Ground) Surveys	740,000
Radon Monitoring Program	416,000
Site Certification Surveys	-
Disposal Site Evaluation	-
Environmental Support Service	195,000
TOTAL	$1,791,000

2. Fiscal Year 1981 Projected Costs

The projected costs for Fiscal Year 1981 have been categorized according to the Environmental and Safety Engineering Division's major radiological assessment and environmental support service activities, and are tabulated below. These projected costs are based on the anticipated radiological assessment activities addressed in Section IIIA for Fiscal Year 1981.

Program Activity	Fiscal Year 1981
Aerial Surveys	$315,000
Radiological (Ground) Survey	1,345,000
Radon Monitoring Program	530,000
Site Certification Surveys	200,000
Disposal Site Evaluation	-
Environmental Support Service	200,000
TOTAL	$2,590,000

tabulated below. These projected costs are based on the anticipated radiological assessment activities addressed in Section IIIA for Fiscal Year 1981.

Program Activity	Fiscal Year 1981
Aerial Surveys	$315,000
Radiological (Ground) Survey	1,345,000
Radon Monitoring Program	530,000
Site Certification Surveys	200,000
Disposal Site Evaluation	-
Environmental Support Service	200,000
TOTAL	$2,590,000

APPENDIXES

TO THE OFFICE OF THE ASSISTANT SECRETARY
FOR ENVIRONMENT STATUS REPORT ON THE
INACTIVE URANIUM MILL TAILINGS SITES
REMEDIAL ACTION PROGRAM

Public Law 95-604
95th Congress

An Act

To authorize the Secretary of Energy to enter into cooperative agreements with certain States respecting residual radioactive material at existing sites, to provide for the regulation of uranium mill tailings under the Atomic Energy Act of 1954, and for other purposes.

Nov. 8, 1978
[H.R. 13650]

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

Uranium Mill Tailings Radiation Control Act of 1978.
42 USC 7901 note.

SHORT TITLE AND TABLE OF CONTENTS

SECTION 1. This Act may be cited as the "Uranium Mill Tailings Radiation Control Act of 1978".

TABLE OF CONTENTS

FINDINGS AND PURPOSES

SEC. 2. (a) The Congress finds that uranium mill tailings located at active and inactive mill operations may pose a potential and significant radiation health hazard to the public, and that the protection of

42 USC 7901.

39-139 O - 78 (527)

the public health, safety, and welfare and the regulation of interstate commerce require that every reasonable effort be made to provide for the stabilization, disposal, and control in a safe and environmentally sound manner of such tailings in order to prevent or minimize radon diffusion into the environment and to prevent or minimize other environmental hazards from such tailings.

(b) The purposes of this Act are to provide—

(1) in cooperation with the interested States, Indian tribes, and the persons who own or control inactive mill tailings sites, a program of assessment and remedial action at such sites, including, where appropriate, the reprocessing of tailings to extract residual uranium and other mineral values where practicable, in order to stabilize and control such tailings in a safe and environmentally sound manner and to minimize or eliminate radiation health hazards to the public, and

(2) a program to regulate mill tailings during uranium or thorium ore processing at active mill operations and after termination of such operations in order to stabilize and control such tailings in a safe and environmentally sound manner and to minimize or eliminate radiation health hazards to the public.

TITLE I—REMEDIAL ACTION PROGRAM

DEFINITIONS

42 USC 7911.

SEC. 101. For purposes of this title—

(1) The term "Secretary" means the Secretary of Energy.

(2) The term "Commission" means the Nuclear Regulatory Commission.

(3) The term "Administrator" means the Administrator of the Environmental Protection Agency.

(4) The term "Indian tribe" means any tribe, band, clan, group, pueblo, or community of Indians recognized as eligible for services provided by the Secretary of the Interior to Indians.

(5) The term "person" means any individual, association, partnership, corporation, firm, joint venture, trust, government entity, and any other entity, except that such term does not include any Indian or Indian tribe.

(6) The term "processing site" means—

(A) any site, including the mill, containing residual radioactive materials at which all or substantially all of the uranium was produced for sale to any Federal agency prior to January 1, 1971 under a contract with any Federal agency, except in the case of a site at or near Slick Rock, Colorado, unless—

(i) such site was owned or controlled as of January 1, 1978, or is thereafter owned or controlled, by any Federal agency, or

(ii) a license (issued by the Commission or its predecessor agency under the Atomic Energy Act of 1954 or by a State as permitted under section 274 of such Act) for the production at such site of any uranium or thorium product derived from ores is in effect on January 1, 1978, or is issued or renewed after such date; and

42 USC 2011 note.
42 USC 2021.

(B) any other real property or improvement thereon which—

(i) is in the vicinity of such site, and

(ii) is determined by the Secretary, in consultation with the Commission, to be contaminated with residual radioactive materials derived from such site.

Any ownership or control of an area by a Federal agency which is acquired pursuant to a cooperative agreement under this title shall not be treated as ownership or control by such agency for purposes of subparagraph (A)(i). A license for the production of any uranium product from residual radioactive materials shall not be treated as a license for production from ores within the meaning of subparagraph (A)(ii) if such production is in accordance with section 108(b).

(7) The term "residual radioactive material" means—

(A) waste (which the Secretary determines to be radioactive) in the form of tailings resulting from the processing of ores for the extraction of uranium and other valuable constituents of the ores; and

(B) other waste (which the Secretary determines to be radioactive) at a processing site which relate to such processing, including any residual stock of unprocessed ores or low-grade materials.

(8) The term "tailings" means the remaining portion of a metal-bearing ore after some or all of such metal, such as uranium, has been extracted.

(9) The term "Federal agency" includes any executive agency as defined in section 105 of title 5 of the United States Code.

(10) The term "United States" means the 48 contiguous States and Alaska, Hawaii, Puerto Rico, the District of Columbia, and the territories and possessions of the United States.

DESIGNATION OF PROCESSING SITES

SEC. 102. (a)(1) As soon as practicable, but no later than one year after enactment of this Act, the Secretary shall designate processing sites at or near the following locations: 42 USC 7912.

Salt Lake City, Utah
Green River, Utah
Mexican Hat, Utah
Durango, Colorado
Grand Junction, Colorado
Rifle, Colorado (two sites)
Gunnison, Colorado
Naturita, Colorado
Maybell, Colorado
Slick Rock, Colorado (two sites)
Shiprock, New Mexico
Ambrosia Lake, New Mexico
Riverton, Wyoming
Converse County, Wyoming
Lakeview, Oregon
Falls City, Texas
Tuba City, Arizona
Monument Valley, Arizona
Lowman, Idaho
Cannonsburg, Pennsylvania

Remedial action.

Subject to the provisions of this title, the Secretary shall complete remedial action at the above listed sites before his authority terminates under this title. The Secretary shall within one year of the date of enactment of this Act also designate all other processing sites within the United States which he determines requires remedial action to carry out the purposes of this title. In making such designation, the Secretary shall consult with the Administrator, the Commission, and the affected States, and in the case of Indian lands, the appropriate Indian tribe and the Secretary of the Interior.

(2) As part of his designation under this subsection, the Secretary, in consultation with the Commission, shall determine the boundaries of each such site.

(3) No site or structure with respect to which remedial action is authorized under Public Law 92-314 in Grand Junction, Colorado, may be designated by the Secretary as a processing site under this section.

86 Stat. 222.

Health hazard assessment.

(b) Within one year from the date of the enactment of this Act, the Secretary shall assess the potential health hazard to the public from the residual radioactive materials at designated processing sites. Based upon such assessment, the Secretary shall, within such one year period, establish priorities for carrying out remedial action at each such site. In establishing such priorities, the Secretary shall rely primarily on the advice of the Administrator.

Notification.

(c) Within thirty days after making designations of processing sites and establishing the priorities for such sites under this section, the Secretary shall notify the Governor of each affected State, and, where appropriate, the Indian tribes and the Secretary of the Interior.

(d) The designations made, and priorities established, by the Secretary under this section shall be final and not be subject to judicial review.

