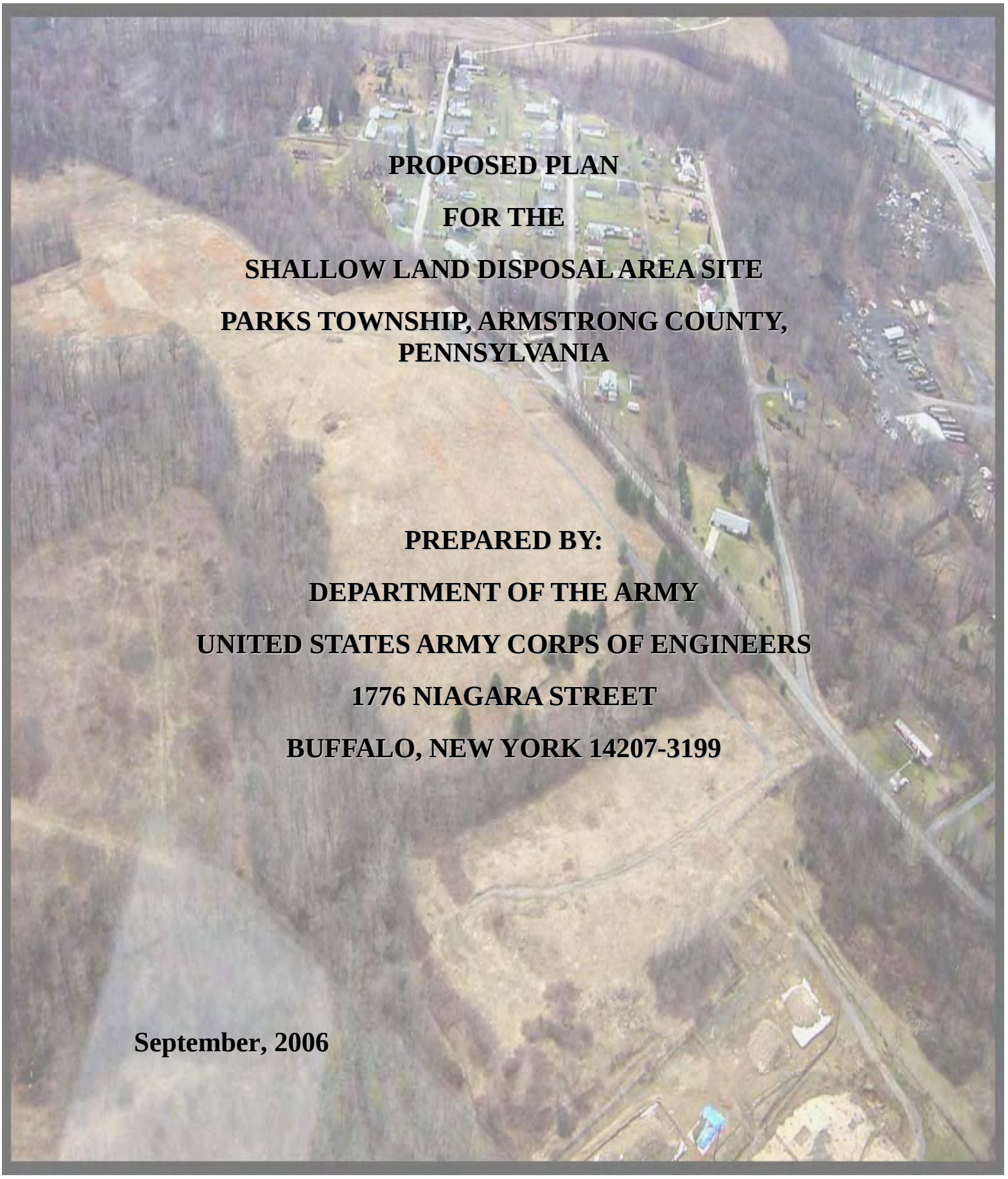

PROPOSED PLAN

FOR THE

SHALLOW LAND DISPOSAL AREA SITE

PARKS TOWNSHIP, ARMSTRONG COUNTY, PENNSYLVANIA

PREPARED BY:

DEPARTMENT OF THE ARMY

UNITED STATES ARMY CORPS OF ENGINEERS

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September, 2006

This Proposed Plan (PP) for the remediation of the SLDA Site was prepared by the United States Army Corps of Engineers (USACE), under its authority to conduct the Formerly Utilized Sites Remedial Action Program (FUSRAP). This Proposed Plan is being issued pursuant to the authority established in Section 8143 of the Fiscal Year 2002 Defense Appropriations Act, Public Law (P. L.)107-117. In Public Law 107-117, Section 8143(a)(2) (Jan. 10, 2002), Congress authorized USACE to "cleanup radioactive waste" at the SLDA, consistent with the Memorandum of Understanding (MOU) between USACE and the Nuclear Regulatory Commission (NRC) dated July 5, 2001, and subject to Public Law 106-60, Section 611, subsections (b) through (e). This legislation, in Section 8143(b), also directed USACE to seek to recover response costs incurred for the cleanup of SLDA from responsible parties in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 USC 9601 et seq., and authorized the use of FUSRAP appropriations for these purposes in Section 8143(c). Section 611 of P.L. 106-60 provides programmatic authority to USACE to select and conduct response actions at designated FUSRAP sites, subject to and in accordance with CERCLA and the National Oil and Hazardous Substances Pollution Contingency Plan, 40 CFR Part 300 (NCP). CERCLA and the NCP provide a process for characterizing the nature and extent of releases of hazardous substances, such as radionuclides, evaluating alternatives for remedial actions, proposing and considering state and public comments on a remedial action, and deciding upon and carrying out the remedial action. The MOU was entered into by USACE and the NRC to provide a process for interagency coordination on FUSRAP sites where the NRC has an existing regulatory responsibility in the form of an Atomic Energy Act license. The MOU is intended to address issues of coordination and public health and safety oversight during the course of FUSRAP remedial action work after the issuance of a FUSRAP Record of Decision (ROD) selecting a remedy. The MOU provides an established procedure for interagency consultation if the decommissioning criteria at 10 CFR Section 20.1402 are determined to be an Applicable or Relevant and Appropriate Regulation (ARAR) for the site. If 10 CFR Section 20.1402 is not selected as an ARAR, a site-specific consultation process will be developed. Once the ROD is issued for the SLDA Site establishing the ARAR(s) and the cleanup goals for the remedial action, then USACE will consult with the NRC to ensure that the interagency consultation procedures provided in the MOU are established or a site-specific consultation process is followed.

Based on the year 2002 legislation cited above and in accordance with CERCLA and the NCP, this PP has been prepared for the SLDA site to identify a preferred remedial action alternative for ensuring long-term protection of human health and the environment from the radioactive contamination at the site. The PP was based on the detailed analysis and evaluation of potential alternatives presented in the Feasibility Study (FS). The remedy will be formalized in the Record of Decision (ROD), which will be issued following public review and input on the PP.

USACE is addressing radiological contamination at the SLDA site, resulting from the disposal of radiologically contaminated waste from the nearby Apollo Nuclear Fuel Fabrication Facility. This facility was operated by the Nuclear Materials and Equipment Company (NUMEC) and used to convert enriched uranium to naval reactor fuel. Records show that this waste was disposed of in trenches at the SLDA between 1961 and 1970 in accordance with the United States Atomic Energy Commission (AEC) regulation in effect at the time, 10 CFR 20.304 (this regulation was rescinded in 1981). This Proposed Plan explains USACE's recommendation, the Preferred Alternative, to clean up radiological waste at the SLDA.

Based on information contained in the 2005 Remedial Investigation (RI) and 2006 Feasibility Study (FS) reports for the SLDA site and other relevant information, the USACE hereby proposes that the remedial action for the SLDA Site be the alternative designated as Alternative 5, Excavation, Treatment, and off-site Disposal described in this Proposed Plan. After evaluating this alternative pursuant to the criteria described in the NCP, 40 CFR Part 300.430(e)(9)(iii), USACE considers it to be protective of human health and the environment, implementable, and effective in the long and short term.

USACE invites members of the public to review the Proposed Plan and the supporting documents that further describe the conditions at the SLDA Site and the basis for this Proposed Plan. These documents may be found in the administrative record files for the SLDA Site available at the following locations:

U.S. Army Corps of Engineers, Pittsburgh District
1000 Liberty Avenue
Pittsburgh, Pennsylvania 15222

Apollo Memorial Library
219 North Pennsylvania Avenue
Apollo, Pennsylvania 15613

Members of the public who wish to comment on this Proposed Plan may submit their comments in writing to USACE at the following address:

U.S. Army Corps of Engineers, Pittsburgh District
1000 Liberty Avenue
Pittsburgh, Pennsylvania 15222
Attn: Public Affairs Officer

Please refer to this Proposed Plan, or to the SLDA Site, in any comments. All comments will be reviewed and considered by USACE in making its final decision on remedial actions to be conducted at the SLDA Site. Comments should be submitted no later than 30 days after the date of this Proposed Plan.

After the close of the public comment period, USACE will review all public comments, as well as the information contained in the administrative record file for this site, and any new information developed or received during the course of this public comment period. USACE will then make a final selection of the remedial action to be conducted at this site. This decision will be documented in a Record of Decision, which will be issued to the public, along with a response to all comments submitted regarding this Proposed Plan.

If there are any questions regarding the comment process, or the Proposed Plan, please direct them to the address noted above, or telephone Karen Auer, Public Affairs Officer, at 412-395-7106 or William Lenart, Project Manager, at 412-395-7377.

BRUCE A. BERWICK
Brigadier General, U. S. Army
Commanding

November, 2006

TABLE OF CONTENTS

ACRONYMS AND ABBREVIATIONS ..... **VI**

EXECUTIVE SUMMARY **1**

1.0 INTRODUCTION **4**

2.0 SITE BACKGROUND **6**

2.1 SITE LOCATION 6
2.2 SITE HISTORY 6
2.3 PREVIOUS ACTIVITIES 8

3.0 SITE CHARACTERIZATION **9**

3.1 SITE DESCRIPTION 9
3.2 GEOLOGY AND HYDROGEOLOGY 10
3.3 CONSTITUENTS OF CONCERN 11
3.4 IMPACTED AREAS 12

4.0 SCOPE AND ROLE OF THE RESPONSE ACTION **14**

5.0 SUMMARY OF SITE RISKS **15**

5.1 HUMAN HEALTH RISK ASSESSMENT 15
5.2 ECOLOGICAL RISK ASSESSMENT 17

6.0 REMEDIAL ACTION OBJECTIVES **18**

6.1 IDENTIFICATION OF REMEDIAL ACTION OBJECTIVES (RAOS) 18
6.2 APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (ARARS) 18
6.2.1 Introduction to ARARs *19*
6.2.2 Federal ARAR - 10 CFR 20, Subpart E *20*
6.3 SELECTED CLEANUP GOALS 21

7.0 SUMMARY OF REMEDIAL ALTERNATIVES **24**

7.1 ALTERNATIVE 1: NO ACTION 26
7.2 ALTERNATIVE 4: EXCAVATION, TREATMENT AND ON-SITE DISPOSAL 26
7.3 ALTERNATIVE 5: EXCAVATION, TREATMENT AND OFF-SITE DISPOSAL 27

8.0 EVALUATION OF REMEDIAL ALTERNATIVES **28**

8.1 OVERALL PROTECTION OF HUMAN HEALTH AND THE ENVIRONMENT 29
8.2 COMPLIANCE WITH ARARS 30
8.3 LONG-TERM EFFECTIVENESS AND PERMANENCE 30
8.4 REDUCTION OF TOXICITY, MOBILITY OR VOLUME THROUGH TREATMENT 31
8.5 SHORT-TERM EFFECTIVENESS 31
8.6 IMPLEMENTABILITY 32
8.7 COST 32
8.8 STATE ACCEPTANCE 33
8.9 COMMUNITY ACCEPTANCE 33

9.0 PREFERRED ALTERNATIVE **36**

10.0 COMMUNITY ROLE IN SELECTION PROCESS **38**

11.0 REFERENCES **39**

LIST OF TABLES

TABLE 1: FIELD SAMPLING PROGRAMS COMPELTED AT SLDA 8
TABLE 2: PRELIMINARY REMEDIATION GOALS (PRGs) FOR THE RADIONUCLIDES OF CONCERN (ROCS) AT THE SLDA 22
TABLE 3: BACKGROUND ACTIVITIES OF ROCS AT THE SLDAA 23
TABLE 4: DETAILED EVALUATION OF REMEDIAL ALTERNATIVES SHALLOW LAND DISPOSAL AREA 34
TABLE 5: COMPARATIVE EVALUATION OF REMEDIAL ALTERNATIVES FOR THE SLDA 35

LIST OF FIGURES

FIGURE 1 – SITE LOCATION MAP 42
FIGURE 2 – TOPOGRAPHY AND DEEP MINE WORKINGS 44
FIGURE 3 – APPROXIMATE EXCAVATION LIMITS 46
FIGURE 4 – DIGITAL ORTHOPHOTO 48
FIGURE 5 – STRATIGRAPHIC COLUMN 50

APPENDICES

APPENDIX A: PUBLIC LAW 107-117, SECTION 8143 52
APPENDIX B: MEMORANDUM OF UNDERSTANDING BETWEEN THE US NUCLEAR REGULATORY COMMISSION AND THE US ARMY CORPS OF ENGINEERS FOR COORDINATION OF CLEANUP & DECOMMISSIONING OF FUSRAP SITES WITH NRC LICENSES 55
APPENDIX C: 10 CFR 20.1402 & 20.1403 60
APPENDIX D: REAL ESTATE PLAN 64

ACRONYMS AND ABBREVIATIONS

AEC	Atomic Energy Commission
ALARA	As low as reasonably achievable
Am-241	americium-241
ANL	Argonne National Laboratory
ARAR	Applicable or relevant and appropriate requirement
ARCO	Atlantic Richfield Company
BCG	Biota Concentration Guidelines
bgs	Below ground surface
BNI	Bechtel National Incorporated
BRA	Baseline Risk Assessment
B&W	Babcock and Wilcox
BWXT	BWX Technologies, Inc.
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
COCs	Constituents of concern
cy	Cubic yards
DOE	Department of Energy
ERA	Ecological risk assessment
EU	Exposure Unit
FS	Feasibility Study
FUSRAP	Formerly Utilized Sites Remedial Action Program
FSSP	Final Status Survey Plan
HHRA	Human health risk assessment
HI	Hazard Index
LLW	low-level radioactive waste
MARSSIM	Multi-Agency Radiation Survey and Site Investigation Manual
MED	Manhattan Engineer District
MOU	Memorandum of Understanding
mrem/yr	millirem per year
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NMDR	Nuclear Material Discard Report
NRC	Nuclear Regulatory Commission
ORNL	Oak Ridge National Laboratory
PADEP	Pennsylvania Department of Environmental Protection
P. L.	Public Law
PP	Proposed Plan
PRG	Preliminary Remediation Goal
Pu-239	plutonium-239
Pu-241	plutonium-241
Ra-228	radium-228
RAGS	Risk Assessment Guidance for Superfund
RAO	Remedial Action Objective
RESRAD	RESidual RADioactivity (Computer Code)
RI	Remedial Investigation
RI/FS	Remedial Investigation/Feasibility Study
ROC	Radionuclide of Concern

ROD	Record of Decision
SLDA	Shallow Land Disposal Area
SLERA	Screening Level Ecological Risk Assessment
SOR	Sum of ratios
TBC	To be considered
TEDE	Total effective dose equivalent
Th-232	thorium-232
U-234	uranium-234
U-235	uranium-235
U-238	uranium-238
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
UTL	upper threshold limit

EXECUTIVE SUMMARY

Purpose

The Proposed Plan (PP) for the remediation of the Shallow Land Disposal Area (SLDA) Site was prepared by the United States Army Corps of Engineers (USACE), which is implementing the Formerly Utilized Sites Remedial Action Program (FUSRAP), in accordance with and subject to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

USACE is addressing radiological contamination at the SLDA site, as mandated in Section 8143 of the Fiscal Year 2002 Defense Appropriations Act, Public Law (P. L.) 107-117, which directs the Secretary of the Army, acting through the Chief of Engineers, to clean up radioactive waste at the SLDA site under the FUSRAP. This Proposed Plan (PP) explains USACE's recommendation, the Preferred Alternative, to address radiologically contaminated wastes, soils, and sediments at the SLDA Site.

This Proposed Plan only addresses radiological contamination on the site associated with the specified Radionuclides of Concern (ROCs), discussed in Section 6.3, and any non-radiological contamination that is commingled with these ROCs. This Proposed Plan does not address other potential site contamination that cannot be addressed by USACE under its FUSRAP authority.

Site History

In 1957, the Apollo Nuclear Fabrication Facility began operations in Apollo, Pennsylvania, under AEC license No. SNM-145. Between 1961 and 1970, Nuclear Materials and Equipment Corporation (NUMEC), who owned both the Apollo Facility and the SLDA, buried process and other wastes from the Apollo plant at the SLDA site. These wastes were buried in accordance with AEC regulation 10 CFR 20.304, "Disposal by Burial in Soil," which was subsequently rescinded in 1981. In 1967, NUMEC stock was bought by ARCO and the use of the SLDA for radioactive waste disposal was discontinued after 1970. In 1971, the Babcock & Wilcox Company (B&W) acquired NUMEC. In 1997, BWX Technologies, Inc. (BWXT) assumed ownership of the SLDA. Although BWXT is the current owner, ARCO retains environmental liability for the SLDA site.

Based on reports prepared by ARCO/B&W, and discussions with individuals familiar with disposal operations at SLDA, the waste materials were placed into a series of pits that were constructed adjacent to one another. From geophysical surveys performed at the site, these pits appear as linear trenches and are depicted on site drawings as trenches. These geophysical anomalies were labeled as "trenches 1 through 10"; this numbering scheme was based partially on the sequential construction and use of each trench (1 being the oldest trench and 9 being the most recently constructed trench in the upper trench area). Trench 10 is located in another part of the site and was used for disposal purposes throughout the 1960s and during 1970. Disposal activities at the SLDA site were reportedly terminated in 1970.

Under license SNM-2001, BWXT is required to properly maintain the site in order to ensure protection of workers and the public, and to eventually decommission the site in compliance with NRC regulations as part of its license termination activities (ORNL, 1997).

Remediation Plan for Radiologically Contaminated Waste, Soils, and Sediments
USACE has identified eight ROCs at the SLDA site: americium-241, plutonium-239, plutonium-241, radium-228, thorium-232, uranium-234, uranium-235, and uranium-238. After examining available historical data and performing a remedial investigation and baseline risk assessment, USACE has concluded that these eight ROCs have the potential to pose an unacceptable risk to human health to a resident farmer under the subsistence farmer future land-use scenario (USACE, 2005).

Within this Proposed Plan report, USACE profiles three remedial alternatives for the site. USACE's Preferred Alternative to remediate the radiological waste at the SLDA Site is Alternative 5: Excavation, Treatment, and Off-site Disposal. The cost of Alternative 5 is estimated to be approximately $35,500,000. The excavation, treatment, and off-site disposal alternative is considered to be the most protective of human health and the environment in the long term, and is a permanent remedy, as waste, soils, and sediments from the SLDA Site containing the ROCs in concentrations above the remediation goals established in the ROD using averaging methods allowed under the MARSSIM will be excavated and disposed off site at a properly licensed or permitted disposal facility. The cleanup goals were developed so the total effective dose equivalent (TEDE) after remediation would not exceed 25 millirem per year (mrem/yr) to a subsistence farmer living on the site. USACE has estimated that the volume of impacted media exceeding the cleanup levels which will need to be removed is about 23,500 cubic yards (cy).

Further evaluations and explanations associated with the contents of this Proposed Plan are contained in the Remedial Investigation Report (USACE 2005) and the Feasibility Study (USACE 2006). These and other documents regarding the SLDA site comprise the administrative record file and can be found at the following locations:

U.S. Army Corps of Engineers, Pittsburgh District
1000 Liberty Avenue
Pittsburgh, Pennsylvania 15222

Apollo Memorial Library
219 North Pennsylvania Avenue
Apollo, Pennsylvania 15613

Public Comment
The public is encouraged to review and comment on all of the alternatives identified in this report, especially the selection of the Preferred Alternative. USACE may modify the preferred alternative or select another alternative presented in this Proposed Plan based on new information or public and/or regulatory agency comments.

Comments on this proposed remedial action at the SLDA site will be accepted for 30 days following issuance of the Proposed Plan, in accordance with CERCLA. A public meeting will be conducted during the comment period to receive verbal comments from the public. Responses to the public comments and the final remedy selected for the SLDA Site will be documented in the Record of Decision (ROD) that will be published after all comments are addressed.

All written comments should be addressed to:

U.S. Army Corps of Engineers, Pittsburgh District
1000 Liberty Avenue
Pittsburgh, Pennsylvania 15222
Attn: Public Affairs Officer

1.0 INTRODUCTION

This Proposed Plan for the remediation of the SLDA Site was prepared by the USACE, under its authority to conduct the FUSRAP. This Proposed Plan is being issued pursuant to the authority established in Section 8143 of the Fiscal Year 2002 Defense Appropriations Act, (P. L.)107-117. In P. L. 107-117, Section 8143(a)(2) (Jan. 10, 2002)(Appendix A), Congress authorized USACE to "cleanup radioactive waste" at the SLDA, consistent with the Memorandum of Understanding (MOU) between USACE and the Nuclear Regulatory Commission (NRC) dated July 5, 2001 (Appendix B), and subject to P. L. 106-60, Section 611, subsections (b) through (e). This legislation, in Section 8143(b), also directed USACE to seek to recover response costs incurred for the cleanup of SLDA from responsible parties in accordance with CERCLA, 42 USC 9601 et seq., and authorized the use of FUSRAP appropriations for these purposes in Section 8143(c). Section 611 of P.L. 106-60 provides programmatic authority to USACE to select and conduct response actions at designated FUSRAP sites, subject to and in accordance with CERCLA and the National Oil and Hazardous Substances Pollution Contingency Plan, 40 CFR Part 300 (NCP). CERCLA and the NCP provide a process for characterizing the nature and extent of releases of hazardous substances, such as radionuclides, evaluating alternatives for remedial actions, proposing and considering state and public comments on a remedial action, and deciding upon and carrying out the remedial action. The MOU was entered into by USACE and the NRC to provide a process for interagency coordination on FUSRAP sites where the NRC has an existing regulatory responsibility in the form of an Atomic Energy Act license. The MOU is intended to address issues of coordination and public health and safety oversight during the course of FUSRAP remedial action work after the issuance of a FUSRAP Record of Decision (ROD) selecting a remedy. The MOU provides an established procedure for interagency consultation if the decommissioning criteria at 10 CFR Section 20.1402 are determined to be the FUSRAP cleanup criteria, or requires establishing site-specific consultation procedures if the decommissioning criteria at 10 CFR Section 20.1403 are determined to be the FUSRAP cleanup criteria. Once the ROD is issued for the SLDA Site establishing the ARAR(s) and the cleanup goals for the remedial action, then USACE will consult with the NRC to ensure that the interagency consultation procedures provided in the MOU are established and followed. This plan addresses only the constituents specified as ROCs in the RI and FS. These contaminants, and others that are commingled with the designated ROCs, are the only constituents that can be addressed under the USACE authority. Other commingled contaminants may include metals, solvents, and various organic contaminants suspected to be present in soils (USACE, 2005). These other contaminants, if not commingled with the designated ROCs, are outside the scope of USACE authority to address this response action. This document presents the three remedial alternatives considered by USACE, USACE's Preferred Alternative, and rationale concerning how best to address the contamination at the SLDA Site.

Two documents closely associated with this Proposed Plan are the Remedial Investigation Report (RI) (USACE 2005), and the Feasibility Study (FS) (USACE 2006). The RI describes the nature and extent of ROCs on the site and includes a Baseline Risk Assessment to evaluate the potential current and future threats to human health and the

environment posed by these constituents. The FS presents the detailed analysis of remedial alternatives that supports the Preferred Alternative described in the Proposed Plan.

The RI, FS, and other documents regarding the SLDA site are contained in the administrative record file at the following locations:

U.S. Army Corps of Engineers, Pittsburgh District
1000 Liberty Avenue
Pittsburgh, Pennsylvania 15222

Apollo Memorial Library
219 North Pennsylvania Avenue
Apollo, Pennsylvania 15613

The USACE encourages the public to review all available material about the SLDA site to gain a more comprehensive understanding of the site and FUSRAP activities that have been conducted at the SLDA site.

The final remedy decision will be documented in the Record of Decision (ROD). USACE may modify the preferred alternative or select another alternative based on new information or public and/or regulatory agency comments. Thus, the public is encouraged to review and comment on all of the alternatives identified herein.

This Proposed Plan only addresses radiological contamination on the site, as specified by authorizing legislation, and does not address other potential site contamination that is not eligible for response under FUSRAP.

2.0 SITE BACKGROUND

2.1 Site Location

The SLDA is in Armstrong County, Pennsylvania, about 23 miles (38 km) east-northeast of Pittsburgh, Pennsylvania (Figure 1). The site is currently owned by BWX Technologies, Inc. (BWXT) and is maintained under Nuclear Regulatory Commission (NRC) license SNM-2001. Atlantic Richfield Company (ARCO) retains environmental liability for the site. The SLDA site occupies approximately 44 acres (17.8 hectares) and is bounded by the community of Kiskimere to the southwest and vacant undeveloped land to the southeast and northeast. The former Parks Nuclear Fabrication facility site is located adjacent to and northwest of the SLDA site. The three buildings that comprised the Parks facility were decommissioned in 2000; the license was terminated and the property released for unrestricted use in 2004. Currently, the Parks site is vacant land owned by BWXT. Land use within the vicinity of the SLDA site is mixed, consisting of small residential communities, individual rural residences, small farms with croplands and pastures, idle farmland, forested areas, and light industrial properties.

2.2 Site History

A review of site history indicates that, in the early 1900s, the Upper Freeport Coal seam was deep-mined beneath the majority of the site (southeast of the High Wall). Subsurface mine voids and residual coal underlie the upper trenches at a depth of about 60 to 100 feet (18 to 31 meters) below ground surface (bgs). Later, coal was strip-mined where it outcropped at the northwestern end of the site (USACE, 2002). Figure 2 illustrates the extent of the deep mine workings beneath the site.

In 1957, the Apollo Nuclear Fabrication Facility began operations in Apollo, Pennsylvania, under AEC license No. SNM-145. From 1957 to 1962, the Apollo Facility was used for small-scale production of high- and low-enriched uranium and thorium fuel. By 1963, most of the Apollo facility was dedicated to continuous production of uranium fuel and, throughout its operation, the facility converted low-enriched uranium hexafluoride to uranium dioxide, which was used as fuel for commercial nuclear power plants. In 1963, a second product line was added to produce high-enriched uranium fuel for United States Navy propulsion reactors; other operations included analytical laboratories, scrap recovery, uranium storage, and research and development (ORNL, 1997).

Between 1961 and 1970, NUMEC, who owned both the Apollo Facility and the SLDA, buried process and other wastes from the Apollo plant at the SLDA site. According to site records, these wastes were buried in accordance with AEC regulation 10 CFR 20.304, “Disposal by Burial in Soil,” which was subsequently rescinded in 1981. In 1967, NUMEC stock was bought by ARCO and the use of the SLDA for radioactive waste disposal was discontinued in 1970. In 1971, the Babcock & Wilcox Company (B&W) acquired NUMEC. In 1997, BWX Technologies, Inc. (BWXT) assumed ownership of the SLDA. Although BWXT is the current owner, ARCO retains environmental liability for the SLDA site.

Records indicate that the uranium-contaminated materials disposed of at the SLDA are present at various levels of enrichment, ranging from depleted to enriched. Reported activity percentages indicate levels of enrichment from less than 0.2 percent uranium-235 (U-235) by weight, to greater than 45 percent. Analytical results from soil and leachate samples were consistent with the enriched uranium data reported in historical documents (USACE, 2005). Due to its economic value, NUMEC likely made significant efforts to limit the amount of enriched uranium wastes they disposed of at SLDA (USACE, 2002).

Based on reports prepared by ARCO/B&W, and discussions with individuals familiar with disposal operations at SLDA, the waste materials were placed into a series of pits that were constructed adjacent to one another. From geophysical surveys performed at the site, these pits appear as linear trenches and are depicted on site drawings as trenches. These geophysical anomalies were labeled as "trenches 1 through 10"; this numbering scheme was based partially on the sequential construction and use of each trench (1 being the oldest trench and 9 being the most recently constructed trench in the upper trench area). Trench 3 was actually a backfilled settling pond used during the exhumation of trenches 2, 4, and 5 in 1965. Trench 10 was excavated in coal strip mine spoils on the northwest side of the High Wall and was used for disposal purposes throughout the 1960s and during 1970. As previously stated, disposal activities at the SLDA site were reportedly terminated after 1970.

Documentation of radiological and chemical waste in the disposal trenches was not detailed and drawings of disposal areas were not located. The Nuclear Material Discard Reports (NMDRs) that comprise the bulk of the waste disposal documentation list only the materials of interest at the time of disposal (U-235, total uranium, and thorium). Any other information, such as the presence of specific metals, chemical compounds, or the waste origin process, was qualitative.

In 1965, NUMEC exhumed the contents of trenches 2, 4, and 5 to investigate discrepancies in the quantities and activities of uranium-containing wastes at SLDA (ARCO/B&W, 1995b). The materials removed from the trenches were placed on the ground south of the upper trenches and sorted. Some of the exhumed materials were placed back in the trenches in 1966, and the remainder was shipped off site for disposal at a low-level radioactive waste (LLW) disposal facility.

In 1986 and 1989, B&W completed soil remediation projects at the SLDA site to remove surface soils found to contain uranium isotopes at activity levels above the NRC guideline of 30 picoCuries per gram (pCi/g) for total uranium (NRC, 1981). There were no reports identified that describe the actual remediation work (e.g., excavation depths, volumes removed, etc.); however, confirmation sampling reports corresponding to each remediation project were reviewed (ORAU, 1987, 1990).

BWXT held a NRC license (SNM-414) for their Parks Township operations facilities, which, until 1995, included the area now defined as the SLDA. In 1995, the SLDA site was given a separate license (SNM-2001) in order to expedite decommissioning activities

at the Parks facilities. Following findings of SLDA-related contamination on Parks facilities property during a confirmatory survey, BWXT was granted an amendment to SNM-2001 in March 2002. This amendment added an approximately 12-acre (4.9-hectare) area, which was formerly part of the SNM-414 license, to the southeastern edge of the SLDA (SNM-2001). The 12-acre (4.9-hectare) parcel is shown in Figure 4. Under license SNM-2001, BWXT is required to properly maintain the site in order to ensure protection of workers and the public, and to eventually decommission the site in compliance with NRC regulations as part of its license termination activities (ORNL, 1997).

2.3 Previous Activities

Prior to the RI, numerous environmental investigations were completed at the SLDA over the past two decades. These activities are summarized in Table 1. The vast majority of the work was conducted by ARCO/B&W during the 1990s. These investigations focused on radiological and chemical contamination from past site operations potentially impacting the environment with special emphasis on the ten disposal trenches. The data generated during the site investigations and post-excavation confirmation sampling were evaluated; most of the data were used in determining the nature and extent of contamination. The details of these previous investigations and associated analytical results were presented in the RI report (USACE, 2005).

TABLE 1: FIELD SAMPLING PROGRAMS COMPELTED AT SLDA

PROGRAM	BY	DATE	TARGET MEDIA
Waste Exhumation Trenches 2, 4, and 5	NUMEC	1965	Waste
Health and Safety Monitoring	BWXT	1972-Present	Air, Soil, Water, Vegetation
Aerial Radiological Survey	EG&G Energy Measurements Group	1981	Soil
Radiological Survey	Oak Ridge Associated Universities	1981-1982	Air, Soil, Surface Water, Groundwater, Vegetation
Site Characterization	Babcock & Wilcox/ARCO	1990-1994	Soil Gas, Soil, Surface Water, Leachate, Groundwater, Sediment, Vegetation
Quarterly Monitoring Program	Babcock & Wilcox/ARCO	1991-Present	Surface Water, Groundwater
1995 Field Investigation	Babcock & Wilcox/ARCO	1995	Soil, Groundwater, Sediment, Leachate, Soil Gas
Fate and Transport Analysis	BWXT	1999	Groundwater

3.0 SITE CHARACTERIZATION

3.1 Site Description

The SLDA site is predominately an open field with wooded vegetation along most of the northeastern boundary and in the southeastern and southern corners. As shown on Figure 2, site topography slopes from the southeast to the northwest toward the Kiskiminetas River. The elevation decreases from about 945 feet (288 meters) above mean sea level (MSL) to about 830 feet (253 meters) above MSL in the northwestern end of the site. This is an elevation change of approximately 115 feet (35 meters) over a distance of approximately 1,000 feet (305 meters). A significant portion of this elevation drop occurs at the "High Wall" area in the northwestern end of the site where a bedrock outcrop is present (Fig. 4).

Surface water drainage from the site is primarily into Dry Run, an intermittent stream located along the north side of the site. During peak rain events, surface water in Dry Run flows off site across the adjacent former Parks facility property, and ultimately to the Kiskiminetas River (located approximately 800 feet [244 meters] northwest of SLDA). During dry or low flow conditions, the flow in Dry Run infiltrates into the mine spoils upstream of the High Wall and no surface water discharges to the Kiskiminetas River. The surface water consists of precipitation runoff and, to a much more limited degree, water from seeps along the banks of Dry Run.

The SLDA site occupies approximately 44 acres (17.8 hectares) and is bounded by Kiskimere Road to the southwest and vacant undeveloped land to the southeast and northeast. The former Parks Nuclear Fuel Fabrication Facility site is located adjacent to and northwest of the SLDA site. The three buildings that comprised the Parks facility were decommissioned in 2000; the license was terminated and the property released for unrestricted use in 2004. Currently, the Parks site is vacant land owned by BWXT. Land use within the vicinity of the SLDA site is mixed, consisting of small residential communities, individual rural residences, small farms with croplands and pastures, idle farmland, forested areas, and light industrial properties. Figure 4 presents a digital orthophoto illustrating the SLDA site, the former Parks facility, and vicinity properties.