(e) (1) The designation of processing sites within one year after enactment under this section shall include, to the maximum extent practicable, the areas referred to in section 101(6)(B).

(2) Notwithstanding the one year limitation contained in this section, the Secretary may, after such one year period, include any area described in section 101(6)(B) as part of a processing site designated under this section if he determines such inclusion to be appropriate to carry out the purpoees of this title.

STATE COOPERATIVE AGREEMENTS

42 USC 7913.

SEC. 103. (a) After notifying a State of the designation referred to in section 102 of this title, the Secretary subject to section 113, is authorized to enter into cooperative agreements with such State to perform remedial actions at each designated processing site in such State (other than a site located on Indian lands referred to in section 105). The Secretary shall, to the greatest extent practicable, enter into such agreements and carry out such remedial actions in accordance with the priorities established by him under section 102. The Secretary shall commence preparations for cooperative agreements with respect to each designated processing site as promptly as practicable following the designation of each site.

Terms and Conditions.

(b) Each cooperative agreement under this section shall contain such terms and conditions as the Secretary deems appropriate and consistent with the purposes of this Act, including, but not limited

to, a limitation on the use of Federal assistance to those costs which are directly required to complete the remedial action selected pursuant to section 108.

(c)(1)-Except where the State is required to acquire the processing site as provided in subsection (a) of section 104, each cooperative agreement with a State under section 103 shall provide that the State shall obtain, in a form prescribed by the Secretary, written consent from any person holding any record interest in the designated processing site for the Secretary or any person designated by him to perform remedial action at such site. Written consent.

(2) Such written consent shall include a waiver by each such person on behalf of himself, his heirs, successors, and assigns— Waiver.

(A) releasing the United States of any liability or claim thereof by such person, his heirs, successors, and assigns concerning such remedial action, and

(B) holding the United States harmless against any claim by such person on behalf of himself, his heirs, successors, or assigns arising out of the performance of any such remedial action.

(d) Each cooperative agreement under this section shall require the State to assure that the Secretary, the Commission, and the Administrator and their authorized representatives have a permanent right of entry at any time to inspect the processing site and the site provided pursuant to section 104(b)(1) in furtherance of the provisions of this title and to carry out such agreement and enforce this Act and any rules prescribed under this Act. Such right of entry under this section or section 106 into an area described in section 101(6)(B) shall terminate on completion of the remedial action, as determined by the Secretary.

(e) Each agreement under this section shall take effect only upon the concurrence of the Commission with the terms and conditions thereof.

(f) The Secretary may, in any cooperative agreement entered into under this section or section 105, provide for reimbursement of the actual costs, as determined by the Secretary, of any remedial action performed with respect to so much of a designated processing site as is described in section 101(6)(B). Such reimbursement shall be made only to a property owner of record at the time such remedial action was undertaken and only with respect to costs incurred by such property owner. No such reimbursement may be made unless—

(1) such remedial action was completed prior to enactment of this Act, and unless the application for such reimbursement was filed by such owner within one year after an agreement under this section or section 105 is approved by the Secretary and the Commission, and

(2) the Secretary is satisfied that such action adequately achieves the purposes of this Act with respect to the site concerned and is consistent with the standards established by the Administrator pursuant to section 275(a) of the Atomic Energy Act of 1954. *Post*, p. 3039.

ACQUISITION AND DISPOSITION OF LANDS AND MATERIALS

SEC. 104. (a) Each cooperative agreement under section 103 shall require the State, where determined appropriate by the Secretary with the concurrence of the Commission, to acquire any designated process- 42 USC 7914.

ing site, including where appropriate any interest therein. In determining whether to require the State to acquire a designated processing site or interest therein, consideration shall be given to the prevention of windfall profits.

Residual radioactive material, removal.

(b)(1) If the Secretary with the concurrence of the Commission determines that removal of residual radioactive material from a processing site is appropriate, the cooperative agreement shall provide that the State shall acquire land (including, where appropriate, any interest therein) to be used as a site for the permanent disposition and stabilization of such residual radioactive materials in a safe and environmentally sound manner.

(2) Acquisition by the State shall not be required under this subsection if a site located on land controlled by the Secretary or made available by the Secretary of the Interior pursuant to section 106 (a)(2) is designated by the Secretary, with the concurrence of the Commission, for such disposition and stabilization.

(c) No State shall be required under subsection (a) or (b) to acquire any real property or improvement outside the boundaries of—

(1) that portion of the processing site which is described in section 101(6)(A), and

(2) the site used for disposition of the residual radioactive materials.

(d) In the case of each processing site designated under this title other than a site designated on Indian land, the State shall take such action as may be necessary, and pursuant to regulations of the Secretary under this subsection, to assure that any person who purchases such a processing site after the removal of radioactive materials from such site shall be notified in an appropriate manner prior to such purchase, of the nature and extent of residual radioactive materials removed from the site, including notice of the date when such action took place, and the condition of such site after such action. If the State is the owner of such site, the State shall so notify any prospective purchaser before entering into a contract, option, or other arrangement to sell or otherwise dispose of such site. The Secretary shall issue appropriate rules and regulations to require notice in the local land records of the residual radioactive materials which were located at any processing site and notice of the nature and extent of residual radioactive materials removed from the site, including notice of the date when such action took place.

Notification.

Rules and regulations.

(e)(1) The terms and conditions of any cooperative agreement with a State under section 103 shall provide that in the case of any lands or interests therein acquired by the State pursuant to subsection (a), the State, with the concurrence of the Secretary and the Commission, may—

(A) sell such lands and interests,

(B) permanently retain such land and interests in lands (or donate such lands and interests therein to another governmental entity within such State) for permanent use by such State or entity solely for park, recreational, or other public purposes, or

(C) transfer such lands and interests to the United States as provided in subsection (f).

No lands may be sold under subparagraph (A) without the consent of the Secretary and the Commission. No site may be sold under subparagraph (A) or retained under subparagraph (B) if such site is used for the disposition of residual radioactive materials.

(2) Before offering for sale any lands and interests therein which comprise a processing site, the State shall offer to sell such lands and interests at their fair market value to the person from whom the State acquired them.

(f)(1) Each agreement under section 103 shall provide that title to—

(A) the residual radioactive materials subject to the agreement, and

(B) any lands and interests therein which have been acquired by the State, under subsection (a) or (b), for the disposition of such materials,

shall be transferred by the State to the Secretary when the Secretary (with the concurrence of the Commission) determines that remedial action is completed in accordance with the requirements imposed pursuant to this title. No payment shall be made in connection with the transfer of such property from funds appropriated for purposes of this Act other than payments for any administrative and legal costs incurred in carrying out such transfer.

(2) Custody of any property transferred to the United States under this subsection shall be assumed by the Secretary or such Federal agency as the President may designate. Notwithstanding any other provision of law, upon completion of the remedial action program authorized by this title, such property and minerals shall be maintained pursuant to a license issued by the Commission in such manner as will protect the public health, safety, and the environment. The Commission may, pursuant to such license or by rule or order, require the Secretary or other Federal agency having custody of such property and minerals to undertake such monitoring, maintenance, and emergency measures necessary to protect public health and safety and other actions as the Commission deems necessary to comply with the standards of section 275(a) of the Atomic Energy Act of 1954. The Secretary or such other Federal agency is authorized to carry out maintenance, monitoring and emergency measures under this subsection, but shall take no other action pursuant to such license, rule or order with respect to such property and minerals unless expressly authorized by Congress after the date of enactment of this Act. The United States shall not transfer title to property or interest therein acquired under this subsection to any person or State, except as provided in subsection (h). *Post*, p. 3039.

(g) Each agreement under section 103 which permits any sale described in subsection (e)(1)(A) shall provide for the prompt reimbursement to the Secretary from the proceeds of such sale. Such reimbursement shall be in an amount equal to the lesser of—

(1) that portion of the fair market value of the lands or interests therein which bears the same ratio to such fair market value as the Federal share of the costs of acquisition by the State to such lands or interest therein bears to the total cost of such acquisition, or

(2) the total amount paid by the Secretary with respect to such acquisition.