The limited site improvements consist of a small storage building, access roads, electric service, three underground natural gas pipelines, and a chain link fence surrounding the site. Approximately seventy percent of the site is vegetated with grasses and annuals. Wooded areas are also present along the northeastern, southeastern, and southern portions of the site. The fenced area is posted and maintained by BWXT.

The community of Kiskimere is adjacent to and southwest of the site. Drinking water for the community of Kiskimere is obtained from the Beaver Run Reservoir and is supplied by the Parks Township Municipal Authority. According to the Authority, there are approximately 12 residences within 2,000 feet (610 meters) of SLDA that currently use private well water (USACE, 2003a&b). These residential wells are upgradient of the SLDA site, with respect to ground-water flow. Carnahan Run, a perennial stream feeding

into the Kiskiminetas River, is located approximately 2,000 feet (610 meters) southeast of the SLDA site.

3.2 Geology and Hydrogeology

The geology and hydrogeology at the SLDA site is complex due to the presence of the extensive coal mines and the several hydrogeologic zones. Surface soils southeast of the High Wall are described as Rainsboro silt-loam, which is classified as a deep and moderately well-drained silt loam with moderate to low permeability. Infiltration rates in the upper trench area are between 2.8x10-3 and 2.8x10-4 feet per day, (ft/day)(10-6 and 10-7 centimeters per second [cm/s])(USACE, 2002). The Rainsboro soils range in slope from less than 3 to 8 percent. When these soils are disturbed, they present a moderate erosion hazard.

The age of the near-surface geologic units in the SLDA site is typical of this region of Pennsylvania, and the units consist of sequences of sandstone, siltstone, claystone, shale, and coal. Several coal seams underlie the site, the uppermost of which, known as the Upper Freeport Coal, was strip mined and deep mined before 1950 within the boundaries of the SLDA.

The mine workings that underlie the upper trench area (Figure 2) (approximately 80 feet [24.4 meters] below ground surface) consist of a combination of room-and-pillar constructions and open mine haulage-ways. Potential collapse of mine structures predominantly overlain by shale, has been well documented and these site conditions at the SLDA site may lead to eventual development of trough-type subsidence (ARCO/B&W, 1995a).

The area northwest of the High Wall was strip mined and backfilled with mine spoil, which has a high erosion hazard potential. Hydraulic conductivity values in the mine spoils range from 269 to 5.7 ft/day (9.5x10-2 to 2.0x10-3 cm/s)(USACE, 2002).

The hydrogeologic system of the upper trench area is fundamentally different from that of the lower trench area. Trenches 1 through 9 were excavated into approximately 11 to 16 feet (3.4 to 4.9 meters) of Pleistocene terrace deposits that overlie 54 to 80 feet (16.5 to 24.4 meters) of shale and sandstone, which in turn overlie the Upper Freeport Coal seam. The bottom of trenches 1 through 9 rest on weathered shale bedrock. In general, retardation of uranium migration is relatively high due to the presence of the cohesive, fine-grained soils and carbonaceous shale beneath and adjacent to the upper trenches. The soils and weathered shale contain up to 3 percent organic matter and clay minerals that promote the adsorption of uranium and reduce migration.

Trench 10, located at the base of the High Wall in the lower elevations of the site, was excavated into coal mine spoils, where the Upper Freeport Coal seam was strip mined. The base of trench 10 rests on a clay and shale layer that lies beneath the Upper Freeport Coal seam.

In the upper trench area, the distribution of hydraulic head is strongly influenced by the open-channel flow that occurs in the abandoned mine workings within the Upper Freeport Coal seam. This influence creates a dominant vertical gradient in the surficial deposits. The hydraulic gradient in the shallow bedrock is in the direction of Dry Run, where several groundwater seeps were identified along the banks in the upper trench area. Groundwater flow and storage in the shallow bedrock layer, or Glenshaw Formation, are primarily in secondary features such as fractures and joints. Beneath the Upper Freeport coal seam is a layer of sandstone identified as the Deep Bedrock hydrogeologic unit. Although the community of Kiskimere is supplied with municipal water, groundwater is obtained from the Glenshaw formation for domestic purposes (i.e., private wells) in the SLDA area (ARCO/B&W, 1995b). The Glenshaw Formation lies above the Freeport coal seam and contains two shallow bedrock hydrostratigraphic units. A representative stratigraphic column showing these hydrogeologic zones is presented in Figure 5.

Groundwater flow within the mine spoils is along the underclay present between the coal and the Deep Bedrock zone. A significant component of groundwater flow within the mine spoils follows the dip of the underclay and ultimately enters the mine workings. Groundwater flow within the open mine is to the south. Because of the hydraulic properties of the mined coal seam (open channel flow), it is unlikely that contaminants from the trenches would migrate below the coal mine.

3.3 Constituents of Concern

The RI identified site features, assessed the nature and extent of contamination, evaluated risks to human health and the environment, and the FS evaluated remedial alternatives to address radiological contaminants at the SLDA Site. This Proposed Plan discusses the eight specific ROCs identified at the SLDA site: americium-241, plutonium-239, plutonium-241, radium-228, thorium-232, uranium-234, uranium-235, and uranium-238. Hereafter, references to ROCs in this document will pertain to these AEC-related constituents.

Radium is a naturally occurring element, found in small concentrations in soil, rocks, surface water, groundwater, plants and animals. Radium can be ingested or inhaled, and although much of the radium is excreted from the body, some of it may remain in the bloodstream or lungs and be carried throughout the body. Radium also is a source of radon gas, and exposure to radon is known to cause bone and lung cancer.

Thorium is a naturally occurring element, found in soil, rocks, surface water, groundwater, and plants. Thorium can be ingested or inhaled, and can cause lung, pancreatic, and hematopoietic cancers. Thorium is also known to attach to the skeletal system and cause bone cancer.

Uranium is also a naturally occurring element, found throughout the world in soils, geologic formations, water, animals and even some natural foods. As with the other ROCs, uranium can be ingested or inhaled. The most prevalent human health concerns of

uranium exposure occur through ingestion and can lead to bone cancer and kidney damage.

Americium is an artificially produced element most commonly used in smoke detectors. Most environmental americium was generated by atmospheric nuclear weapons testing and, as with other ROCs, americium is a threat only if taken into the body. Ingestion and inhalation are the primary exposure pathways of concern and the major health concern associated with americium is tumors from deposition on bone surfaces and the liver (ANL, 2005).

Plutonium is an artificially produced element used in nuclear weapons and nuclear power production. As with americium, most environmental plutonium was generated by atmospheric weapons testing and is only a health threat when taken into the body. Inhalation of airborne plutonium is the exposure path of primary concern, while the health hazards associated with ingested plutonium are low. Laboratory studies using experimental animals show target tissues in those animals to be the lungs and associated lymph nodes, liver, and bones (ANL, 2005).

3.4 Impacted Areas

Field sampling conducted during the RI shows that the primary radioactive contaminants at the site are uranium and its isotopes. The uranium isotopes of concern at the site are those associated with natural uranium, i.e., U-234, U-235, and U-238.

Sampling and analysis efforts indicate that the radioactive contaminants at the site are generally confined to the immediate vicinity of the trenches. While isolated pockets of radiological surface and subsurface soil contamination are present at the site, sampling of air, surface water, sediment, and groundwater show no elevated levels of radionuclides migrating from the site.

Results of sampling completed at the SLDA site indicated that the uranium-contaminated materials placed in the trenches are present in a wide range of enrichments, from less than 0.2 percent by weight U-235 to greater than 45 percent. The uranium isotopes of concern at the site are those associated with natural uranium, i.e., U-234, U-235, and U-238.

Localized areas of surface soils near trench 10 contain elevated activities of plutonium (Pu-239 and Pu-241) and Am-241; these transuranic radionuclides were not found at depths greater than 6 inches (15 centimeters) during the recent characterization program. The presence of the americium and plutonium contamination in this area was attributed to storage of contaminated equipment used at the former Parks nuclear fuel fabrication facility.

While the RI found little radioactivity in soils outside the general area of the trenches, some localized areas of contaminated soils were present outside these areas, specifically in the southwestern end of trench 10 and northwest of trench 4.

The activities of radionuclides in most soil samples were generally comparable to background. The maximum surface soil activities measured at the SLDA site were for Am-241 (320 pCi/g), Pu-239 (325 pCi/g), and Pu-241 (628 pCi/g) near trench 10; the maximum subsurface soil activity was for U-234 (508 pCi/g) in the upper trench area. The maximum sediment activity in Dry Run was 29 pCi/g for U-234. The average activities of these radionuclides, however, were much lower.

Other than isolated areas near trench 10, which showed elevated activities of americium and plutonium in surface soil, U-234 was generally the radionuclide that had the highest activity in soil, which is indicative of enriched uranium contamination.

Surface water in Dry Run (on site) and Carnahan Run (off site) contained at or near background levels of radionuclides. Groundwater at the site, outside of perched areas within the trenches, also contained below or near background levels of radionuclides. Trench-related radionuclides were detected in surface and subsurface soils, including Dry Run sediments.

4.0 SCOPE AND ROLE OF THE RESPONSE ACTION

This response action falls under the authority established in Section 8143 of the Fiscal Year 2002 Defense Appropriations Act, Public Law 107-117, which directs the Secretary of the Army, acting through the Chief of Engineers, to clean up radioactive waste at the SLDA site under the FUSRAP. Any chemical contamination that is not co-mingled with radioactive waste cannot be addressed under USACE authority. The scope of this response action addresses americium-241, plutonium-239, plutonium-241, radium-228, thorium-232, uranium-234, uranium-235, and uranium-238 in waste, soils, and sediments.

Land use surrounding the SLDA site consists of small residential communities and individual rural residences, small farms with croplands and pastures, idle farmland, forested areas, and light industrial facilities. Because of this, it was determined that a Subsistence Farmer scenario was appropriate as a reasonable future land-use scenario for use in developing preliminary remediation goals (PRGs) to support RI/FS analyses, as well as for use in developing and screening remedial alternatives. The PRGs were developed on the basis of limiting the annual dose to such a hypothetical individual to 25 mrem/year, consistent with the limit identified for an average member of the critical group as specified in NRC decommissioning requirements in 10 CFR Subpart E - Radiological Criteria for License Termination §§ 20.1402 and 20.1403. The Subsistence Farmer scenario was one of the four exposure scenarios considered in the Baseline Risk Assessment (BRA) (USACE, 2005).

5.0 SUMMARY OF SITE RISKS

The BRA process for the SLDA site consisted of two separate evaluations based on site-specific considerations, i.e., a human health BRA and a screening-level ecological risk assessment. The human health BRA was performed in accordance with U. S. Environmental Protection Agency (USEPA) CERCLA risk assessment guidance to support the determination of appropriate actions for the site (USEPA, 1989). In addition to the human health BRA, a screening-level ecological risk assessment (SLERA) was performed in order to determine the potential for adverse ecological effects to occur from exposures to radionuclides at the SLDA in the absence of remedial actions. The SLERA was performed using Department of Energy's (DOE's) graded approach for evaluating radiation doses to biota (DOE 2002). Both the human health and ecological risk assessments are summarized below.

5.1 Human Health Risk Assessment

The results of the human health BRA were developed according to the standard four basic risk assessment steps: identification of the contaminants of concern, development of exposure scenarios and input parameters, identification of the major toxic effects for the contaminants of concern, and presentation of the health risk characterization results. The assessment was limited to the eight previously specified ROCs, consistent with the authorizing legislation for the site. The chemical toxic effects of these radioactive contaminants were considered in this assessment, specifically for uranium, which is chemically toxic to the kidney.

The SLDA was divided into three exposure units (EUs) to support the BRA process. These EUs were developed based on environmental conditions, historical uses of specific areas, reasonableness of size in terms of representing receptor behavior, geographical similarity, and contamination potential. A consideration in developing these EUs was the need to identify final status survey units for future site closeout activities as identified in the Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM) (DOD et al., 2000). The assessments of the three EUs did not include an evaluation of the wastes in the trenches themselves. These materials were addressed separately, largely by comparison to the site-specific preliminary remediation goals (PRGs), which were developed using the probabilistic version of the RESRAD computer code as described in Appendix A of the RI work plan (USACE, 2003a). In addition to evaluating exposures in the three EUs, a site-wide assessment was performed in which the receptors were assumed to access all areas of the site.

Four hypothetical scenarios were developed to reflect reasonably likely patterns of human activity that might result in exposures to the radioactive contaminants at the SLDA. The two current-use scenarios (Maintenance Worker and Adolescent Trespasser) reflect possible exposures in the near term given the land use controls at the site, and two future-use scenarios (Construction Worker and Subsistence Farmer) consider greater exposures that could occur in the future should these land use controls be lost. These

scenarios address a range of potential exposures and intakes, and provide useful information for guiding future remedial action decisions at this site. It was determined that a Subsistence Farmer scenario was appropriate as a reasonable future land-use scenario for use in developing preliminary remediation goals (PRGs) to support RI/FS analyses, as well as for use in developing and screening remedial alternatives.

The results of the human health risk assessment were given in terms of the increased possibility that the hypothetical receptor would develop cancer over their lifetime as a result of exposures to the ROCs at the site. The human health BRA also included estimates of the radiation doses associated with potential exposures at the SLDA because this allows for comparison with the dose benchmark of 25 mrem/year identified in NRC decommissioning requirements given in 10 CFR 20 Subpart E §§ 20.1402 and 20.1403. This dose rate limit was used to develop the PRGs for this site. Finally, since uranium also represents a noncarcinogenic hazard to the kidney, this was addressed in the BRA by calculation of the hazard index (HI) consistent with EPA guidance. An HI of less than one indicates that there is little or no potential risk of noncarcinogenic health effects due to exposures to the ROCs.

The results of the human health BRA indicate that the SLDA site presents very little risk to human health under current conditions. The site is currently vacant and surrounded by a security fence that is actively maintained. The SLDA is routinely monitored and its open field is mowed about twice a year. Air at the site perimeter is monitored, and there are a number of groundwater monitoring wells in the vicinity to determine the status of potential groundwater contamination. However, these conditions cannot be guaranteed in perpetuity and, over time, the radionuclides in the trenches would be expected to gradually migrate to the nearby environment. Subsidence is also possible at the SLDA site and could create potential new migration pathways for radionuclides to move through the subsurface.

Current information indicates that there is little radioactive soil contamination outside the footprint of the ten trenches, and the radioactive contamination that is present outside the trench boundaries poses very little current and/or future risk. However, the previously disposed-of wastes contain significant concentrations of radioactive contaminants (in excess of the PRGs developed for soil), and these materials could pose a potential risk to human health in the future. The carcinogenic risk to the Subsistence Farmer was calculated to be $3x10^{-3}$ using the results of the samples obtained from the trenches in the recent characterization program. This risk increases to $1x\ 10^{-2}$ if the results are limited to the 13 samples that have field-screening evidence of waste. The HI exceeds one for both situations, and the annual doses are approximately 300 and 900 mrem/yr, respectively, which is well in excess of the annual dose rate limit of 25 mrem/yr identified for this site. These results confirmed that the concentrations of radionuclides in the buried wastes are high enough to present a potential future risk to human health.

5.2 Ecological Risk Assessment

The SLERA utilized established biota dose rate limits of 1 radiation absorbed dose per day (rad/d) for aquatic animals, 1 rad/d for terrestrial plants, and 0.1 rad/d for terrestrial animals. If the doses to hypothetically exposed ecological receptors did not exceed these limits, it was concluded that populations of plants and animals were adequately protected from the potential effects of ionizing radiation.

The SLDA is covered with various species of grasses, shrubs, and trees, and the entire site (sediment in Dry Run and all site soils) was addressed as a single terrestrial EU. Since plants and animals could be exposed to soils down to a depth of about 4 feet (1.2 meters), characterization data extending to this depth were used in this assessment. Most burrowing animals and plant roots do not extend beyond this depth, so deeper soil and waste samples were not considered. Two aquatic EUs were identified to address exposures (such as to riparian receptors) at Dry Run and Carnahan Run. Because Dry Run is an ephemeral stream, its sediments are included in the terrestrial EU and it is also designated as an aquatic EU.

Radiation doses to hypothetical terrestrial, riparian, and aquatic organisms were modeled to develop biota concentration guidelines (BCGs) for the various radionuclides at the SLDA. The BCG is the limiting concentration of a radionuclide in soil, sediment, or water that would keep the protective dose rate limits (given above) from being exceeded. The BCGs were developed using conservative assumptions and are analogous to the PRGs developed for protection of human health. A sum of ratios (SOR) was calculated in cases where there were multiple radionuclides present in environmental media, in a manner identical to that used for the human health evaluations. That is, the concentration of each radionuclide was divided by its corresponding concentration goal (PRG for the human health risk evaluations and BCG for ecological risk evaluations), and the individual ratios summed. A value in excess of unity (1) indicated that the applicable dose standard was exceeded.

The maximum detected concentrations of radionuclides in soil, sediment, and surface water were used to calculate the SORs for the three ecological EUs. The SORs ranged from 0.3 to 0.5 for the three EUs, meaning that the biota dose rate limits were not exceeded. It was also determined that there is little potential for unacceptable risk to ecological receptors due to the chemical toxic effects of uranium at the site. Since the results of this conservative assessment indicate that the radionuclides at the SLDA do not pose a potential risk to ecological receptors, the SLERA was completed at the first screening stage, and no further evaluation of the potential risks to ecological receptors is warranted.

6.0 REMEDIAL ACTION OBJECTIVES

Remedial Action Objectives (RAOs) specify the requirements that remedial alternatives must fulfill in order to protect human health and the environment from contaminants; they provide the basis for identifying and evaluating remedial alternatives. The RAOs for the SLDA site are intended to provide long-term protection of human health and the environment. In order to provide this protection, media-specific objectives that identify major contaminants and associated media-specific cleanup goals are developed. These objectives specify the ROCs, the exposure routes and receptors, and an acceptable maximum contaminant level for the long-term protection of receptors.

6.1 Identification of Remedial Action Objectives (RAOs)

The RAOs for the site have been developed to specify the requirements that the remedial action alternatives must fulfill to protect human health and the environment from exposure to contaminants identified at the site. The RAOs for protecting human and ecological receptors will consider both the contaminant concentrations and the exposure routes since protectiveness may be achieved by reducing exposure as well as by reducing contaminant levels. These RAOs were developed considering the requirements specified in 10 CFR 20 Subpart E consistent with the MOU between USACE and NRC, and consider unrestricted release conditions (given in 10 CFR 20.1402) and restricted release conditions (given in 10 CF 20.1403).

The RAOs for the SLDA include the following:

- Prevent the external exposure to, and the ingestion and inhalation of radionuclides (U-234, U-235, U-238, Th-232, Ra-228, Pu-239, Pu-241, and Am-241) present in trench wastes, surface and subsurface soil, and sediments at the SLDA site so that the total effective dose equivalent (TEDE) to an average member of the critical group, when combined with the potential dose due to the ingestion of radionuclides in groundwater, does not exceed 25 millirem per year (mrem/yr) and does not result in an unacceptable non-cancer risk (i.e., a hazard index of greater than 1) for uranium.

- For those potential remedies that incorporate engineering and land use controls as part of a restricted release, prevent the external exposure to, and the ingestion and inhalation of radionuclides (U-234, U-235, U-238, Th-232, Ra-228, Pu-239, Pu-241, and Am-241) remaining at the SLDA site so that the TEDE to an average member of the critical group, when combined with the potential dose due to the ingestion of radionuclides in groundwater, would not exceed 100 mrem/yr and would not result in an unacceptable non-cancer risk (i.e., a hazard index of greater than 1) for uranium, if the institutional controls were no longer in effect.

6.2 Applicable or Relevant and Appropriate Requirements (ARARs)

The identification and evaluation of ARARs is an integral part of the remedial process. Section 121 of CERCLA specifies that remedial actions for cleanup of hazardous

substances must comply with requirements or standards under Federal or more stringent state environmental laws that are applicable or relevant and appropriate to a site and the hazardous substances at a site. Protection of human health and the environment is assured by complying with ARARs. The following sections discuss the ARARs for cleanup of the SLDA site.

6.2.1 Introduction to ARARs

Section 121(d)(1) of CERCLA sets requirements with respect to any hazardous substance, pollutant, or contaminant that will remain on site. Remedial actions must upon completion achieve a level or standard of control which at least attains legally applicable or relevant and appropriate standards, requirements, criteria, or limitations (ARARs) promulgated under Federal environmental law or any more stringent State environmental or facility siting law.

Identifying ARARs involves determining whether a requirement is applicable and, if it is not applicable, then whether a requirement is relevant and appropriate. Individual ARARs for each site must be identified on a site-specific basis. Factors to assist in identifying ARARs include the physical circumstances of the site, contaminants present, and characteristics of the remedial action.

Applicable requirements are defined as those standards, requirements, criteria, or limitations promulgated under federal environmental or state environmental or facility siting laws that are legally applicable to the hazardous substances, or pollutants or contaminants at the site. A law or regulation is applicable if the jurisdictional prerequisites of the law or regulation are satisfied.

Relevant and appropriate requirements are defined as those standards, requirements, criteria, or limitations promulgated under federal environmental or State environmental or facility siting laws that, while not applicable to a hazardous substance or pollutant or contaminant, are relevant and appropriate under the circumstances of the release or threatened release of the hazardous substance or pollutant or contaminant at the site.

State requirements are ARARs under CERCLA only if they are: (1) promulgated and of general applicability, (2) identified by the state in a timely manner, and (3) more stringent than federal standards.

Determining whether a rule is relevant and appropriate is a two-step process, which involves determining whether the rule is relevant, and, if so, whether it is appropriate. A requirement is relevant if it addresses problems or situations sufficiently similar to the circumstances of the release at the site. It is appropriate if it is well suited to the site.

CERCLA Section 121(e), 42 USC 9621(e), provides that no permit is required for the portion of any removal or remedial action conducted onsite. Although no permit is required, onsite actions must comply with substantive requirements that permits enforce, but not with related administrative and procedural requirements. That is, remedial actions

conducted onsite do not require a permit but must be conducted in a manner consistent with permitted conditions as if a permit were required.

A third category of standards, requirements, criteria or limitations is the “To Be Considered” (TBC) category, which includes proposed rules and non-promulgated advisories or guidance issued by federal or state government that are not legally binding and do not have the status of potential ARARs. If no other standard is available for a situation to help determine the necessary level of cleanup for protection of health or the environment, a TBC may be included as guidance or justification for a standard used in the remediation, at the discretion of the lead agency.

Section 8143(a)(2) of Public Law 107-117 directs the USACE to clean up radioactive waste at the SLDA site, subject to Public Law 106-60 Section 611 and the MOU between NRC and USACE. Accordingly, cleanup actions should be selected and conducted pursuant to CERCLA and the NCP.

6.2.2 Federal ARAR - 10 CFR 20, Subpart E

The potential ARARs for the site are 10 CFR Sections 20.1402 (Radiological Criteria for Unrestricted Use) and 10 CFR 20.1403 (Criteria for License Termination Under Restricted Conditions) as given in Subpart E of 10 CFR 20. The sections establish standards for the decommissioning of facilities licensed by the NRC to manage special nuclear, source, or byproduct material. The decommissioning standards establish criteria for license termination with unrestricted use and license termination under restricted conditions respectively. Both ARARs require that the annual dose to an average member of the critical group not exceed 25 mrem/year and that the residual radioactivity be reduced to levels that are as low as reasonably achievable (ALARA). The critical group is "the group of individuals reasonably expected to receive the greatest exposure to residual radioactivity for any applicable set of circumstances."

10 CFR 20.1402 considers a site to be acceptable for unrestricted use if residual radioactivity exceeding background results in a total effective dose equivalent (TEDE) that does not exceed 25 millirem (mrem) per year to the average member of the critical group, including that from groundwater sources of drinking water, and that the residual radioactivity has been reduced to levels that are as low as reasonably achievable (ALARA).

10 CFR 20.1403 considers a site acceptable for license termination under restricted conditions if the TEDE from residual radioactivity distinguishable from background to the average member of the critical group will not exceed 25 mrem per year and:

- Residual radioactivity at the site has been reduced so that if institutional controls were no longer in effect, there is reasonable assurance that the TEDE from

residual radioactivity distinguishable from background to the average member of the critical group is as low as reasonably achievable and would not exceed either:

- 100 mrem per year; or
- 500 mrem per year provided the licensee
    - demonstrates that further reductions in residual radioactivity necessary to comply with the 100 mrem/y value are not technically achievable, would be prohibitively expensive, or would result in net public or environmental harm;
    - makes provisions for durable institutional controls;

As noted in Section 6.3.1.6 of the RI report, land use in this area consists of small residential communities and individual rural residences, small farms with croplands and pastures, idle farmland, forested areas, and light industrial facilities. Because of this, it was determined that a Subsistence Farmer scenario is appropriate as a reasonable future land use and for consideration as the "critical group" receptor for evaluating compliance with 10 CFR 20 Subpart E, §§ 20.1402 and 20.1403.

Both potential ARARs are properly promulgated Federal requirements that provide cleanup standards or standards of control that specifically address the hazardous substances at the site. However, since USACE is neither the site owner nor a NRC licensee, the requirements are not legally applicable for a remediation conducted by USACE at the site. Instead, both are considered relevant and appropriate requirements under the circumstances of the release of the hazardous substances at the site. Specifically, the medium and substances, the actions or activities, and the type of place regulated by the requirements are sufficiently similar to the circumstances at the site and the requirements are well-suited to the site. Both 10 CFR 20.1402 and 10 CFR 20.1403 are presented in Appendix C.

If Alternative 1, No Action or Alternative 5, Excavation, Treatment and off-site Disposal (the preferred alternative) is chosen for this site, then 10 CFR 20.1402 will be the selected ARAR for the site. If Alternative 4, Excavation, Treatment and On-Site Disposal is chosen for the site, then 10 CFR 20.1403 will be the selected ARAR for the site.

6.3 Selected Cleanup Goals

The SLDA site will be remediated in a manner consistent with guidance contained in MARSSIM. MARSSIM requires that dose or risk-based standards be converted into equivalent activity concentration values, known as Derived Concentration Guideline Levels (DCGLs). MARSSIM assumes that two types of DCGLs will be applied to a site, a DCGLw and a DCGLemc. The DCGLw represents a wide area average value that must be attained. The DCGLemc refers to elevated area or "hot spot" criteria. DCGLemc requirements ensure that no localized areas will remain that potentially pose unacceptable risks.

For the purposes of the Remedial Investigation, TEDE goal of 25 mrem/yr was assumed for the site with a subsistence farmer considered as the average member of the critical group. A site-specific RESRAD model was used to calculate the Preliminary Remediation Goals (PRGs) based on an annual dose of 25 mrem/yr above background to a Subsistence Farmer residing at the site using the RESRAD computer code (ANL, 2001b). The PRGs were calculated using a probabilistic version of RESRAD consistent with NRC decommissioning guidance (NRC, 1999, 2000a&b, 2002), and were developed with the concurrence of the Pennsylvania Department of Environmental protection (PADEP). No subsequent investigation results indicated the need to modify the PRGs and these values were used to compare remedial alternatives in the FS (USACE, 2006). The PRG values are listed in Table 2. It is important to note that these values are incremental to the background levels listed in Table 3 (background concentrations are not included in the PRG values given). The PRGs in Table 2 were derived assuming only one of the radionuclides is present above background levels. Since soils will potentially contain a mix of residual radionuclides once remediation is complete, a Sum of Ratios (SOR) calculation will be used to ensure that the total dose represented by the residual radionuclides does not exceed the ARAR requirements.

Estimates of radiologically contaminated soils and wastes were developed based on all available information, including the PRGs, historical estimates from previous investigations, information compiled by the site owners, interviews conducted with local citizens, and the recent field investigations performed as part of the RI for the site. Final cleanup goals will be derived for the SLDA site and approved before remediation begins. A detailed Final Status Survey Plan (FSSP) will also be developed prior to the initiation of remediation at the SLDA site. The Final Status Survey Plan will contain the confirmation methodology that will be used to demonstrate compliance with final cleanup goals across the site once remediation is complete.

TABLE 2: PRELIMINARY REMEDIATION GOALS (PRGs) FOR THE RADIONUCLIDES OF CONCERN (ROCS) AT THE SLDA

Radionuclide	PRG (pCi/g) a
Americium-241	28
Plutonium-239	33
Plutonium-241	890
Radium-228	1.7
Thorium-232	1.4
Uranium-234	96
Uranium-235	35
Uranium-238	120

a The PRGs represent radionuclide activities in soil in excess of background levels.

TABLE 3: BACKGROUND ACTIVITIES OF ROCS AT THE SLDAa

ROC	Soil Activity (pCi/g)		
	Surface	Subsurface	Composite
Americium-241b	0.0	0.0	0.0
Plutonium-239b	0.0	0.0	0.0
Plutonium-241b	0.0	0.0	0.0
Radium-228	1.42	1.66	1.61
Thorium-232	1.31	1.77	1.68
Uranium-234	1.32	1.28	1.29
Uranium-235	0.19	0.27	0.25
Uranium-238	1.25	1.41	1.38

a The background soil activities for surface and subsurface soil are the maximum measured values, as these values exceeded the 95% upper threshold limit (UTL) with 95% coverage of the measured activities as described in the text. The background soil samples were collected at 18 locations at Gilpin/Leechburg Community Park. The surface value represents the activity in the top 15 cm (6 in.) of soil, and the subsurface value represents the value from 60 cm (2 ft) to 1.2 m (4 ft) below the surface. The composite represents the weighted average value for surface and subsurface soil. All values are given to two decimal places.

b The activities of these radionuclides (which are not naturally occurring) were below the minimum detectable activities.

7.0 SUMMARY OF REMEDIAL ALTERNATIVES

This section summarizes remedial alternatives developed in the Feasibility Study for the SLDA site. The remedial alternatives were constructed by combining general response actions, technology types, and process options. Remedial alternatives should assure adequate protection of human health and the environment, achieve RAOs, meet ARARs, and permanently and significantly reduce the volume, toxicity, and/or mobility of site-related contaminants.

Five preliminary remedial action alternatives were developed from the technologies and process options that passed the initial screening and evaluation. The remedial alternatives were based on NCP and CERCLA requirements and included "no action" and "limited action" alternatives. The five preliminary remedial action alternatives were:

Alternative 1: No Action
Alternative 2: Limited Action
Alternative 3: Containment
Alternative 4: Excavation, Treatment, and On-site Disposal
Alternative 5: Excavation, Treatment, and Off-site Disposal

These alternatives were evaluated considering the following criteria:

- The public law authorizing cleanup of the site limits USACE responsibility to radioactive waste; chemical contaminants will be addressed only to the extent that they are co-mingled with the ROCs.

- The effectiveness of treatment of radionuclides; there are no effective treatment options for reducing the toxicity of radionuclides (such as by thermal treatment). Radionuclides lose their toxicity over time by radioactive decay.

- The performance period used for remedial alternative evaluation was 1,000 years based on the provision in 10 CFR 20.1401(d) that the expected peak annual TEDE shall be determined for the first 1,000 years after decommissioning.

In four of the five alternatives listed above, the radioactive waste would be left on-site. Therefore, these alternatives would be required to achieve cleanup levels that would meet restricted use criteria. In order to compare and screen these on-site alternatives, the following site conditions and uncertainties were considered:

- The abandoned room-and-pillar mine workings that underlie the upper trench area could possibly result in the eventual development of trough-type subsidence (ARCO/B&W, 1995b). Such subsidence could seriously compromise the integrity and longevity of an on-site waste containment system if it is located in that portion of the site that is underlain by these mine workings. While various approaches for addressing this issue have been proposed (including filling the

underground voids with grout), the implementability and long-term effectiveness of such engineering approaches is highly uncertain.

- Limited characterization data on the actual trench contents make it difficult to estimate with any degree of accuracy the actual risks posed by these materials to human health and the environment. Most of the characterization activities at the site focused on the areas surrounding the disposal trenches, with the goal of defining the areal extent of on-site contamination. Sampling of the trenches themselves was purposely limited because of the uncertainty associated with the waste characteristics. This approach avoided breaching the competent and continuous soil barrier that exists and governs the containment of the radioactive and chemical contaminants in the trenches.

- High concentrations of uranium have been measured in trench leachate and average leachate concentrations indicate that there could be an unacceptable risk to an individual consuming water at the site in the future should the trench contents come in contact with groundwater.

- Finally, the available historical records for previous waste disposal activities do not contain detailed information on the wastes disposed of at the SLDA site. The records focused on the contaminants being regulated at the time the disposals took place (i.e., uranium and thorium), and information on chemical contaminants is sparse. It is not clear how the chemical constituents in the buried wastes could affect the long-term leaching of the radionuclides out of the trenches (ANL, 2001a).

Given these constraints, it would be difficult to ensure that any type of in-situ remedial alternative would adequately protect human health and the environment in the long term. Because Alternatives 2, Limited Action and 3, Containment, specified that the radiologically contaminated waste be left in place and did not remove the uncertainties associated with items listed above, Alternative 4, Excavation, Treatment, and On-Site Disposal, was seen as the only viable alternative in which the wastes were left on site. Alternative 1 was retained for detailed analysis to provide a baseline for evaluation of other alternatives in accordance with the NCP and CERCLA requirements.

Remedial action Alternatives 1, 4, and 5 were subsequently subjected to a detailed analysis to identify a likely preferred alternative. This analysis consisted of a comparison against the nine CERCLA criteria, grouped into three categories based on their level of relative importance: Threshold, Balancing, and Modifying criteria. Threshold criteria (Overall Protection of Human Health and the Environment and Compliance with ARARs) had to be satisfied for a remedial alternative to be considered a viable remedy. The five Balancing criteria (Long-term Effectiveness and Permanence; Short-term Effectiveness; Reduction of Toxicity, Mobility, and Volume through Treatment; Implementability; and Cost) represented the primary criteria upon which the detailed analysis was based. Modifying criteria (State Acceptance and Community Acceptance) are typically evaluated following comment on the RI/FS and Proposed Plan and will be

addressed during preparation of the ROD and presented in a responsiveness summary attached to that decision document.