The fair market value of such lands or interest shall be determined by the Secretary as of the date of the sale by the State. Any amounts received by the Secretary under this title shall be deposited in the Treasury of the United States as miscellaneous receipts. Fair market value.

(h) No provision of any agreement under section 103 shall prohibit the Secretary of the Interior, with the concurrence of the Secretary of Energy and the Commission, from disposing of any subsurface mineral rights by sale or lease (in accordance with laws of the United States applicable to the sale, lease, or other disposal of such rights) which are associated with land on which residual radioactive materials are disposed and which are transferred to the United States as required under this section if the Secretary of the Interior takes such action as the Commission deems necessary pursuant to a license issued by the Commission to assure that the residual radioactive materials will not be disturbed by reason of any activity carried on following such disposition. If any such materials are disturbed by any such activity, the Secretary of the Interior shall insure, prior to the disposition of the minerals, that such materials will be restored to a safe and environmentally sound condition as determined by the Commission, and that the costs of such restoration will be borne by the person acquiring such rights from the Secretary of the Interior or from his successor or assign.

INDIAN TRIBE COOPERATIVE AGREEMENTS

42 USC 7915.

SEC. 105. (a) After notifying the Indian tribe of the designation pursuant to section 102 of this title, the Secretary, in consultation with the Secretary of the Interior, is authorized to enter into a cooperative agreement, subject to section 113, with any Indian tribe to perform remedial action at a designated processing site located on land of such Indian tribe. The Secretary shall, to the greatest extent practicable, enter into such agreements and carry out such remedial actions in accordance with the priorities established by him under section 102. In performing any remedial action under this section and in carrying out any continued monitoring or maintenance respecting residual radioactive materials associated with any site subject to a cooperative agreement under this section, the Secretary shall make full use of any qualified members of Indian tribes resident in the vicinity of any such site. Each such agreement shall contain such terms and conditions as the Secretary deems appropriate and consistent with the purposes of this Act. Such terms and conditions shall require the following:

Terms and conditions.

(1) The Indian tribe and any person holding any interest in such land shall execute a waiver (A) releasing the United States of any liability or claim thereof by such tribe or person concerning such remedial action and (B) holding the United States harmless against any claim arising out of the performance of any such remedial action.

(2) The remedial action shall be selected and performed in accordance with section 108 by the Secretary or such person as he may designate.

(3) The Secretary, the Commission, and the Administrator and their authorized representatives shall have a permanent right of entry at any time to inspect such processing site in furtherance of the provisions of this title, to carry out such agreement, and to enforce any rules prescribed under this Act.

Each agreement under this section shall take effect only upon concurrence of the Commission with the terms and conditions thereof.

(b) When the Secretary with the concurrence of the Commission determines removal of residual radioactive materials from a process-

ing site on lands described in subsection (a) to be appropriate, he shall provide, consistent with other applicable provisions of law, a site or sites for the permanent disposition and stabilization in a safe and environmentally sound manner of such residual radioactive materials. Such materials shall be transferred to the Secretary (without payment therefor by the Secretary) and permanently retained and maintained by the Secretary under the conditions established in a license issued by the Commission, subject to section 104(f)(2) and (h).

Transfer to Secretary of the Interior.

ACQUISITION OF LAND BY SECRETARY

SEC. 106. Where necessary or appropriate in order to consolidate in a safe and environmentally sound manner the location of residual radioactive materials which are removed from processing sites under cooperative agreements under this title, or where otherwise necessary for the permanent disposition and stabilization of such materials in such manner— 42 USC 7916.

(1) the Secretary may acquire land and interests in land for such purposes by purchase, donation, or under any other authority of law or

(2) the Secretary of the Interior may make available public lands administered by him for such purposes in accordance with other applicable provisions of law.

Prior to acquisition of land under paragraph (1) or (2) of this subsection in any State, the Secretary shall consult with the Governor of such State. No lands may be acquired under such paragraph (1) or (2) in any State in which there is no (1) processing site designated under this title or (2) active uranium mill operation, unless the Secretary has obtained the consent of the Governor of such State. No lands controlled by any Federal agency may be transferred to the Secretary to carry out the purposes of this Act without the concurrence of the chief administrative officer of such agency. Consultation.

FINANCIAL ASSISTANCE

SEC. 107. (a) In the case of any designated processing site for which an agreement is executed with any State for remedial action at such site, the Secretary shall pay 90 per centum of the actual cost of such remedial action, including the actual costs of acquiring such site (and any interest therein) or any disposition site (and any interest therein) pursuant to section 103 of this title, and the State shall pay the remainder of such costs from non-Federal funds. The Secretary shall not pay the administrative costs incurred by any State to develop, prepare, and carry out any cooperative agreement executed with such State under this title, except the proportionate share of the administrative costs associated with the acquisition of lands and interests therein acquired by the State pursuant to this title. 42 USC 7917.

(b) In the case of any designated processing site located on Indian lands, the Secretary shall pay the entire cost of such remedial action.

REMEDIAL ACTION

SEC. 108. (a)(1) The Secretary or such person as he may designate shall select and perform remedial actions at designated processing sites and disposal sites in accordance with the general standards prescribed 42 USC 7918.

by the Administrator pursuant to section 275 a. of the Atomic Energy Act of 1954. The State shall participate fully in the selection and performance of a remedial action for which it pays part of the cost. Such remedial action shall be selected and performed with the concurrence of the Commission and in consultation, as appropriate, with the Indian tribe and the Secretary of the Interior.

Post, p. 3039.

(2) The Secretary shall use technology in performing such remedial action as will insure compliance with the general standards promulgated by the Administrator under section 275 a. of the Atomic Energy Act of 1954 and will assure the safe and environmentally sound stabilization of residual radioactive materials, consistent with existing law. No such remedial action may be undertaken under this section before the promulgation by the Administrator of such standards.

Evaluation.

(b) Prior to undertaking any remedial action at a designated site pursuant to this title, the Secretary shall request expressions of interest from private parties regarding the remilling of the residual radioactive materials at the site and, upon receipt of any expression of interest, the Secretary shall evaluate among other things the mineral concentration of the residual radioactive materials at each designated processing site to determine whether, as a part of any remedial action program, recovery of such minerals is practicable. The Secretary, with the concurrence of the Commission, may permit the recovery of such minerals, under such terms and conditions as he may prescribe to carry out the purposes of this title. No such recovery shall be permitted unless such recovery is consistent with remedial action. Any person permitted by the Secretary to recover such mineral shall pay to the Secretary a share of the net profits derived from such recovery, as determined by the Secretary. Such share shall not exceed the total amount paid by the Secretary for carrying out remedial action at such designated site. After payment of such share to the United States under this subsection, such person shall pay to the State in which the residual radioactive materials are located a share of the net profits derived from sucl. recovery, as determined by the Secretary. The person recovering such minerals shall bear all costs of such recovery. Any person carrying out mineral recovery activities under this paragraph shall be required to obtain any necessary license under the Atomic Energy Act of 1954 or under State law as permitted under section 274 of such Act.

42 USC 2021.

RULES

42 USC 7919.

SEC. 109. The Secretary may prescribe such rules consistent with the purposes of this Act as he deems appropriate pursuant to title V of the Department of Energy Organization Act.

ENFORCEMENT

42 USC 7920.

SEC. 110. (a)(1) Any person who violates any provision of this title or any cooperative agreement entered into pursuant to this title or any rule prescribed under this Act concerning any designated processing site, disposition site, or remedial action shall be subject to an assessment by the Secretary of a civil penalty of not more than $1,000 per day per violation. Such assessment shall be made by order after notice and an opportunity for a public hearing, pursuant to section 554 of title 5, United States Code.

Notice, hearing opportunity.

(2) Any person against whom a penalty is assessed under this section may, within sixty calendar days after the date of the order of

the Secretary assessing such penalty, institute an action in the United States court of appeals for the appropriate judicial circuit for judicial review of such order in accordance with chapter 7 of title 5, United States Code. The court shall have jurisdiction to enter a judgment affirming, modifying, or setting aside in whole or in part, the order of the Secretary, or the court may remand the proceeding to the Secretary for such further action as the court may direct. 5 USC 500 *et seq.* Jurisdiction.

(3) If any person fails to pay an assessment of a civil penalty after it has become a final and unappealable order, the Secretary shall institute an action to recover the amount of such penalty in any appropriate district court of the United States. In such action, the validity and appropriateness of such final assessment order or judgment shall not be subject to review. Section 402(d) of the Department of Energy Organization Act shall not apply with respect to the functions of the Secretary under this section. 42 USC 7172.

(4) No civil penalty may be assessed against the United States or any State or political subdivision of a State or any official or employee of the foregoing.

(5) Nothing in this section shall prevent the Secretary from enforcing any provision of this title or any cooperative agreement or any such rule by injunction or other equitable remedy.

(b) Subsection (a) shall not apply to any licensing requirement under the Atomic Energy Act of 1954. Such licensing requirements shall be enforced by the Commission as provided in such Act. 42 USC 2011 note.

PUBLIC PARTICIPATION

SEC. 111. In carrying out the provisions of this title, including the designation of processing sites, establishing priorities for such sites, the selection of remedial actions, and the execution of cooperative agreements, the Secretary, the Administrator, and the Commission shall encourage public participation and, where appropriate, the Secretary shall hold public hearings relative to such matters in the States where processing sites and disposal sites are located. 42 USC 7921.

TERMINATION; AUTHORIZATION

SEC. 112. (a) The authority of the Secretary to perform remedial action under this title shall terminate on the date seven years after the date of promulgation by the Administrator of general standards applicable to such remedial action unless such termination date is specifically extended by an Act of Congress enacted after the date of enactment of this Act. 42 USC 7922.

(b) The amounts authorized to be appropriated to carry out the purposes of this title by the Secretary, the Administrator, the Commission, and the Secretary of the Interior shall not exceed such amounts as are established in annual authorization Acts for fiscal year 1979 and each fiscal year thereafter applicable to the Department of Energy. Any sums appropriated for the purposes of this title shall be available until expended.

LIMITATION

SEC. 113. The authority under this title to enter into contracts or other obligations requiring the United States to make outlays may 42 USC 7923.

be exercised only to the extent provided in advance in annual authorization and appropriation Acts.

REPORTS TO CONGRESS

42 USC 7924.

SEC. 114. (a) Beginning on January 1, 1980, and each year thereafter until January 1, 1986, the Secretary shall submit a report to the Congress with respect to the status of the actions required to be taken by the Secretary, the Commission, the Secretary of the Interior, the Administrator, and the States and Indian tribes under this Act and any amendments to other laws made by this Act. Each report shall—

(1) include data on the actual and estimated costs of the program authorized by this title;

(2) describe the extent of participation by the States and Indian tribes in this program;

(3) evaluate the effectiveness of remedial actions, and describe any problems associated with the performance of such actions; and

(4) contain such other information as may be appropriate.

Such report shall be prepared in consultation with the Commission, the Secretary of the Interior, and the Administrator and shall contain their separate views, comments, and recommendations, if any. The Commission shall submit to the Secretary and Congress such portion of the report under this subsection as relates to the authorities of the Commission under title II of this Act.

(b) Not later than July 1, 1979, the Secretary shall provide a report to the Congress which identifies all sites located on public or acquired lands of the United States containing residual radioactive materials and other raidoactive waste (other than waste resulting from the production of electric energy) and specifies which Federal agency has jurisdiction over such sites. The report shall include the identity of property and other structures in the vicinity of such site that are contaminated or may be contaminated by such materials and the actions planned or taken to remove such materials. The report shall describe in what manner such sites are adequately stabilized and otherwise controlled to prevent radon diffusion from such sites into the environment and other environmental harm. If any site is not so stabilized or controlled, the report shall describe the remedial actions planned for such site and the time frame for performing such actions. In preparing the reports under this section, the Secretary shall avoid duplication of previous or ongoing studies and shall utilize all information available from other departments and agencies of the United States respecting the subject matter of such report. Such agencies shall cooperate with the Secretary in the preparation of such report and furnish such information as available to them and necessary for such report.

Cooperation.

(c) Not later than January 1, 1980, the Administrator, in consultation with the Commission, shall provide a report to the Congress which identifies the location and potential health, safety, and environmental hazards of uranium mine wastes together with recommendations, if any, for a program to eliminate these hazards.

(d) Copies of the reports required by this section to be submitted to the Congress shall be separately submitted to the Committees on Interior and Insular Affairs and on Interstate and Foreign Commerce

of the House of Representatives and the Committee on Energy and Natural Resources of the Senate.

(e) The Commission, in cooperation with the Secretary, shall ensure that any relevant information, other than trade secrets and other proprietary information otherwise exempted from mandatory disclosure under any other provision of law, obtained from the conduct of each of the remedial actions authorized by this title and the subsequent perpetual care of those residual radioactive materials is documented systematically, and made publicly available conveniently for use.

ACTIVE OPERATIONS; LIABILITY FOR REMEDIAL ACTION

SEC. 115. (a) No amount may be expended under this title with respect to any site licensed by the Commission under the Atomic Energy Act of 1954 or by a State as permitted under section 274 of such Act at which production of any uranium product from ores (other than from residual radioactive materials) takes place. 42 USC 7925. 42 USC 2011 note. 42 USC 2021.

(b) In the case of each processing site designated under this title, the Attorney General shall conduct a study to determine the identity and legal responsibility which any person (other than the United States, a State, or Indian tribe) who owned or operated or controlled (as determined by the Attorney General) such site before the date of the enactment of this Act may have under any law or rule of law for reclamation or other remedial action with respect to such site. The Attorney General shall publish the results of such study, and provide copies thereof to the Congress, as promptly as practicable following the date of the enactment of this Act. The Attorney General, based on such study, shall, to the extent he deems it appropriate and in the public interest, take such action under any provision of law in effect when uranium was produced at such site to require payment by such person of all or any part of the costs incurred by the United States for such remedial action for which he determines such person is liable. Study.

TITLE II—URANIUM MILL TAILINGS LICENSING AND REGULATION DEFINITION

SEC. 201. Section 11e. of the Atomic Energy Act of 1954, is amended to read as follows: 42 USC 2014.

"e. The term 'byproduct material' means (1) any radioactive material (except special nuclear material) yielded in or made radioactive by exposure to the radiation incident to the process of producing or utilizing special nuclear material, and (2) the tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content." "Byproduct material."

CUSTODY OF DISPOSAL SITE

SEC. 202. (a) Chapter 8 of the Atomic Energy Act of 1954, is amended by adding the following new section at the end thereof: 42 USC 2111 *et seq.*

"SEC. 83. OWNERSHIP AND CUSTODY OF CERTAIN BYPRODUCT MATERIAL AND DISPOSAL SITES.— 42 USC 2113.

"a. Any license issued or renewed after the effective date of this section under section 62 or section 81 for any activity which results in the production of any byproduct material, as defined in section 11e. 42 USC 2002, 2111. 42 USC 2014.

(2), shall contain such terms and conditions as the Commission determines to be necessary to assure that, prior to termination of such license—

"(1) the licensee will comply with decontamination, decommissioning, and reclamation standards prescribed by the Commission for sites (A) at which ores were processed primarily for their source material content and (B) at which such byproduct material is deposited, and

"(2) ownership of any byproduct material, as defined in section 11 e. (2), which resulted from such licensed activity shall be transferred to (A) the United States or (B) in the State in which such activity occurred if such State exercises the option under subsection b. (1) to acquire land used for the disposal of byproduct material.

42 USC 2014.

Any license in effect on the date of the enactment of this section shall either contain such terms and conditions on renewal thereof after the effective date of this section, or comply with paragraphs (1) and (2) upon the termination of such license, whichever first occurs.

Rule, regulation or order.