7.1 Alternative 1: No Action

Under the no action alternative, no additional remedial action would be taken at the SLDA site. For the purposes of this Feasibility Study and to adhere to the intent of CERCLA guidance, the evaluation of the No Action alternative is based on the assumption that, in the future, the site would be neither controlled nor maintained. Under this assumption, all current land-use controls would no longer be maintained and therefore would be rendered ineffective. However, at SLDA that scenario is not likely since SLDA is a currently licensed site. If no action were taken under the FUSRAP, the SLDA site would continue to be regulated under the current NRC license (SNM-2001). In the future, one of the following would happen:

- The site would continue to be maintained by the licensee, under the requirements of the license, or;
- The licensee would successfully meet agreed-to license termination criteria, the license would be terminated, and the site would be lawfully released for a specified use.

It is not possible to reliably determine the consequences of pursuing a No Action alternative, therefore, as stated above, the No Action alternative presented here applies only to the site in a hypothetical state of abandonment.

This alternative is included to provide a baseline for evaluation of other alternatives in accordance with the NCP and CERCLA requirements. The acceptability of the no action alternative will be determined in relation to the assessment of known site risks and by comparison to other remedial alternatives.

7.2 Alternative 4: Excavation, Treatment and On-site Disposal

Alternative 4 consists of the excavation, treatment, and on-site disposal of contaminated soil, sediments, and debris. Treatment processes could include physical separation, size reduction, radiological sorting, and, if necessary, stabilization of excavated material with cement-like grout to reduce its leaching capabilities prior to placement in the disposal cell. Under this alternative, the gas line that currently crosses the upper trench area would be relocated to run approximately along the southeast fence line of the site. The radioactively contaminated soil, sediments, and debris would be removed from the disposal trench area and placed into an on-site engineered disposal cell. Access to the completed disposal cell would be restricted through the use of engineering controls, and a permanent monitoring and maintenance program would be implemented to demonstrate this alternative's effectiveness.

The new disposal cell would be constructed in the northern corner of the site, north of the deep mine workings. This location was proposed because it is anticipated that it would be free of any potential effects of long-term mine subsidence. It was assumed for Alternative 4 that contaminated soils, sediments, and debris would be managed such that

only the engineered disposal cell, and an appropriately sized buffer zone immediately surrounding it, would require land use controls. Any residual concentrations of the ROCs remaining outside this area would meet the 25 mrem/year dose rate limit. Excavated soils and debris found to be impacted would be treated on site as necessary and disposed of in the disposal cell. If RCRA hazardous waste is encountered during remedial action, the material will be segregated from the other waste and managed in an appropriate manner consistent with USACE's authority for conducting remedial actions at the site.

Uncontaminated soils identified during handling and treatment activities would be stockpiled on site, sampled, characterized, and re-used as backfill. Under this alternative, no off-site disposal would be necessary.

7.3 Alternative 5: Excavation, Treatment and Off-site Disposal

Alternative 5 consists of the excavation, treatment, and off-site disposal of contaminated soils and debris. Treatment processes could include physical separation, size reduction, and radiological sorting. Under this alternative, the gas line that currently crosses the upper trench area would be relocated to run approximately along the southeast fence line of the site. The radioactively contaminated soils, sediments, and debris would be removed from the disposal trenches, subjected to treatment, and transported off site for disposal in a facility permitted to receive such materials. If RCRA hazardous waste is encountered during remedial action, the material will be segregated from the other waste and managed in an appropriate manner consistent with USACE's authority for conducting remedial actions at the site. After a determination has been made that the RAOs have been attained (based largely upon post-excavation sampling and analysis) and unrestricted use criteria have been met, there would be no need for environmental monitoring, engineered controls to limit site access, or an operations and maintenance (O&M) program.

Approximate excavation limits for Alternatives 4 and 5 are shown in Figure 3.

8.0 EVALUATION OF REMEDIAL ALTERNATIVES

Section 300.430 (e) of the NCP lists nine criteria by which each remedial alternative must be assessed. The acceptability and performance of each alternative against the criteria is evaluated individually so that relative strengths and weaknesses may be identified. Also, a comparative analysis among the alternatives is performed, to identify the advantages and disadvantages of each alternative relative to one another. Assessments against two of the criteria (Overall Protection of Human Health and the Environment and Compliance with Applicable or Relevant and Appropriate Requirements) relate directly to statutory findings and therefore are categorized as threshold criteria. The threshold criteria must be satisfied in order for an alternative to be eligible for selection. Five of the criteria (Long-term Effectiveness and Permanence, Reduction of Toxicity, Mobility, or Volume through Treatment, Short-term Effectiveness, Implementability, and Cost) represent the primary criteria upon which the analysis is based. These balancing criteria are used to weigh major tradeoffs among alternatives. In addition, CERCLA Section 121 sets forth requirements for remedial action including the preference for treatment which reduces volume, toxicity or mobility. The remaining two criteria, state acceptance and community acceptance, are categorized as modifying criteria. The modifying criteria are evaluated following comments on the Proposed Plan and are addressed in the responsiveness summary of the Record of Decision (ROD). The nine criteria are briefly defined as follows:

Overall Protection of Human Health and the Environment: The analysis of each alternative with respect to overall protection of human health and the environment illustrates how the alternative reduces or eliminates short- and long-term unacceptable risk by controlling exposures to levels at or below the cleanup goals.

Compliance with Applicable or Relevant and Appropriate Requirements: Each alternative is evaluated with respect to compliance with the ARARs established for the SLDA site. The potential ARARs identified for the SLDA site are:

- 10 CFR 20.1402 - Radiological Criteria for Unrestricted Use, and;
- 10 CFR 20.1403 - Criteria for License Termination under Restricted Conditions.

Long-term Effectiveness and Permanence: Long-term effectiveness and permanence reflect the magnitude of residual risk and dose remaining at the site after remedial efforts are complete, and the adequacy and reliability of controls to manage the risk and dose over the performance period, if appropriate.

Reduction of Toxicity, Mobility, or Volume through Treatment: The regulatory preference is a remedial action that employs treatment or recycling to reduce the toxicity, mobility, and/or volume of the ROCs. This evaluation assesses the performance of the alternative in achieving this preference. Relevant factors in this criterion include the quantity of contaminated materials to be treated, destroyed, or recycled; the degree of expected reduction in toxicity, mobility, or volume; the irreversibility of the treatment process; the type and quantity of residuals remaining after the treatment process; and the degree to which treatment is used as the principle element of the alternative.

Short-term Effectiveness: The short-term effectiveness criterion addresses the effects to human health and the environment associated with the alternative during implementation. The factors that are typically assessed include protection of the community during the remedial action, associated environmental impacts, time required until RAOs are achieved, and protection of workers during the remedial action.

Implementability: The analysis of implementability examines the technical and administrative feasibility of implementing the alternative, as well as the availability of necessary goods and services. This evaluation includes the feasibility of construction and operation; the reliability of the proposed technology; the ease of undertaking additional remedial action (if necessary); monitoring considerations; activities needed to coordinate with regulatory agencies; availability of adequate equipment, services, and materials; and, if necessary, the availability of off-site treatment, storage, and disposal services.

Cost: Cost estimates for each alternative include direct and indirect capital costs and O&M costs. Costs are based on information obtained from a variety of sources, including quotes from suppliers, published cost information for previous similar projects, generic unit costs, vendor information, conventional cost-estimating guides (i.e., RSMeans®, 2005), and prior experience at similar sites. The actual cost of the project will depend on true labor and material charges, actual site conditions, competitive market conditions, final project scope, engineering design, the implementation schedule, and other variables. Please see the Feasibility Study (USACE, 2006) for further details on cost estimates.

State Acceptance: indicates whether, based on its review of the Proposed Plan, the State concurs with, opposes, or has no comment on the preferred alternative.

Community Acceptance is assessed following a review of the public comments received on the Proposed Plan. Public comments on the Proposed Plan are formally addressed in a Responsiveness Summary, which will be included in the Record of Decision.

This section of the Proposed Plan summarizes the relative performance of each alternative against the nine criteria, noting how it compares to other options under consideration. The detailed analysis of alternatives can be found in the Feasibility Study (USACE 2006). Table 4 presents a summary of the remedial alternatives evaluation, and Table 5 presents a comparative analysis of the alternatives.

8.1 Overall Protection of Human Health and the Environment

The No Action alternative (Alternative 1) is not considered protective of human health and the environment because this alternative would not include any remedial action to reduce exposure to contaminated soil or waste. Under this scenario, potential impacts would be the same as those identified in the BRA screening-level calculation of risks and doses. Therefore, the ARARs for unrestricted and restricted use would not be met for the site.

The Excavation, Treatment, and On-site Disposal alternative (Alternative 4) would provide a high level of protection to human health and the environment. Under this alternative, radionuclides above approved cleanup criteria would be removed from within and around the disposal trenches. However, this alternative would also carry greater short-term risk to remediation workers and the general public than the No Action alternative due to potential construction accidents and exposure to contaminants. Subsequent to remediation, however, the potential for future human contact with elevated levels of contaminants would be significantly reduced.

Excavation, Treatment, and Off-site Disposal (Alternative 5) would also provide a high level of protection to human health and the environment (similar to that of Alternative 4). Overall short-term risks to human health could be considered incrementally higher than those of Alternative 4 as a result of a higher degree of treatment activities, longer remediation duration, and waste transportation activities. However, these risks could be offset due to higher long-term level of protection to human health and the environment because of the complete removal of all radioactive contamination above cleanup levels to an established off-site disposal facility that has been optimally sited in arid, rural area to minimize the possibility of a release and exposure incident.

8.2 Compliance with ARARs

Since no remedial actions would be conducted and no engineering controls would be enforced, Alternative 1 was evaluated against the standards for unrestricted use. Based on that evaluation, alternative 1 would not meet the relevant RAOs identified for the site. Accordingly, the requirements of 10 CFR 20.1402, Radiological Criteria for Unrestricted Use, would not be met.

Alternative 4 (Excavation, Treatment, and On-site Disposal) would comply with the ARAR identified for restricted conditions at the SLDA site (i.e., 10 CFR 20.1403), by using engineering and land use controls to limit the exposure to residual radioactivity. Impacted soils and waste present at the SLDA site would be effectively removed and disposed of in an on-site disposal cell. Following completion of this remedial technology, the SLDA site would be suitable for future use under restricted conditions.

Alternative 5 (Excavation, Treatment, and Off-site Disposal) is similar to Alternative 4 with respect to compliance with the potential ARARs identified for the SLDA site. Activities performed under Alternative 5 would satisfy 10 CFR 20.1402, Radiological Criteria for Unrestricted Use, because the impacted soils and wastes would be removed from the SLDA site and disposed of off site.

8.3 Long-Term Effectiveness and Permanence

Since no remedial actions or controls would be implemented under Alternative 1, this alternative would not be effective in achieving long-term effectiveness and permanence.

Alternatives 4 and 5 would achieve both long-term effectiveness and permanence. Both alternatives involve removal of soils and waste with ROC activities exceeding approved

cleanup criteria and, with respect to the disposal trench areas, there would be no long-term post-remediation monitoring, maintenance, or land-use controls. Although Alternative 4 would have an on-site disposal cell that would need security, operation, monitoring, maintenance, and land use controls, this alternative would meet the dose criteria presented in 10 CFR 20.1403 (the ARAR for restricted site use). Alternative 5 would meet the dose criteria for 10 CFR 20.1402 (the ARAR for unrestricted site use).

Alternative 5 would achieve a higher degree of long-term effectiveness and permanence since the impacted soils and debris would be removed from the site to an established facility that would be suitable for LLW disposal based on its climate and proximity of receptors should a future release occur.

8.4 Reduction of Toxicity, Mobility or Volume through Treatment

Implementation of Alternative 1 would not result in reduction of contaminant toxicity, mobility, or volume. This alternative would allow the contamination to remain on site and rely upon the long-term processes of radioactive decay and degradation for contaminant mass reduction.

Under Alternative 4, treatment of excavated soils and debris would be performed to reduce the mobility of ROCs. As a result, this alternative would satisfy the statutory preference for treatment as a principle element of the remedial alternative. The toxicity and volume would not be reduced in Alternative 4. In contrast to Alternative 1, elevated levels of contamination would be placed into the disposal cell to reduce exposure risk and Alternative 4 would not rely on the slow processes of decay and degradation to reduce toxicity, mobility, and volume. As a result, Alternative 4 is ranked significantly higher than Alternative 1.

Alternative 5 would include a higher degree of physical separation and radiological sorting than Alternative 4. By classifying some soils as containing radioactivity at levels acceptable for re-use on site, the volume of excavated material requiring off-site transport and disposal could be significantly reduced. Similarly, soils or waste found to contain radiological contaminants at levels acceptable for disposal at a solid or hazardous waste disposal facility would further reduce the volume (and associated cost) of material requiring disposal at the LLW facility. However, while contaminated material is consolidated to a greater extent for disposal in Alternative 5, it is ranked the same as Alternative 4 for this criterion.

8.5 Short-Term Effectiveness

Although Alternative 1 would not be effective in achieving the RAOs (either in the short or long term), there would be no increase in worker and public exposure to contaminants during implementation since no remedial activities would occur.

Alternatives 4 and 5 would involve excavation, loading, sorting, and transportation activities, all of which would involve significant soil disturbance. There would be increased short-term risk and the potential for elevated dose rates to workers and the

public from these activities; however, implementing proven engineering controls and proper safety protocols would mitigate these risks.

Alternative 5 could potentially entail a higher short-term risk or exposure component than Alternative 4 due to a longer project duration, greater number of workers likely exposed to radioactive materials, and transportation of contaminated materials off site. As calculated in Appendix C, the total occupational dose for Alternatives 4 and 5 were estimated to be 0.33 and 0.91 person-rem, respectively. Accident-related risks from waste transportation that would only be applicable to Alternative 5 would be approximately 1×10^{-3} fatalities. There would also exist risks associated with waste handling and construction activities involved with construction, filling, and closure of the disposal cell that would only be applicable to Alternative 4, the fatalities were calculated to be slightly less at approximately 8×10^{-4}.

Both of these alternatives would be effective immediately following removal of the waste from the impacted areas and disposal either in the on-site disposal cell (Alternative 4) or off site in a permitted facility licensed to accept such wastes. Alternative 4 would require an on-site long-term O&M program, while Alternative 5 would not.

8.6 Implementability

Alternative 1 would be the most easily implemented alternative, as it would involve no remedial action. For Alternatives 4 and 5, excavation and physical treatment activities are common and proven methods for site remediation at similar FUSRAP sites and would be generally implementable. The areas to be excavated would be easily accessible, and it is anticipated that the treatment would be completed using conventional equipment. It is currently anticipated that, for Alternative 5, disposal facilities also would be readily available, although space in some LLW facilities may be unavailable or become much more costly if remediation is delayed. The timeframe for these alternatives would be dependent upon the volume of material to be removed, depth of excavation, method of excavation, and other factors such as the presence and control of groundwater. The construction, closure, and maintenance of an on-site disposal cell for Alternative 4 would also be technically feasible; however, administrative feasibility could be problematic since all of the contamination identified would remain on site, and an on-site remedial alternative could be viewed as unfavorable by the governing agencies. Furthermore, development of a long-term, on-site operation and maintenance program (including environmental monitoring) would only be required for Alternative 4.
Although Alternative 5 would include a higher degree of on-site physical treatment, Alternative 4 would be more difficult to implement over the long term due to the presence of the on-site disposal cell.

8.7 Cost

Table 4 presents the estimated costs for each alternative. Due to the relatively short project duration, it was assumed that any effect of cost escalation resulting from inflation would be minimal and was considered part of the contingency. A discussion of how these costs were generated, including a listing of individual cost components,

assumptions, and back-up information, is provided in Appendix B of the Feasibility Study (USACE, 2006).

The cost for Alternative 1 was estimated to be $0 since no remedial actions will be conducted. Alternatives 4 and 5 would cost approximately $20.2 and $35.5 million, respectively.

8.8 State Acceptance

This criterion evaluates the State's position and key concerns the State may have about the preferred alternative, ARARs, and other related matters. This criterion will not be evaluated formally until comments on the RI/FS and Proposed Plan are received and incorporated into the ROD.

8.9 Community Acceptance

This criterion addresses the issues and concerns the public may have regarding each of the alternatives. This criterion will not be formally evaluated until comments on the RI/FS and Proposed Plan are received and incorporated into the ROD.

TABLE 4: DETAILED EVALUATION OF REMEDIAL ALTERNATIVES SHALLOW LAND DISPOSAL AREA

Criteria	Alternative 1	Alternative 4	Alternative 5
	No Action	**Excavation, Treatment, and On-site Disposal**	**Excavation, Treatment, and Off-site Disposal**
Overall Protection of Human Health and the Environment	Not considered protective of human health and the environment because it does nothing to reduce exposure to radionuclides.	Meets the remedial objectives for protection of human health and the environment.	Meets the remedial objectives for protection of human health and the environment.
Compliance with ARARs	This alternative would not satisfy the ARARs established for the site.	Satisfies the ARARs established for the site.	Satisfies the ARARs established for the site.
Long-term Effectiveness and Permanence	This alternative does not provide long-term effectiveness and permanence and current and potential future risks and doses would remain.	Provides long-term effectiveness and permanence by placing contaminated soil and debris materials into an on-site disposal cell.	Provides long-term effectiveness and permanence by removing contaminated soil and debris materials from the SLDA site.
Reduction of Toxicity, Mobility, and/or Volume through Treatment	Under this alternative there would be no reduction in the toxicity, mobility, or volume of ROCs.	This alternative reduces the mobility of contaminants through treatment. There is no reduction of the toxicity and volume of contaminants.	This alternative reduces the mobility of contaminants through treatment. There is no reduction of the toxicity and volume of contaminants.
Short-term Effectiveness	There would be no short-term hazards to site workers and the community since no remedial actions would be implemented.	Low to moderate risk to remedial workers during implementation due to intrusive and disposal activities. The risk would be mitigated through a health and safety plan.	Low to moderate risk to remedial workers and the community during implementation. Low to moderate risk to the general public is also associated with off-site transportation of contaminated material. These risks would be mitigated through a health and safety plan.
Implementability	This alternative is readily implementable in terms of administrative and technical feasibility since no remedial actions would be undertaken.	There are no technical implementability issues; services and materials are readily available. Administrative feasibility could be problematic.	There are no technical or implementability issues; services and materials are readily available.
Cost	$0	$20.2 Million	$35.5 Million
Volume of contaminated soil and waste material remediated	0 yd^3	24,300 bank yd^3	24,300 bank yd^3
State Acceptance	To be evaluated following regulatory review of the FS and proposed plan.	To be evaluated following regulatory review of the FS and proposed plan.	To be evaluated following regulatory review of the FS and proposed plan.
Community Acceptance	To be evaluated following review of the FS and proposed plan.	To be evaluated following review of the FS and proposed plan.	To be evaluated following review of the FS and proposed plan.

TABLE 5: COMPARATIVE EVALUATION OF REMEDIAL ALTERNATIVES FOR THE SLDA

Alternative	Overall Protection of Human Health and the Environment	Compliance with ARARs	Long-Term Effectiveness and Permanence	Short-Term Effectiveness	Reduction of Toxicity, Mobility, or Volume through Treatment	Implementability	Cost (millions)
Alternative 1 No Action	Low	Low	Low	High[1]	Low	High	$0
Alternative 4 Excavation, Treatment, and On-site Disposal	Medium/High	High	Medium/High	Medium	Low/Medium	Low	$20.2
Alternative 5 Excavation, Treatment, and Off-site Disposal	High	High	High	Low/Medium	Low/Medium	Medium	$35.5

Notes:

1 Not effective in achieving RAOs; however, no "increased" impact to workers or community

High - most favorable ranking

Medium - average favorable ranking

Low - least favorable ranking

9.0 PREFERRED ALTERNATIVE

USACE prefers Alternative 5, Excavation, Treatment, and Offsite Disposal, to address contaminated soils, sediments and wastes. All on-site wastes, soils, and sediments exceeding approved remediation goals will be excavated and shipped off site for disposal at a licensed/permitted disposal facility (or facilities). Alternative 5 is considered to be the most protective in the long term and is permanent because all contaminated wastes, soils, and sediments exceeding the subsistence farmer cleanup goals will be removed from the SLDA Site. Alternative 5 ensures compliance with the criteria specified in 10 CFR 20.1402, since all of the materials exceeding the cleanup goals are removed from the SLDA site. Excavation of COCs may stop when the 95% upper confidence limit of the mean of any remaining COCs is less than the associated cleanup goal. In addition, not to exceed concentrations will be developed to ensure no localized areas remain potentially posing unacceptable risk. MARSSIM will be used, as appropriate, to determine if the RAOs have been met.

Alternatives 4 and 5 would be protective of human health and the environment over the performance period and would satisfy the respective ARARs identified for the site. Alternative 4 would be less costly than Alternative 5; however, this benefit would be offset by the anticipated difficulty in obtaining regulatory concurrence for an on-site disposal cell and by the need for a long-term operation and maintenance program. While Alternative 5 would be more costly than Alternative 4, once the remediation work is completed the site would be suitable for unrestricted use.

The No Action Alternative (Alternative 1) does not meet the requirements of either ARAR, and therefore, does not satisfy the CERCLA threshold requirement requiring compliance with ARARs.

USACE expects the preferred alternative to satisfy the following statutory requirements of CERCLA §121(b): (1) be protective of human health and the environment; (2) comply with ARARs; (3) be cost-effective; and (4) utilize permanent solutions that will preclude any future environmental impact. Implementation of the preferred alternative will allow the site to meet the standards specified for license termination under an unrestricted use scenario. Release of the SLDA site would only be with respect to the FUSRAP-related materials associated with the radiologically contaminated wastes, soils, and sediments.

The ROD will authorize the implementation of the preferred alternative. The document will specify both wide area average ($DCGL_w$) and localized or "hot spot" ($DCGL_{emc}$) clean-up values, developed consistent with MARSSIM requirements. The PRGs presented in this document supported analyses in the RI/FS, were developed based on the allowable dose rate specified in the potential ARAR identified for this alternative, 10 CFR 20.1402, and serve as initial estimates of the site-specific $DCGL_w$ for each of the eight ROCs.

The PRGs were determined on an individual ROC basis. That is, if two or more of the ROCs are present, an SOR approach must be used to confirm compliance with the dose

rate given in the ARAR. Two of the eight ROCs (Ra-228 and Am-241) are decay products of two other ROCs (Th-232 and Pu-241 respectively). Since residual Ra-228 and Th-232 will likely be in a state of secular equilibrium in soil following excavation, it is only necessary to use the Th-232 DCGLs to ensure that the cleanup goals for both radionuclides have been met. The Th-232 DCGLs, like the current PRG, account for the ingrowth of Ra-228 in the future, so using the Th-232 DCGLs to address both Th-232 and Ra-228 is valid approach. In contrast, since Am-241 has a much longer half-life than Pu-241 these two radionuclides will never attain an equilibrium condition. Given the high concentrations of these two radionuclides in localized surface soil near Trench 10, it will likely be necessary to identify DCGLs for both of these two radionuclides.

Hence, although PRGs were developed for all ROCs, it may not be necessary to develop DCGLs for each of the eight to ensure that the dose rate limit given in the ARAR is achieved. The use of surrogates in which the contribution of some radionuclides can be determined without direct measurement based on site-specific ratios to radionuclides that are being measured is identified in MARSSIM as an approach to limit the number of radionuclides to be assessed in the verification process. This would help maintain the effectiveness of the compliance evaluation process and expedite completion of remedial actions at the site. DCGL values, and an associated plan for confirming the effectiveness of remedial action at the SLDA site, will be developed as part of the ROD and in consultation with PADEP and NRC.

10.0 COMMUNITY ROLE IN SELECTION PROCESS

Public input is encouraged by USACE and no final decision will be made on a remedy until all comments are considered.

The Administrative Record contains all documentation used to support the preferred remedy, and is available at the following locations:

U.S. Army Corps of Engineers, Pittsburgh District
1000 Liberty Avenue
Pittsburgh, Pennsylvania 15222

Apollo Memorial Library
219 North Pennsylvania Avenue
Apollo, Pennsylvania 15613

The public is encouraged to review and comment on all alternatives described in this Proposed Plan and the supporting Feasibility Study and Remediation Investigation.

Comments on the proposed remedial action at the SLDA site will be accepted for 30 days following issuance of the Proposed Plan in accordance with CERCLA, as amended, and the NCP. A public meeting will be held during the comment period to receive any verbal comments the public wishes to make. Written comments the public wishes to submit regarding the preferred remedy will be received at the meeting or during the 30-day period. Responses to the public comments will be presented in a response to comments in the Record of Decision, which will document the final remedy selected for the SLDA site.

All written comments should be addressed to:

U.S. Army Corps of Engineers, Pittsburgh District
1000 Liberty Avenue
Pittsburgh, Pennsylvania 15222
Attn: Public Affairs Officer

11.0 REFERENCES

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USACE, 2003a. Final Remediation Investigation Sampling and Analysis Plan, Part I – Field Sampling Plan, Project Work Plans, Acquisition of Field Data and Technical Support for Shallow Land Disposal Area (SLDA), Parks Township, Armstrong County, Pennsylvania, prepared by URS Group, Inc., Buffalo, New York, August.

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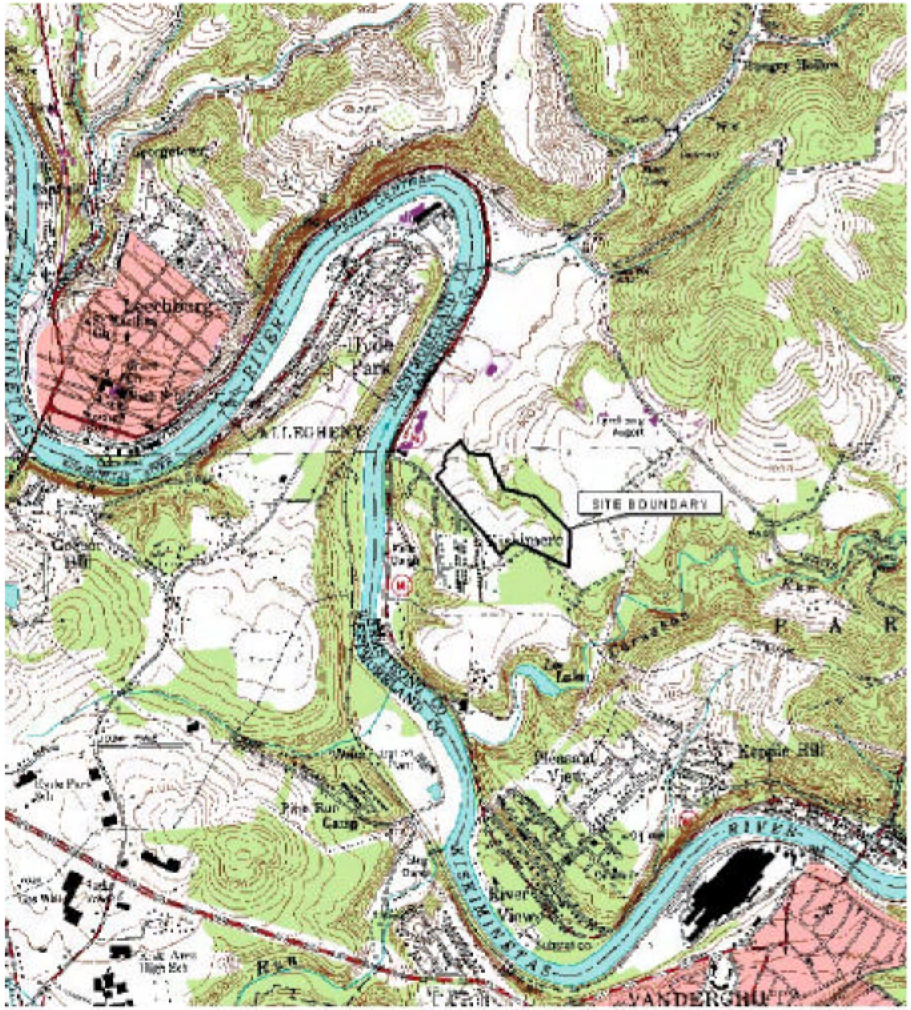
USACE, 2002. Preliminary Assessment, Parks Shallow Land Disposal Area, Parks Township, Armstrong County, Pennsylvania, March.

USEPA, 1989. Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual (Part A), EPA 540/1-89/002. PB90-155581, December.

FIGURE 1 – SITE LOCATION MAP



Source: USGS 7.5' Topographic Quadrangles
Vandergrift, PA, 1953 (revised 1979)
Leechburg, PA, 1954 (revised 1969)

SITE LOCATION MAP

STATE KEY MAP

SITE ADDRESS:
1105 MARY STREET
VANDERGRIFT, PA 15690

VICINITY MAP

SHALLOW LAND DISPOSAL AREA
SITE LOCATION MAP

FIGURE 1

FIGURE 2 – TOPOGRAPHY AND DEEP MINE WORKINGS

N

TRENCH 10

TRENCH 1

TRENCH 2

TRENCH 3

TRENCH 4

TRENCH 5

TRENCH 9

TRENCH 7

TRENCH 6

TRENCH 8

Legend

- Deep Mine Workings
- Site Boundary
- Intermittent Stream - Dry Run
- SLDA Disposal Trenches
- Topographic Contours
  C.I. = 2 ft.

NOTE: Mine Workings Map Provided by ARCO.

250 0 250 Feet

SHALLOW LAND DISPOSAL AREA
TOPOGRAPHY AND DEEP MINE WORKINGS BENEATH SLDA

FIGURE 2

FIGURE 3 – APPROXIMATE EXCAVATION LIMITS

NOTE:

1. LAND BALANCING WILL BE REQUIRED AS NECESSARY TO ENSURE A 7 PERCENT MAXIMUM GRADE.
2. THE EXCLUSION ZONE, CONTAMINANT REDUCTION ZONE, AND SUPPORT ZONE WILL BE DELINEATED DURING FINAL DESIGN.

LEGEND

- SHALLOW LAND DISPOSAL AREA SITE LIMITS
- G — BURIED NATURAL GAS LINE
- CHAIN LINK FENCE
- DRY RUN – INTERMITTENT STREAM
- PROPERTY LINE
- VEGETATION LINE
- 920 — CONTOUR AND ELEVATION
- EXTENT OF CONTAMINATION
- EXTENT OF REMEDIAL EXCAVATION
- TRENCH 9 — APPROXIMATE LIMIT OF DISPOSAL TRENCH FROM GEOPHYSICAL SURVEY
- W — NEW UNDERGROUND WATER SERVICE
- E — NEW OVERHEAD POWERLINE
- NEW UTILITY POLE
- LIMIT OF SURFACE SOIL REMEDIATION

N TRUE NORTH AT N 77°45' W CENTRAL MERIDIAN

PA STATE PLANE COORDINATE SYSTEM SOUTH ZONE

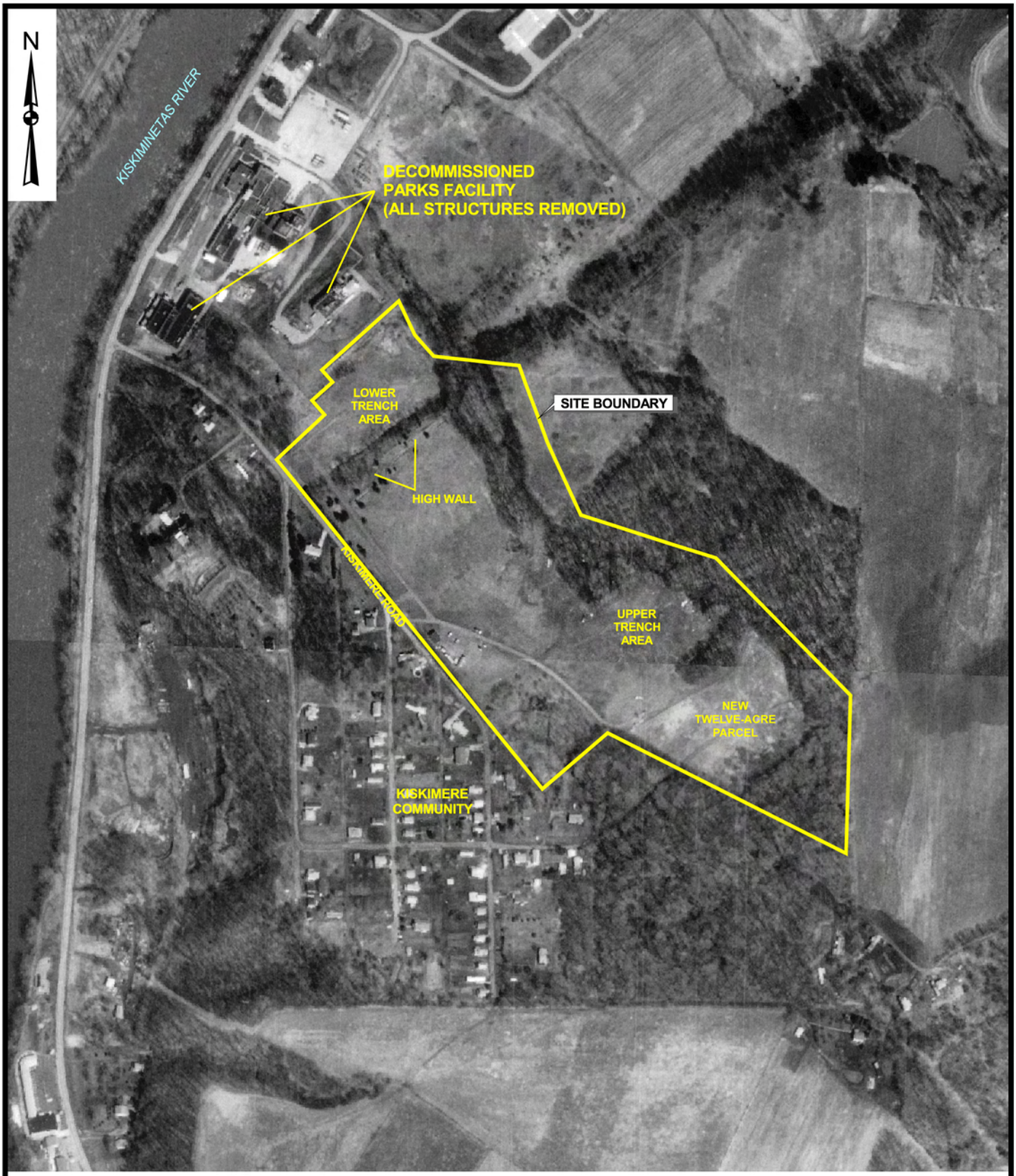
SITE PERIMETER FENCE
DRY RUN
TRENCH 3
TRENCH 9
TRENCH 4
TRENCH 5
TRENCH 6
TRENCH 7
TRENCH 8
TRENCH 1
NEW SKID MOUNTED WATER TREATMENT PLANT WITH STORAGE TANKS
NEW LABORATORY TRAILER
NEW REMEDIATION TRAILER
NEW COVERED STAGING STRUCTURE
NEW ASPHALT PAD
NEW H-20 RATED PAVED HAUL ROAD
NEW SECURITY GATE
TRENCH 10
FORMER PARKS NUCLEAR FABRICATION PROPERTY
ROUTE 66
NEW WATER SHUTOFF
NEW OFFICE TRAILER
STONE PARKING AREA
EXISTING ELECTRIC SERVICE
METAL GAS PUMP HOUSE
KISKEMERE ROAD
KRUPPER (50'WIDE) ST.
JANE (50'WIDE) ST.
16' WIDE ALLEY
MAIN (50'WIDE) ST.
16' WIDE ALLEY
MARY (50'WIDE) ST.
CLYDE STREET (50'WIDE)
ALLEY

100' 0 100'
SCALE: 1"= 100'

SHALLOW LAND DISPOSAL AREA APPROXIMATE EXCAVATION LIMITS

FIGURE 3

FIGURE 4 – DIGITAL ORTHOPHOTO



SOURCE: Leechburg and Vandergrift, PA
Digital Orthophotos, 1993.