"(b)(1)(A) The Commission shall require by rule, regulation, or order that prior to the termination of any license which is issued after the effective date of this section, title to the land, including any interests therein (other than land owned by the United States or by a State) which is used for the disposal of any byproduct material, as defined by section 11 e. (2), pursuant to such license shall be transferred to—

"(A) the United States, or

"(B) the State in which such land is located, at the option of such State.

"(2) Unless the Commission determines prior to such termination that transfer of title to such land and such byproduct material is not necessary or desirable to protect the public health, safety, or welfare or to minimize or eliminate danger to life or property. Such determination shall be made in accordance with section 181 of this Act. Notwithstanding any other provision of law or any such determination, such property and materials shall be maintained pursuant to a license issued by the Commission pursuant to section 84(b) in such manner as will protect the public health, safety, and the environment.

"(B) If the Commission determines by order that use of the surface or subsurface estates, or both, of the land transferred to the United States or to a State under subparagraph (A) would not endanger the public health, safety, welfare, or environment, the Commission, pursuant to such regulations as it may prescribe, shall permit the use of the surface or subsurface estates, or both, of such land in a manner consistent with the provisions of this section. If the Commission permits such use of such land, it shall provide the person who transferred such land with the right of first refusal with respect to such use of such land.

"(2) If transfer to the United States of title to such byproduct material and such land is required under this section, the Secretary of Energy or any Federal agency designated by the President shall, following the Commission's determination of compliance under subsection c., assume title and custody of such byproduct material and land transferred as provided in this subsection. Such Secretary or Federal agency shall maintain such material and land in such manner as will protect the public health and safety and the environment. Such

custody may be transferred to another officer or instrumentality of the United States only upon approval of the President.

"(3) If transfer to a State of title to such byproduct material is required in accordance with this subsection, such State shall, following the Commission's determination of compliance under subsection d., assume title and custody of such byproduct material and land transferred as provided in this subsection. Such State shall maintain such material and land in such manner as will protect the public health, safety, and the environment.

"(4) In the case of any such license under section 62, which was in effect on the effective date of this section, the Commission may require, before the termination of such license, such transfer of land and interests therein (as described in paragraph (1) of this subsection) to the United States or a State in which such land is located, at the option of such State, as may be necessary to protect the public health, welfare, and the environment from any effects associated with such byproduct material. In exercising the authority of this paragraph, the Commission shall take into consideration the status of the ownership of such land and interests therein and the ability of the licensee to transfer title and custody thereof to the United States or a State. 42 USC 2092.

"(5) The Commission may, pursuant to a license, or by rule or order, require the Secretary or other Federal agency or State having custody of such property and materials to undertake such monitoring, maintenance, and emergency measures as are necessary to protect the public health and safety and such other actions as the Commission deems necessary to comply with the standards promulgated pursuant to section 84 of this Act. The Secretary or such other Federal agency is authorized to carry out maintenance, monitoring, and emergency measures, but shall take no other action pursuant to such license, rule or order, with respect to such property and materials unless expressly authorized by Congress after the date of enactment of this Act. *Post*, p. 3039.

"(6) The transfer of title to land or byproduct materials, as defined in section 11 e. (2), to a State or the United States pursuant to this subsection shall not relieve any licensee of liability for any fraudulent or negligent acts done prior to such transfer. 42 USC 2014.

"(7) Material and land transferred to the United States or a State in accordance with this subsection shall be transferred without cost to the United States or a State (other than administrative and legal costs incurred in carrying out such transfer). Subject to the provisions of paragraph (1)(B) of this subsection, the United States or a State shall not transfer title to material or property acquired under this subsection to any person, unless such transfer is in the same manner as provided under section 104(h) of the Uranium Mill Tailings Radiation Control Act of 1978.

"(8) The provisions of this subsection respecting transfer of title and custody to land shall not apply in the case of lands held in trust by the United States for any Indian tribe or lands owned by such Indian tribe subject to a restriction against alienation imposed by the United States. In the case of such lands which are used for the disposal of byproduct material, as defined in section 11 e. (2), the licensee shall be required to enter into such arrangements with the Commission as may be appropriate to assure the long-term maintenance and monitoring of such lands by the United States.

"c. Upon termination on any license to which this section applies, the Commission shall determine whether or not the licensee has com-

plied with all applicable standards and requirements under such license.".

Effective date. 42 USC 2113 note.

(b) This section shall be effective three years after the enactment of this Act.

(c) The table of contents for chapter 8 of the Atomic Energy Act of 1954, is amended by inserting the following new item after the item relating to section 82:

"Sec. 83. Ownership and custody of certain byproduct material and disposal sites.".

AUTHORITY TO ESTABLISH CERTAIN REQUIREMENTS

42 USC 2201.

SEC. 203. Section 161 of the Atomic Energy Act of 1954, is amended by adding the following new subsection at the end thereof:

"x. Establish by rule, regulation, or order, after public notice, and 42 USC 2231. in accordance with the requirements of section 181 of this Act, such standards and instructions as the Commission may deem necessary or desirable to ensure—

"(1) that an adequate bond, surety, or other financial arrangement (as determined by the Commission) will be provided, before termination of any license for byproduct material as 42 USC 2014. defined in section 11 e. (2), by a licensee to permit the completion of all requirements established by the Commission for the decontamination, decommissioning, and reclamation of sites, structures, and equipment used in conjunction with byproduct material as so defined, and

"(2) that—

"(A) in the case of any such license issued or renewed after the date of the enactment of this subsection, the need for long term maintenance and monitoring of such sites, structures and equipment after termination of such license will be minimized and, to the maximum extent practicable, eliminated; and

"(B) in the case of each license for such material (whether in effect on the date of the enactment of this section or issued or renewed thereafter), if the Commission determines that any such long-term maintenance and monitoring is necessary, the licensee, before termination of any license for byproduct material as defined in section 11 e. (2), will make available such bonding, surety, or other financial arrangements as may be necessary to assure such long-term maintenance and monitoring.

Such standards and instructions promulgated by the Commission pursuant to this subsection shall take into account, as determined by the Commission, so as to avoid unnecessary duplication and expense, performance bonds or other financial arrangements which are required by other Federal agencies or State agencies and/or other local governing bodies for such decommissioning, decontamination, and reclamation and long-term maintenance and monitoring except that nothing in this paragraph shall be construed to require that the Commission accept such bonds or arrangements if the Commission determines that such bonds or arrangements are not adequate to carry out subparagraphs (1) and (2) of this subsection.".

COOPERATION WITH STATES

42 USC 2021.

SEC. 204. (a) Section 274 b. of the Atomic Energy Act of 1954, is amended by adding "as defined in section 11 e. (1)" after the words

"byproduct materials" in paragraph (1) by renumbering paragraphs (2) and (3) as paragraphs (3) and (4); and by inserting the following new paragraph immediately after paragraph (1):

"(2) byproduct materials as defined in section 11 e. (2);".

(b) Section 274 d. (2) of such Act is amended by inserting the following before the word "compatible": "in accordance with the requirements of subsection o. and in all other respects". 42 USC 2021.

(c) Section 274 n. of such Act is amended by adding the following new sentence at the end thereof: "As used in this section, the term 'agreement' includes any amendment to any agreement.". "Agreement."

(d) Section 274 j. of such Act is amended—

(1) by inserting "all or part of" after "suspend";

(2) by inserting "(1)" after "finds that"; and

(3) by adding at the end before the period the following: ", or (2) the State has not complied with one or more of the requirements of this section. The Commission shall periodically review such agreements and actions taken by the States under the agreements to ensure compliance with the provisions of this section.". Review.

(e)(1) Section 274 of such Act is amended by adding the following new subsection at the end thereof:

"o. In the licensing and regulation of byproduct material, as defined in section 11 e. (2) of this Act, or of any activity which results in the production of byproduct material as so defined under an agreement entered into pursuant to subsection b., a State shall require—

"(1) compliance with the requirements of subsection b. of section 83 (respecting ownership of byproduct material and land), and

"(2) compliance with standards which shall be adopted by the State for the protection of the public health, safety, and the environment from hazards associated with such material which are equivalent, to the extent practicable, or more stringent than, standards adopted and enforced by the Commission for the same purpose, including requirements and standards promulgated by the Commission and the Administrator of the Environmental Protection Agency pursuant to sections 83, 84, and 275, and *Ante*, p. 3033.