500 0 500 Feet

SHALLOW LAND DISPOSAL AREA
DIGITAL ORTHOPHOTO

FIGURE 4

FIGURE 5 – STRATIGRAPHIC COLUMN

System	Group	Member	Section	Unit Description	Approximate Unit Thickness (ft)	Water Bearing (WB) or Aquitard
Quaternary				Surface soils: generally brown, cohesive, clayey to silty loam, low permeability soils, stiff.	0 - 10	NA
				Subsoil: clay, sand with weathered bedrock fragments, generally saturated, slightly more permeable than surficial soils	5 - 10	WB
Pennsylvanian (P)	Conemaugh (Pc)	Glenshaw		Weathered Bedrock: shale bedrock weathered in-place, fractures infilled with silt and clay, stiff and generally dry	5 - 15	Aquitard
				First Shallow Bedrock - Primarily Shale with interbeds of Sandstone and Siltstone. Defined primarily by distribution of piezometric head elevations. Horizontal bedding predominates. Some minor vertical fractures may exist in sandstone layers.	5 - 20	WB
				Upper Shale - interbedded with Siltstone and Sandstone	5 - 25	Aquitard
				Second Shallow Bedrock - defined also by distribution of piezometric head elevations. Shale with interbeds of Sandstone and Siltstone. Horizontal bedding predominates. Some minor vertical fractures may exist in sandstone layers.	10 - 25	WB
				Lower Shale - generally massive shale	10 - 25	Aquitard
	Allegheny (Pa)	Freeport		Upper Freeport Coal (void where removed)	0 - 5	WB
				Claystone	2 - 3	Aquitard
				Shale/Siltstone interbeds	20 - 30	Aquitard
				Deep Bedrock: Shaly Sandstone (possible Butler and Freeport Sandstone) Shale with interbedded sandsone	20	WB

SLDA STRATIGRAPHIC COLUMN

FIGURE 5

APPENDIX A: PUBLIC LAW 107-117, SECTION 8143

707), is amended by striking the comma after "California" the first place it appears and all that follows through "96–8867)".

SEC. 8143. (a) ACTIVITIES UNDER FORMERLY UTILIZED SITES REMEDIAL ACTION PROGRAM.—Subject to subsections (b) through (e) of section 611 of Public Law 106–60 (113 Stat. 502; 10 U.S.C. 2701 note), the Secretary of the Army, acting through the Chief of Engineers, under the Formerly Utilized Sites Remedial Action Program shall undertake the functions and activities specified in subsection (a) of such section in order to—

(1) clean up radioactive contamination at the Shpack Landfill site located in Norton and Attleboro, Massachusetts; and

(2) clean up radioactive waste at the Shallow Land Disposal Area located in Parks Township, Armstrong County, Pennsylvania, consistent with the Memorandum of Understanding Between the United States Nuclear Regulatory Commission and the United States Army Corps of Engineers for Coordination on Cleanup and Decommissioning of the Formerly Utilized Sites Remedial Action Program (FUSRAP) Sites with NRC-Licensed Facilities, dated July 5, 2001.

(b) SPECIAL RULES REGARDING SHALLOW LAND DISPOSAL AREA.—The Secretary of the Army shall seek to recover response costs incurred by the Army Corps of Engineers for cleanup of the Shallow Land Disposal Area from appropriate responsible parties in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9601 et seq.). The Secretary of the Army and the Corps of Engineers shall not, by virtue of this cleanup, become liable for the actions or omissions of past, current, or future licensees, owners, or operators of the Shallow Land Disposal Area.

(c) FUNDING SOURCES.—Amounts appropriated to the Army Corps of Engineers for fiscal year 2001 and subsequent fiscal years and available for the Formerly Utilized Sites Remedial Action Program shall be available to carry out this section.

SEC. 8144. In addition to amounts otherwise appropriated or made available by this Act, $3,000,000 is appropriated to the Secretary of the Air Force and shall be used by the Secretary to reestablish the Tethered Aerostat Radar System at Morgan City, Louisiana, previously used by the Air Force in maritime, air, and land counter-drug detection and monitoring. Of the amounts appropriated or otherwise made available for operation and maintenance for the Air Force, the Secretary shall use $3,000,000 to

APPENDIX B: MEMORANDUM OF UNDERSTANDING BETWEEN THE US NUCLEAR REGULATORY COMMISSION AND THE US ARMY CORPS OF ENGINEERS FOR COORDINATION OF CLEANUP & DECOMMISSIONING OF FUSRAP SITES WITH NRC LICENSES

The request for a hearing must be filed with the Office of the Secretary either:

1. By delivery to the Rulemakings and Adjudications Staff of the Office of the Secretary at One White Flint North, 11555 Rockville Pike, Rockville MD 20852–2738; or

2. By mail, telegram or facsimile addressed to the Secretary, U.S. Nuclear Regulatory Commission, Washington, DC 20555–0001. Attention: Rulemakings and Adjudications Staff.

In addition to meeting other applicable requirements of 10 CFR Part 2 of the NRC's regulations, a request for a hearing filed by a person other than an applicant must describe in detail:

1. The interest of the requestor in the proceeding;

2. How that interest may be affected by the results of the proceeding, including the reasons why the requestor should be permitted a hearing, with particular reference to the factors set out in § 2.1205(h);

3. The requestor's areas of concern about the licensing activity that is the subject matter of the proceeding; and

4. The circumstances establishing that the request for a hearing is timely in accordance with § 2.1205(d)—that is, filed within 30 days of the date of this notice.

In accordance with 10 CFR 2.1205(f), each request for a hearing must also be served, by delivering it personally or by mail, to:

1. The applicant, Kerr-McGee Corporation, Kerr-McGee Technical Center, 123 Robert S. Kerr Avenue, Oklahoma City, OK 73125; and

2. The NRC staff, by delivery to the General Counsel, One White Flint North, 11555 Rockville Pike, Rockville, MD 20852, or by mail addressed to the General Counsel, U.S. Nuclear Regulatory Commission, Washington, DC 20555.

Dated at Arlington, Texas, this 3rd day of July, 2001.

For the Nuclear Regulatory Commission.

D. Blair Spitzberg,

Chief, Fuel Cycle and Decommissioning Branch, Division of Nuclear Materials Safety, Region IV.

[FR Doc. 01–17451 Filed 7–11–01; 8:45 am]

BILLING CODE 7590–01–P

NUCLEAR REGULATORY COMMISSION

[Docket Nos. 50–361 AND 50–362]

Southern California Edison Company, San Onofre Nuclear Generating Station, Unit Nos. 2 and 3; Notice of Issuance of Amendment to Facility Operating License

The U.S. Nuclear Regulatory Commission (Commission) has issued Amendment Nos. 180 and 171 to Facility Operating Licenses Nos. NPF–10 and NPF–15, Southern California Edison Company (SCE or the licensee), which revised the Operating License and Technical Specifications for operation of the San Onofre Nuclear Generating Station (SONGS), Units Nos. 2 and 3, located in San Diego County, California. The amendments are effective as of the date of issuance.

The amendments modified the Technical Specifications and Operating License for SONGS Units 2 and 3, to allow SCE to increase the maximum reactor core power level for each unit from 3390 megawatts thermal (MWt) to 3438 MWt, which is an increase of 1.42 percent of rated core thermal power for SONGS Units 2 and 3.

The proposed action is in accordance with the licensee's application for amendment dated April 3, 2001, and supplemented by letters dated April 23, May 11, May 25, May 31, and June 25, 2001.

The application for the amendments comply with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR chapter I, which are set forth in the license amendments.

Notice of Consideration of Issuance of Amendment to Facility Operating License and Opportunity for a Hearing in connection with this action was published in the **Federal Register** on April 18, 2001 (66 FR 19996). No request for a hearing or petition for leave to intervene was filed following this notice.

The Commission has prepared an Environmental Assessment related to the action and has determined not to prepare an environmental impact statement. Based upon the environmental assessment, the Commission has concluded that the issuance of the amendments will not have a significant effect on the quality of the human environment (66 FR 32964, and corrected in 66 FR 33982).

For further details with respect to the action see (1) the application for amendment dated April 3, 2001, (and supplemented by letters dated April 23, May 11, May 25, May 31, and June 25, 2001), (2) Amendments No. 180 to License No. NPF–10, and No. 171 to License No. NPF–15, (3) the Commission's related Safety Evaluation, and (4) the Commission's Environmental Assessment. Documents may be examined, and/or copied for a fee, at the NRC's Public Document Room, located at One White Flint North, 11555 Rockville Pike (first floor), Rockville, Maryland. Publicly available records will be accessible electronically from the Agencywide Documents Access and Management Systems (ADAMS) Public Electronic Reading Room on the Internet at the NRC Web site, *http://www.nrc.gov/NRC/ADAMS/index.html.* If you do not have access to ADAMS or if there are problems in accessing the documents located in ADAMS, contact the NRC Public Document Room Reference staff at 1–800–397–4209, 301–415–4737 or by email to pdr@nrc.gov.

Dated at Rockville, Maryland, this 6th day of July 2001.

For the Nuclear Regulatory Commission.

Joseph E. Donoghue,

Senior Project Manager, Project Directorate IV, Section 2, Division of Licensing Project Management, Office of Nuclear Reactor Regulation.

[FR Doc. 01–17449 Filed 7–11–01; 8:45 am]

BILLING CODE 7590–01–P

NUCLEAR REGULATORY COMMISSION

Memorandum of Understanding Between the U.S. Nuclear Regulatory Commission and The U.S. Army Corps of Engineers for Coordination of Cleanup & Decommissioning of the Formerly Utilized Sites Remedial Action Program (FUSRAP) Sites With NRC-Licensed Facilities

AGENCY: Nuclear Regulatory Commission.

ACTION: Notice.

SUMMARY: This notice is to advise the Public of the issuance of a Memorandum of Understanding between the U.S. Army Corps of Engineers (USACE) and the U.S. Nuclear Regulatory Commission (NRC). The purpose of the MOU is to avoid unnecessary duplication of regulatory requirements that may hinder USACE in its remediation of sites under the Comprehensive Environmental Response, Compensation, and Liability

Act (CERCLA). Under the MOU, NRC could exercise its discretion to suspend NRC-issued licenses, or portions thereof, at FUSRAP sites. The MOU addresses unrestricted releases under 10 CFR 20.1402, and the MOU will ensure that the criteria of the License Termination Rule or a more stringent requirement will be met. The MOU will enhance interagency dialogue and will make the agencies activities and decisions concerning site decommissioning and cleanup more effective and efficient. The MOU will assist the agencies to reduce unnecessary burden on stakeholders and avoid duplication of regulatory requirements and effort by setting out cooperative conditions, consistent with the protection of the public health and safety.

EFFECTIVE DATE: July 5, 2001.

ADDRESSES: Copies of all NRC documents are available for public inspection, and copying for a fee, in the NRC Public Document Room, 11455 Rockville Pike (Mail Stop: 01F13), Rockville, MD. The NRC Public Document Room is open from 7:45 a.m. to 4:15 p.m., Monday through Friday (except Federal holidays). Telephone service is provided from 8:30 a.m. to 4:15 p.m., at (301) 415–4737 or toll-free at 1–800–397–4209 or e-mail: pdr@nrc.gov.

FOR FURTHER INFORMATION CONTACT: Amir Kouhestani, NMSS Mail Stop T7-F27, U.S. Nuclear Regulatory Commission, Washington, DC 20005–0001. Telephone: (301) 415–0023; Fax (301) 415–5398; e-mail: *aak@nrc.gov.*

Dated at Rockville, Maryland, this 5th Day of July, 2001.

For the Nuclear Regulatory Commission.

Larry W. Camper,

Chief, Decommissioning Branch, Division of Waste Management, Office of Nuclear Material Safety and Safeguards.

Memorandum of Understanding Between the U.S. Nuclear Regulatory Commission and the U.S. Army Corps of Engineers for Coordination on Cleanup & Decommissioning of the Formerly Utilized Sites Remedial Action Program (FUSRAP) Sites With NRC-Licensed Facilities

Article I—Purpose and Authority

A. This Memorandum of Understanding (MOU) is entered into by and between the U.S. Nuclear Regulatory Commission (NRC) and the U.S. Army Corps of Engineers (USACE), (''The Parties'') for the purpose of minimizing dual regulation and duplication of regulatory requirements at FUSRAP sites with NRC-licensed facilities. For activities where a potential for dual regulation could exist, the two agencies agree to cooperate, share information, and/or coordinate activities in their respective programs. This MOU applies to USACE response actions meeting the decommissioning requirements of 10 CFR 20.1402, ''Radiological Criteria for Unrestricted Use.'' USACE Response actions meeting the restricted release requirements of 10 CFR 20.1403, are outside the scope of this MOU.

B. The NRC has the statutory responsibility for the protection of the public health and safety related to the possession and use of source, byproduct, and special nuclear material under the Atomic Energy Act of 1954, as amended (Public Law 83–703, 68 Stat. 919). This includes ensuring the decommissioning of the nuclear facilities that it licenses. The Commission's licenses and regulations set out conditions to provide for the protection of the public health and safety and the environment. To terminate such licenses, NRC must ensure that licensees meet the Commission's decommissioning requirements including the provisions of 10 CFR 20 subpart E—Radiation Criteria for License Termination.

C. USACE is administering and executing cleanup at FUSRAP sites pursuant to a March 1999, MOU with the Department of Energy and the provisions of the Energy and Water Development Appropriations Acts for Fiscal Years 1998–2001 (Public Laws 105–62, 105–245, 106–60 and 106–377, respectively). Section 611 of Pub. L. 106–60 requires the USACE to remediate FUSRAP sites, in accordance with, and subject to the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (CERCLA), 42 U.S.C. 9601 *et seq.*, and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR, chapter 1, part 300. Section 611 also confers lead agency status on the USACE for remedy selection. USACE, as provided for in section 121(e) of CERCLA and 40 CFR 300.400(e), is not required to obtain a NRC license for its on-site remediation activities conducted under its CERCLA authority. However, if a response action is required, CERCLA requires the remedy to be protective of human health and the environment.

D. This MOU describes how the two agencies will work together to meet their existing statutory responsibilities. It neither creates nor removes any agency responsibility or authority. This MOU is not an admission of responsibility or liability on the part of the United States with regard to any hazardous substances or operations at a licensed site; does not relieve a license holder of its responsibilities and liabilities under any law; and does not create rights in any third party against USACE, NRC, or the United States.

E. CERCLA obligations imposed on the USACE may duplicate the obligations established by NRC regulations and licenses, resulting in duplicate regulatory requirements at NRC-licensed FUSRAP sites that will impose an added regulatory burden without an added safety benefit. To avoid unnecessary duplication of regulatory requirements and effort, this MOU sets out the conditions, consistent with the protection of the public health and safety, that will permit NRC to exercise its discretion to suspend NRC issued licenses at FUSRAP sites so that NRC requirements do not hinder USACE in its remediation of sites under CERCLA.