"(3) procedures which— *Post*, p. 3039.

"(A) in the case of licenses, provide procedures under State law which include—

"(i) an opportunity, after public notice, for written comments and a public hearing, with a transcript,

"(ii) an opportunity for cross examination, and

"(iii) a written determination which is based upon findings included in such determination and upon the evidence presented during the public comment period and which is subject to judicial review;

"(B) in the case of rulemaking, provide an opportunity for public participation through written comments or a public hearing and provide for judicial review of the rule;

"(C) require for each license which has a significant impact on the human environment a written analysis (which shall be available to the public before the commencement of any such proceedings) of the impact of such license, including any activities conducted pursuant thereto, on the environment, which analysis shall include—

"(i) an assessment of the radiological and nonradiological impacts to the public health of the activities to be conducted pursuant to such license;

"(ii) an assessment of any impact on any waterway and groundwater resulting from such activities;

"(iii) consideration of alternatives, including alternative sites and engineering methods, to the activities to be conducted pursuant to such license; and

"(iv) consideration of the long-term impacts, including decommissioning, decontamination, and reclamation impacts, associated with activities to be conducted pursuant to such license, including the management of any byproduct material, as defined by section 11 e. (2); and

"(D) prohibit any major construction activity with respect to such material prior to complying with the provisions of subparagraph (C).

If any State under such agreement imposes upon any licensee any requirement for the payment of funds to such State for the reclamation or long-term maintenance and monitoring of such material, and if transfer to the United States of such material is required in accordance with section 83 b. of this Act, such agreement shall be amended by the Commission to provide that such State shall transfer to the United States upon termination of the license issued to such licensee the total amount collected by such State from such licensee for such purpose. If such payments are required, they must be sufficient to ensure compliance with the standards established by the Commission pursuant to section 161 x. of this Act. No State shall be required under paragraph (3) to conduct proceedings concerning any license or regulation which would duplicate proceedings conducted by the Commission.".

Ante, p. 3033.

42 USC 2201.

42 USC 2021. (f) Section 274 c. of such Act is amended by inserting the following new sentence after paragraph (4) thereof: "The Commission shall also retain authority under any such agreement to make a determination that all applicable standards and requirements have been met prior to termination of a license for byproduct material, as defined in section 11 e. (2).".

42 USC 2014.

42 USC 2021 note. (g) Nothing in any amendment made by this section shall preclude any State from exercising any other authority as permitted under the Atomic Energy Act of 1954 respecting any byproduct material, as defined in section 11 e. (2) of the Atomic Energy Act of 1954.

42 USC 2021 note. (h)(1) On or before the date three years after the date of the enactment of this Act, notwithstanding any amendment made by this title, any State may exercise any authority under State law respecting byproduct material, as defined in section 11 e. (2) of the Atomic Energy Act of 1954, in the same manner, and to the same extent, as permitted before the enactment of this Act.

(2) An agreement entered into with any State as permitted under section 274 of the Atomic Energy Act of 1954 with respect to byproduct material as defined in section 11 e. (2) of such Act, may be entered into at any time after the date of the enactment of this Act but no such agreement may take effect before the date three years after the date of the enactment of this Act.

AUTHORITIES OF COMMISSION RESPECTING CERTAIN BYPRODUCT MATERIAL

SEC. 205. (a) Chapter 8 of the Atomic Energy Act of 1954, is amended by adding the following new section at the end thereof: 42 USC 2111 *et seq.*

"SEC. 84. AUTHORITIES OF COMMISSION RESPECTING CERTAIN BYPRODUCT MATERIAL.— 42 USC 2114.

"a. The Commission shall insure that the management of any byproduct material, as defined in section 11 e. (2), is carried out in such manner as— 42 USC 2014.

"(1) the Commission deems appropriate to protect the public health and safety and the environment from radiological and nonradiological hazards associated with the processing and with the possession and transfer of such material,

"(2) conforms with applicable general standards promulgated by the Administrator of the Environmental Protection Agency under section 275, and *Infra.*

"(3) conforms to general requirements established by the Commission, with the concurrence of the Administrator, which are, to the maximum extent practicable, at least comparable to requirements applicable to the possession, transfer, and disposal of similar hazardous material regulated by the Administrator under the Solid Waste Disposal Act, as amended. 42 USC 6901 note.

"b. In carrying out its authority under this section, the Commission is authorized to— Rule, regulation or order.

"(1) by rule, regulation, or order require persons, officers, or instrumentalities exempted from licensing under section 81 of this Act to conduct monitoring, perform remedial work, and to comply with such other measures as it may deem necessary or desirable to protect health or to minimize danger to life or property, and in connection with the disposal or storage of such byproduct material; and 42 USC 2111.

"(2) make such studies and inspections and to conduct such monitoring as may be necessary.

Any violation by any person other than the United States or any officer or employee of the United States or a State of any rule, regulation, or order or licensing provision, of the Commission established under this section or section 83 shall be subject to a civil penalty in the same manner and in the same amount as violations subject to a civil penalty under section 234. Nothing in this section affects any authority of the Commission under any other provision of this Act.". Civil penalty. *Ante*, p. 3033. 42 USC 2282.

(b) The first sentence of section 81 of the Atomic Energy Act of 1954, is amended to read as follows: "No person may transfer or receive in interstate commerce, manufacture, produce, transfer, acquire, own, possess, import, or export any byproduct material, except to the extent authorized by this section, section 82 or section 84.". 42 USC 2111. 42 USC 2112.

(c) The table of contents for such chapter 8 is amended by inserting the following new item after the item relating to section 83: *Supra.*

"Sec. 84. Authorities of Commission respecting certain byproduct material".

AUTHORITY OF ENVIRONMENTAL PROTECTION AGENCY RESPECTING CERTAIN BYPRODUCT MATERIAL

SEC. 206. (a) Chapter 19 of the Atomic Energy Act of 1954, is amended by inserting after section 274 the following new section: 42 USC 2021.

"SEC. 275. HEALTH AND ENVIRONMENTAL STANDARDS FOR URANIUM MILL TAILINGS.— 42 USC 2022.

Rule.

"a. As soon as practicable, but not later than one year after the date of enactment of this section, the Administrator of the Environmental Protection Agency (hereinafter referred to in this section as the 'Administrator') shall, by rule, promulgate standards of general application (including standards applicable to licenses under section 104(h) of the Uranium Mill Tailings Radiation Control Act of 1978) for the protection of the public health, safety, and the environment from radiological and nonradiological hazards associated with residual radioactive materials (as defined in section 101 of the Uranium Mill Tailings Radiation Control Act of 1978) located at inactive uranium mill tailings sites and depository sites for such materials selected by the Secretary of Energy, pursuant to title I of the Uranium Mill Tailings Radiation Control Act of 1978. Standards promulgated pursuant to this subsection shall, to the maximum extent practicable, be consistent with the requirements of the Solid Waste Disposal Act, as amended. The Administrator may periodically revise any standard promulgated pursuant to this subsection.

42 USC 6901 note.

Rule.

"b. (1) As soon as practicable, but not later than eighteen months after the enactment of this section, the Administrator shall, by rule, promulgate standards of general application for the protection of the public health, safety, and the environment from radiological and nonradiological hazards associated with the processing and with the possession, transfer, and disposal of byproduct material, as defined in section 11 e. (2) of this Act, at sites at which ores are processed primarily for their source material content or which are used for the disposal of such byproduct material.

42 USC 2014.

"(2) Such generally applicable standards promulgated pursuant to this subsection for nonradiological hazards shall provide for the protection of human health and the environment consistent with the standards required under subtitle C of the Solid Waste Disposal Act, as amended, which are applicable to such hazards: *Provided, however,* That no permit issued by the Administrator is required under this Act or the Solid Waste Disposal Act, as amended, for the processing, possession, transfer, or disposal of byproduct material, as defined in section 11 e. (2) of this Act. The Administrator may periodically revise any standard promulgated pursuant to this subsection. Within three years after such revision of any such standard, the Commission and any State permitted to exercise authority under section 274 b. (2) shall apply such revised standard in the case of any license for byproduct material as defined in section 11 e. (2) or any revision thereof.

42 USC 2021.

Publication in Federal Register. Notice, hearing opportunity.

"c. (1) Before the promulgation of any rule pursuant to this section, the Administrator shall publish the proposed rule in the Federal Register, together with a statement of the research, analysis, and other available information in support of such proposed rule, and provide a period of public comment of at least thirty days for written comments thereon and an opportunity, after such comment period and after public notice, for any interested person to present oral data, views, and arguments at a public hearing. There shall be a transcript of any such hearing. The Administrator shall consult with the Commission and the Secretary of Energy before promulgation of any such rule.

Consultation.

Judicial review.

"(2) Judicial review of any rule promulgated under this section may be obtained by any interested person only upon such person filing

a petition for review within sixty days after such promulgation in the United States court of appeals for the Federal judicial circuit in which such person resides or has his principal place of business. A copy of the petition shall be forthwith transmitted by the clerk of court to the Administrator. The Administrator thereupon shall file in the court the written submissions to, and transcript of, the written or oral proceedings on which such rule was based as provided in section 2112 of title 28, United States Code. The court shall have jurisdiction to review the rule in accordance with chapter 7 of title 5, United States Code, and to grant appropriate relief as provided in such chapter. The judgment of the court affirming, modifying, or setting aside, in whole or in part, any such rule shall be final, subject to judicial review by the Supreme Court of the United States upon certiorari or certification as provided in section 1254 of title 28, United States Code. 5 USC 701 *et seq.*

"(3) Any rule promulgated under this section shall not take effect earlier than sixty calendar days after such promulgation.

"d. Implementation and enforcement of the standards promulgated pursuant to subsection b. of this section shall be the responsibility of the Commission in the conduct of its licensing activities under this Act. States exercising authority pursuant to section 274 b. (2) of this Act shall implement and enforce such standards in accordance with subsecton o. of such section. 42 USC 2021.

"e. Nothing in this Act applicable to byproduct material, as defined in section 11 e. (2) of this Act, shall affect the authority of the Administrator under the Clean Air Act of 1970, as amended, or the Federal Water Pollution Control Act, as amended.". 42 USC 2014. 42 USC 7401 note.

(b) The table of contents for chapter 19 of the Atomic Energy Act is amended by inserting the following new item after the item relating to section 274: 33 USC 1251 note. 42 USC 2018 *et seq.*

"Sec. 275. Health and environmental standards for uranium mill tailings.".

AUTHORIZATION OF APPROPRIATION FOR GRANTS

SEC. 207. There is hereby authorized to be appropriated for fiscal year 1980 to the Nuclear Regulatory Commission not to exceed $500,000 to be used for making grants to States which have entered into agreements with the Commission under section 274 of the Atomic Energy Act of 1954, to aid in the development of State regulatory programs under such section which implement the provisions of this Act.

EFFECTIVE DATE

SEC. 208. Except as otherwise provided in this title the amendments made by this title shall take effect on the date of the enactment of this Act. 42 USC 2014 note.

CONSOLIDATION OF LICENSES AND PROCEDURES

SEC. 209. The Nuclear Regulatory Commission shall consolidate, to the maximum extent practicable, licenses and licensing procedures under amendments made by this title with licenses and licensing procedures under other authorities contained in the Atomic Energy Act of 1954. 42 USC 2113 note. 42 USC 2011 note.

TITLE III—STUDY AND DESIGNATION OF TWO MILL TAILINGS SITES IN NEW MEXICO

STUDY

42 USC 7941.

SEC. 301. The Commission, in consultation with the Attorney General and the Attorney General of the State of New Mexico, shall conduct a study to determine the extent and adequacy of the authority of the Commission and the State of New Mexico to require, under the Atomic Energy Act of 1954 (as amended by title II of this Act) or under State authority as permitted under section 274 of such Act or under other provision of law, the owners of the following active uranium mill sites to undertake appropriate action to regulate and control all residual radioactive materials at such sites to protect public health, safety, and the environment: the former Homestake-New Mexico Partners site near Milan, New Mexico, and the Anaconda carbonate process tailings site near Bluewater, New Mexico. Such study shall be completed and a report thereof submitted to the Congress and to the Secretary within one year after enactment of this Act, together with such recommendations as may be appropriate. If the Commission determines that such authority is not adequate to regulate and control such materials at such sites in the manner provided in the first sentence of this section, the Commission shall include in the report a statement of the basis for such determination. Nothing in this Act shall be construed to prevent or delay action by a State as permitted under section 274 of the Atomic Energy Act of 1954 or under any other provision of law or by the Commission to regulate such residual radioactive materials at such sites prior to completion of such study.

42 USC 2021.

Report to Congress.

DESIGNATION BY SECRETARY

42 USC 7942.

SEC. 302. (a) Within ninety days from the date of his receipt of the report and recommendations submitted by the Commission under section 301, notwithstanding the limitations contained in section 101(6)(A) and in section 115(a), if the Commission determines, based on such study, that such sites cannot be regulated and controlled by the State or the Commission in the manner described in section 301, the Secretary may designate either or both of the sites referred to in section 301 as a processing site for purposes of title I. Following such designation, the Secretary may enter into cooperative agreements with New Mexico to perform remedial action pursuant to such title concerning only the residual radioactive materials at such site resulting from uranium produced for sale to a Federal agency prior to January 1, 1971, under contract with such agency. Any such designation shall be submitted by the Secretary, together with his estimate of the cost of carrying out such remedial action at the designated site, to the Committee on Interior and Insular Affairs and the Committee on Interstate and Foreign Commerce of the House of Representatives and to the Committee on Energy and Natural Resources of the Senate.

Submittal to congressional committees.

(b)(1) No designation under subsection (a) shall take effect before the expiration of one hundred and twenty calendar days (not including any day in which either House of Congress is not in session

because of an adjournment of more than three calendar days to a day certain or an adjournment sine die) after receipt by such Committees of such designation.

(c) Except as otherwise specifically provided in subsection (a), any remedial action under title I with respect to any sites designated under this title shall be subject to the provisions of title I (including the authorization of appropriations referred to in section 112(b)).

Approved November 8, 1978.

LEGISLATIVE HISTORY:

HOUSE REPORT No. 95-1480, Pt. I (Comm. on Interior and Insular Affairs) and Pt. II (Comm. on Interstate and Foreign Commerce).

CONGRESSIONAL RECORD, Vol. 124 (1978):

Oct. 3, considered and passed House.

Oct. 13, considered and passed Senate, amended.

Oct. 14, House concurred in Senate amendment with amendments.

Oct. 15, Senate concurred in House amendment.

APPENDIX B

BIBLIOGRAPHY

BIBLIOGRAPHY

1. Ford, Bacon & Davis Utah Inc., "Phase II - Title I Engineering Assessment of Inactive Uranium Mill Tailings, Monument Valley Site Monument Valley, Arizona," GJT-4, March 31, 1977.

2. Ford, Beacon & Davis Utah Inc., "Phase II - Title I Engineering Assessment of Inactive Uranium Mill Tailings, Tuba City Site, Tuba City, Arizona," GJT-5, March 31, 1977.

3. Ford, Bacon & Davis Utah Inc., "Phase II - Title I Engineering Assessment of Inactive Uranium Mill Tailings, Durango Site, Durango, Colorado," GJT-6, November 1977.

4. Ford, Bacon & Davis Utah Inc., "Phase II - Title I Engineering Assessment of Inactive Uranium Mill Tailings, Grand Junction Site, Grand Junction, Colorado," GJT-9, October 1977.

5. Ford, Bacon & Davis Utah Inc., "Phase II - Title I Engineering Assessment of Inactive Uranium Mill Tailings, Gunnison Site, Gunnison, Colorado," GJT-12, November 1977.

6. Ford, Bacon & Davis Utah Inc., "Phase II - Title I Engineering Assessment of Inactive Uranium Mill Tailings, Maybell Site, Maybell, Colorado," GJT-11, October 1977.

7. Ford, Bacon & Davis Utah Inc., "Phase II - Title I Engineering Assessment of Inactive Uranium Mill Tailings, Naturita Site, Naturita, Colorado," GJT-8, November 1977.

8. Ford, Bacon & Davis Utah Inc., "Phase II - Title I Engineering Assessment of Inactive Uranium Mill Tailings, New and Old Rifle Sites, Rifle, Colorado," GJT-10, October 1977.

9. Ford, Bacon & Davis Utah Inc., "Phase II - Title I Engineering Assessment of Inactive Uranium Mill Tailings, Slick Rock Sites, Slick Rock, Colorado," GJT-7, October 1977.

10. Ford, Bacon & Davis Utah Inc., "Phase II - Title I Engineering Assessment of Inactive Uranium Mill Tailings, Lowman Site, Lowman, Idaho," GJT-17, December 1977.

11. Ford, Bacon & Davis Utah Inc., "Phase II - Title I Engineering Assessment of Inactive Uranium Mill Tailings, Phillips/United Nuclear Site, Ambrosia Lake, New Mexico," GJT-13, December 1977.

12. Ford, Bacon & Davis Utah Inc., "Phase II - Title I Engineering Assessment of Inactive Uranium Mill Tailings, Shiprock Site, Shiprock, New Mexico," GJT-2, March 31, 1977.

13. Ford, Bacon & Davis Utah Inc., "Phase II - Title I Engineering Assessment of Inactive Uranium Mill Tailings, Lakeview Site, Lakeview, Oregon," GJT-18, December 1977.

14. Ford, Bacon & Davis Utah Inc., "Engineering Evaluation of the Former Vitro Rare Metals Plants, Canonsburg, Pennsylvania," FBDU 230-002, July 1979.

15. Ford, Bacon & Davis Utah Inc., "Phase II - Title I Engineering Assessment of Inactive Uranium Mill Tailings, Falls City Site, Falls City, Texas," GJT-16, December 1977.

16. Ford, Bacon & Davis Utah Inc., "Phase II - Title I Engineering Assessment of Inactive Uranium Mill Tailings, Green River Site, Green River, Utah," GJT-1, December 1977.

17. Ford, Bacon & Davis Utah Inc., "Phase II - Title I Engineering Assessment of Inactive Uranium Mill Tailings, Mexican Hat Site, Mexican Hat, Utah," GJT-3, March 31, 1977.

18. Ford, Bacon & Davis Utah Inc., "Phase II - Title I Engineering Assessment of Inactive Uranium Mill Tailings, Vitro Site, Salt Lake City, Utah," April 30, 1976.

19. Ford, Bacon & Davis Utah Inc., "Phase II - Title I Engineering Assessment of Inactive Uranium Mill Tailings, Spook Site, Converse County, Wyoming," GJT-15, December 1977.

20. Ford, Bacon & Davis Utah Inc., "Phase II - Title I Engineering Assessment of Inactive Uranium Mill Tailings, Riverton Site, Riverton, Wyoming," GJT-19, December 1977.

21. U.S. Department of Energy, Progress Report on the Grand Junction Uranium Mill Tailings Remedial Action Program, February 1979.

22. U.S. Department of Energy, Report on Residual Radioactive Materials on Public or Acquired Lands of the United States, July 1, 1979.

23. U.S. Department of Energy, Annual Status Report on the Inactive Uranium Mill Tailings Sites Remedial Action Program, December 1979.

24. Public Law 95-604, "Uranium Mill Tailings Radiation Control Act of 1978", November 8, 1978.

25. U.S. Atomic Energy Commission, "Phase I - Reports on Conditions of Inactive Uranium Mill Sites and Tailings in the Western United States", Grand Junction, Colorado, 1974.

26. U.S. Environmental Protection Agency, "Environmental Surveys of the Uranium Mill Tailings Pile and Surrounding Areas", Salt Lake City, Utah, August 1974.

27. U.S. Department of Energy, "Formerly Utilized MED/AEC Sites Remedial Action Program Radiological Survey of the Former Vitro Rare Metals Plant, Canonsburg, Pennsylvania", June 1979.

28. Oak Ridge National Laboratory, "Assessment of Radiological Impact of the Inactive Uranium-Mill Tailings Pile at Salt Lake City, Utah", November 1977.

29. Oak Ridge National Laboratory, "Assessment of the Radiological Impact of the Inactive Uranium-Mill Tailings at Shiprock, New Mexico", December 1979.

30. Oak Ridge National Laboratory, "Assessment of the Radiological Impact of the Inactive Uranium-Mill Tailings at Mexican Hat, Utah", March 1980.

31. Oak Ridge National Laboratory, "Assessment of the Radiological Impact of the Inactive Uranium-Mill Tailings Piles at Monument Valley, Arizona", December 1979.

32. Oak Ridge National Laboratory, "Radiological Survey of the Inactive Uranium-Mill Tailings at Tuba City, Arizona", January 1980.

33. Oak Ridge National Laboratory, "Radiological Survey of the Inactive Uranium-Mill Tailings at Durango, Colorado", March 1980.

34. Oak Ridge National Laboratory, "Radiological Survey of the Inactive Uranium-Mill Tailings at Slick Rock, Colorado", June 1980.

35. Oak Ridge National Laboratory, "Radiological Survey of the Inactive Uranium-Mill Tailings at Gunnison, Colorado", March 1980.

36. Oak Ridge National Laboratory, "Radiological Survey of the Inactive Uranium-Mill Tailings at Naturita, Colorado", March 1980.

37. Oak Ridge National Laboratory, "Radiological Survey of the Inactive Uranium-Mill Tailings at Rifle, Colorado", June 1980.

38. Oak Ridge National Laboratory, "Radiological Survey of the Inactive Uranium-Mill Tailings at Maybell, Colorado", March 1980.

39. Oak Ridge National Laboratory, "Assessment of the Radiological Impact of the Inactive Uranium-Mill Tailings at Grand Junction, Colorado", April 1980.

40. Oak Ridge National Laboratory, "Radiological Survey of the Inactive Uranium-Mill Tailings at Ambrosia Lake, New Mexico", June 1980.

41. Oak Ridge National Laboratory, "Radiological Survey of the Inactive Uranium-Mill Tailings at Green River, Utah", March 1980.

42. Oak Ridge National Laboratory, "Radiological Survey of the Inactive Uranium-Mill Tailings at the Spook Site, Converse County, Wyoming", May 1980.

43. Oak Ridge National Laboratory, "Radiological Survey of the Inactive Uranium-Mill Tailings at Riverton, Wyoming", March 1980.

44. Oak Ridge National Laboratory, "Radiological Survey of the Inactive Uranium-Mill Tailings at Ray Point, Texas", September 1980.

45. Oak Ridge National Laboratory, "Radiological Survey of the Inactive Uranium-Mill Tailings at Lakeview, Oregon", June 1980.

46. Oak Ridge National Laboratory, "Radiological Survey of the Radioactive Sands and Residues at Lowman, Idaho", August 1980.

47. EG&G Energy Measurements Group, "Summary Report, Aerial Radiological Survey Former Vitro Rare Metals Plant, Canonsburg, Pennsylvania", November 30, 1979.

48. Oak Ridge National Laboratory, Contribution to the Office of the Assistant Secretary for Environment Annual Status Report on the Inactive Uranium Mill Tailings Sites Remedial Action Program, August 11, 1980.

49. Monsanto Research Corporation, Contribution of the Mound Facility to the Office of the Assistant Secretary for Environment Annual Status Report on the Inactive Uranium Mill Tailings Sites Remedial Action Program, August 11, 1980.

50. Ford, Bacon & Davis Utah, Inc., "Engineering Evaluation of the Former Vitro Rare Metals Plant, Cannonsburg, Pennsylvania", July 1979.

☆ U.S. GOVERNMENT PRINTING OFFICE: 1981 — 341-076-3007