F. Each agency will bear its own costs for actions consistent with this MOU, but this does not preclude each agency from recovering costs, based on it's statutory authority, from the licensee or responsible parties.

G. *Use of Terms.*

1. The term ''response action'' means response actions as defined in CERCLA at 42 U.S.C. 9601(25) including removal and remedial actions and related CERCLA enforcement actions.

2. The term ''closeout'' means that all construction activities and reports are complete, the cleanup goals specified in the final ROD are achieved, coordination with regulatory agencies, and publication of notice in accordance with the provisions of CERCLA, the National Contingency Plan (NCP) and USACE procedures have been completed.

3. The term ''completed response action'' means that all construction activities are complete; for components other than ground or surface water, the cleanup goals specified in the ROD are achieved; any ground and/or surface water restoration remedies are operating as designed; and a remedial or removal action report is complete.

4. The term ''FUSRAP site'' means any geographic area certified by the Department of Energy (DOE) to have been used for activities in support of the Nation's early atomic energy program, and determined by USACE to require a response action pursuant to CERCLA or placed into the FUSRAP program pursuant to Congressional direction. A FUSRAP site may overlap all, or any part, of an NRC-licensed site.

5. The term ''possession'' means physical control of the property or

materials for purposes of environmental restoration and protection of the health and safety of the public.

Possession does not require ownership nor is USACE assuming responsibility for the operations and activities of the NRC licensee or owner of the materials. The USACE will take control only of the FUSRAP-related materials on the licensed site as provided in paragraph III. B.. Non-FUSRAP materials, unless the responsibility of the USACE under CERCLA, remain under control of the licensee.

6. The term ''licensed site'' means that a NRC license has been issued, and remains active or suspended, to possess and use material licensed under the Atomic Energy Act at the site.

Article II—Intragency Communication

To provide for consistent and effective communication between NRC and USACE, each agency shall appoint a Principal Representative to serve as its headquarters-level point of contact on matters relating to this MOU. Written notices required by the MOU shall be sent to the USACE's and NRC's Principal representatives. The Principal Representatives are:

Chief, Decommissioning Branch, Division of Waste Management, U.S. Nuclear Regulatory Commission, Washington, DC 20555

Chief, Environmental Division, Directorate of Military Programs, U.S. Army Corps of Engineers 441 G Street, NW., Washington, DC 20314–1000

Article III—Agreement

A. At the request of USACE, NRC will initiate action for the suspension of the NRC license or portions of the license for a FUSRAP site to be remediated by USACE under CERCLA authority contingent upon USACE notifying the NRC in writing that:

(1) USACE is prepared to take physical possession of all or part of the licensed site for purposes of control of radiation from FUSRAP materials subject to NRC jurisdiction and be responsible for the protection of the public health and safety from those materials consistent with 10 CFR part 20 ''Standards For Protection Against Radiation'' and other requirements consistent with CERCLA;

(2) USACE will conduct a response action at the licensed site under its FUSRAP and CERCLA authority, with regard to FUSRAP materials subject to NRC jurisdiction, to meet at least the standards required under 10 CFR 20.1402, and

(3) USACE has no objection to, and will facilitate, NRC observing USACE in-process remediation activities.

Such written notification to the NRC should be provided after the final Record of Decision (ROD), or its equivalent, is issued, if one is prepared, and at least 90 calendar days prior to USACE's expected date of initiation of a site response action so that the NRC can initiate the process for suspension of the license. Prior to submitting the notification, USACE will make a reasonable attempt to obtain the licensee's consent to USACE's proposed action and document the results of this effort in the notification.

B. Depending on the extent of FUSRAP materials and their separability from other hazardous substances on the site, USACE's responsibility may encompass the entire site, portions of the site, all the radioactive materials or just the FUSRAP and commingled materials, as specified in the final ROD. USACE will notify NRC of its findings regarding the type and extent of hazardous substance on a licensed site prior to requesting license suspension. Prior to USACE submitting a request for license suspension on a site where the NRC license suspension will not encompass the entire site, USACE and NRC will meet to agree on the scope of the suspension. The licensee may be involved in these discussions.

C. NRC licensing action for the suspension of the license, or portions of the license, will be effective, subject to:

(1) Written notification from USACE to the NRC that USACE has taken physical possession of the licensed site for purposes of radiation control and is now responsible for the protection of the public health and safety consistent with the requirements of 10 CFR Part 20 and

(2) The effectiveness rules of the NRC hearing process pursuant to 10 CFR Part 2, ''Rules Of Practice For Domestic Licensing Proceedings And Issuance Of Orders.''

Prior to license suspension, the licensee retains responsibility for meeting the Commission's requirements for protecting the environment and the health and safety of the public.

D. NRC may observe, as it deems warranted, remediation activities being conducted by USACE. For the purpose of scheduling in-process activity observation, USACE shall provide the NRC with the schedule of major activities, regular progress reports on sites' activities, studies, and/or remediation, and planned work stoppages.

E. The NRC shall keep USACE apprised in writing of questions, comments or concerns arising from any NRC observations of USACE response action activities and shall immediately notify the USACE of any conditions having a potential to adversely affect the environment or the health and safety of the public.

F. USACE shall be responsible for the protection of the health and safety of the public consistent with the requirements of CERCLA and 10 CFR part 20 during the time it is in physical possession of the licensed site or portions thereof which are suspended in accordance with the agreement at the time of license suspension.

G. USACE shall remediate the licensed site to meet at least the requirements of CERCLA and of 10 CFR 20.1402. The Applicable or Relevant and Appropriate Requirement (ARAR) in the final executed ROD will include 10 CFR 20.1402 or a more stringent requirement.

H. USACE shall manage all activities and prepare program estimates, funding requirements, and budget justifications for all FUSRAP activities for which it has been given responsibility as provided by the annual Energy and Water Development Appropriations Act, and the terms of this MOU. USACE shall request FUSRAP appropriations in the annual Energy and Water Development Appropriations Act for these activities. USACE shall respond to inquiries from public officials, Congressional interests, stakeholders, and members of the press regarding USACE activities under FUSRAP.

I. USACE shall consult with NRC if USACE surveys, investigations, and data analyses are inconsistent with the NRC description of the potential radioactive and/or chemical contaminants and processes involved in the historical activities at a licensed site at which the USACE is conducting a FUSRAP investigation or response action under CERCLA. USACE shall immediately notify NRC if, as a result of its Preliminary Assessments, Remedial Investigations, or other surveys prior to production of a ROD, conditions warrant a time-critical removal action, and the agencies will identify an appropriate response that protects the environment and the health and safety of the public.

J. USACE shall notify NRC in writing if there is a need for a radiological response action under FUSRAP on any property not covered by the license suspended or to be suspended (whether or not owned by the licensee) as a result of radioactive contamination from a licensed site undergoing a FUSRAP investigation or response action.

K. Following completion of the response action at a FUSRAP site with an NRC-licensed facility, USACE shall provide the NRC with a copy of the CERCLA Administrative Record for the NRC historical public record. At the time of close out USACE will provide NRC with copies of any additional information that has been placed in the CERCLA Administrative Record.

L. USACE shall notify the NRC in writing if there are NRC-licensed facilities on FUSRAP sites that may require coordination with the NRC in addition to the four known sites: Maywood Site (Stepan), Maywood, NJ; CE-Windsor Site, Windsor, CT; St. Louis Downtown Site (Mallinkrodt), St. Louis, MO; and the Shallow Land Disposal Area, Parks Township, PA.

M. USACE shall keep NRC apprised in writing of progress toward completion of Preliminary Assessments and/or Site Investigations at licensed sites to determine:

(1) Whether FUSRAP and commingled materials at the site are a threat or potential threat to public health and safety or the environment as a result of the licensed materials there; and

(2) Whether the release requires a response under CERCLA.

N. The NRC will reinstate the license or portions of the license put into suspension due to USACE's remediation if USACE:

(1) Is no longer controlling the FUSRAP-related portion of the licensed site for radiation protection purposes,

(2) Is no longer proceeding with a response action at the licensed site under CERCLA, or

(3) Has otherwise completed its response action.

At least 90 calendar days prior to USACE terminating its physical possession of the licensed site for purpose of control of radiation, USACE will notify the NRC in writing so that the NRC can initiate the process for reinstating the license. USACE shall promptly notify NRC in writing if annual funding for the FUSRAP response action at an NRC-licensed site does not appear to be sufficient to complete the response action.

O. NRC shall be responsible for appropriate regulatory action, including requiring any further decommissioning if necessary, following license reinstatement.

P. As may be necessary, NRC and USACE will develop working procedures to implement this MOU. Such procedures will be approved by the Principal Representatives.

Article IV—Further Assistance

NRC and USACE shall provide such information as may be reasonably necessary or required, which are not inconsistent with applicable laws and regulations, and the provisions of this MOU, in order to give full effect to this MOU and to carry out its intent.

Article V—Dispute Resolution

Every effort will be made to resolve issues between NRC and USACE by the staff directly involved in the activities at issue, through consultation and communication. If a mutually acceptable resolution cannot be reached, the dispute will be elevated to successively higher levels of management up to the signers of this MOU. If resolution cannot be reached, NRC may in its discretion reinstate the licenses involved after providing a written 30 calendar day advance notice to the USACE. Upon license reinstatement, USACE's obligations under this MOU for the particular site shall cease and the licensee becomes responsible for control of radioactive materials on the licensed site, as well as protecting the environment and the health and safety of the public, subject to NRC regulation and other applicable law. Upon determining that the licensee has established control of the site and hazardous substances, USACE will relinquish possession of the site and hazardous substances, will cease remediation activities, and will vacate the site. License reinstatement constitutes notice of the shift in responsibility for control of the site and its hazardous substances.

Article VI—Amendment and Termination

This MOU may be modified or amended in writing by the mutual agreement of the parties. Either party may terminate the MOU by providing written notice to the other party. The termination shall be effective 60 calendar days following notice, unless the parties agree to a later date. Termination of this MOU does not relieve USACE of its statutory responsibility for protecting the environment or the health and safety of the public until NRC has reinstated the license and the licensee has taken control of the site and its hazardous substances.

Article VII—Effective Date

This MOU shall become effective when signed by authorized officials of NRC and USACE.

Dated: February 2, 2001.

U.S. Nuclear Regulatory Commission.

Martin J. Virgilio,

Director, Office of Nuclear Materials Safety and Safeguards, U.S. Nuclear Regulatory Commission.

Dated: July 5, 2001.

U.S. Army Corps of Engineers.

Hans A. Van Winkle,

Major General, U.S. Army, Director, Civil Works, U.S. Army Corps of Engineers.

[FR Doc. 01–17452 Filed 7–11–01; 8:45 am]

BILLING CODE 7590–01–P

OVERSEAS PRIVATE INVESTMENT CORPORATION

Submission for OMB Review; Comment Request

AGENCY: Overseas Private Investment Corporation (OPIC).

ACTION: Request for comments.

SUMMARY: Under the provisions of the Paperwork Reduction Act (44 U.S.C. Chapter 35), Agencies are required to publish a Notice in the **Federal Register** notifying the public that the Agency has prepared an information collection request for OMB review and approval and has requested published review and comment on the submission. OPIC published its first **Federal Register** Notice on this information collection request on May 2, 2001, in 66 FR 22054, at which time a 60-calendar day comment period was announced. This comment period ended July 2, 2001. No comments were received in response to this Notice.

This information collection submission has now been submitted to OMB for review. Comments are again being solicited on the need for the information, its practical utility, the accuracy of the Agency's burden estimate, and on ways to minimize the reporting burden, including automated collection techniques and uses of other forms of technology. The proposed form under review is summarized below.

DATES: Comments must be received on or before August 13, 2001.

ADDRESSES: Copies of the subject form and the request for review submitted to OMB may be obtained from the Agency Submitting Officer. Comments on the form should be submitted to the OMB Reviewer.

FOR FURTHER INFORMATION CONTACT: *OPIC Agency Submitting Officer:* Carol Brock, Records Manager, Overseas Private Investment Corporation, 1100 New York Avenue, NW., Washington, DC 20527; 202/336–8563.

OMB Reviewer: David Rostker, Office of Information and Regulatory Affairs, Office of Management and Budget, New Executive Office Building, Docket

APPENDIX C: 10 CFR 20.1402 & 20.1403

(3) Submit a sufficient LTP or decommissioning plan before August 20, 1998 and such LTP or decommissioning plan is approved by the Commission before August 20, 1999 and in accordance with the criteria identified in the SDMP Action Plan, except that if an EIS is required in the submittal, there will be a provision for day-for-day extension.

(c) After a site has been decommissioned and the license terminated in accordance with the criteria in this subpart, the Commission will require additional cleanup only if based on new information, it determines that the criteria of this subpart were not met and residual activity remaining at the site could result in significant threat to public health and safety.

(d) When calculating TEDE to the average member of the critical group the licensee shall determine the peak annual TEDE dose expected within the first 1000 years after decommissioning.

[62 FR 39088, July 21, 1997, as amended at 66 FR 55789, Nov. 2, 2001]

§ 20.1402 Radiological criteria for unrestricted use.

A site will be considered acceptable for unrestricted use if the residual radioactivity that is distinguishable from background radiation results in a TEDE to an average member of the critical group that does not exceed 25 mrem (0.25 mSv) per year, including that from groundwater sources of drinking water, and that the residual radioactivity has been reduced to levels that are as low as reasonably achievable (ALARA). Determination of the levels which are ALARA must take into account consideration of any detriments, such as deaths from transportation accidents, expected to potentially result from decontamination and waste disposal.

§ 20.1403 Criteria for license termination under restricted conditions.

A site will be considered acceptable for license termination under restricted conditions if:

(a) The licensee can demonstrate that further reductions in residual radioactivity necessary to comply with the provisions of § 20.1402 would result in net public or environmental harm or were not being made because the residual levels associated with restricted conditions are ALARA. Determination of the levels which are ALARA must take into account consideration of any detriments, such as traffic accidents, expected to potentially result from decontamination and waste disposal;

(b) The licensee has made provisions for legally enforceable institutional controls that provide reasonable assurance that the TEDE from residual radioactivity distinguishable from background to the average member of the critical group will not exceed 25 mrem (0.25 mSv) per year;

(c) The licensee has provided sufficient financial assurance to enable an independent third party, including a governmental custodian of a site, to assume and carry out responsibilities for any necessary control and maintenance of the site. Acceptable financial assurance mechanisms are—

(1) Funds placed into an account segregated from the licensee's assets and outside the licensee's administrative control as described in § 30.35(f)(1) of this chapter;

(2) Surety method, insurance, or other guarantee method as described in § 30.35(f)(2) of this chapter;

(3) A statement of intent in the case of Federal, State, or local Government licensees, as described in § 30.35(f)(4) of this chapter; or

(4) When a government entity is assuming custody and ownership of a site, an arrangement that is deemed acceptable by such governmental entity.

(d) The licensee has submitted a decommissioning plan or License Termination Plan (LTP) to the Commission indicating the licensee's intent to decommission in accordance with §§ 30.36(d), 40.42(d), 50.82 (a) and (b), 70.38(d), or 72.54 of this chapter, and specifying that the licensee intends to decommission by restricting use of the site. The licensee shall document in the LTP or decommissioning plan how the advice of individuals and institutions in the community who may be affected by the decommissioning has been sought and incorporated, as appropriate, following analysis of that advice.

background radiation results in a TEDE to an average member of the critical group that does not exceed 25 mrem (0.25 mSv) per year, including that from groundwater sources of drinking water, and that the residual radioactivity has been reduced to levels that are as low as reasonably achievable (ALARA). Determination of the levels which are ALARA must take into account consideration of any detriments, such as deaths from transportation accidents, expected to potentially result from decontamination and waste disposal.

§ 20.1403 Criteria for license termination under restricted conditions.

A site will be considered acceptable for license termination under restricted conditions if:

(a) The licensee can demonstrate that further reductions in residual radioactivity necessary to comply with the provisions of § 20.1402 would result in net public or environmental harm or were not being made because the residual levels associated with restricted conditions are ALARA. Determination of the levels which are ALARA must take into account consideration of any detriments, such as traffic accidents, expected to potentially result from decontamination and waste disposal;

(b) The licensee has made provisions for legally enforceable institutional controls that provide reasonable assurance that the TEDE from residual radioactivity distinguishable from background to the average member of the critical group will not exceed 25 mrem (0.25 mSv) per year;

(c) The licensee has provided sufficient financial assurance to enable an independent third party, including a governmental custodian of a site, to assume and carry out responsibilities for any necessary control and maintenance of the site. Acceptable financial assurance mechanisms are—

(1) Funds placed into an account segregated from the licensee's assets and outside the licensee's administrative control as described in § 30.35(f)(1) of this chapter;

(2) Surety method, insurance, or other guarantee method as described in § 30.35(f)(2) of this chapter;

(3) A statement of intent in the case of Federal, State, or local Government licensees, as described in § 30.35(f)(4) of this chapter; or

(4) When a government entity is assuming custody and ownership of a site, an arrangement that is deemed acceptable by such governmental entity.

(d) The licensee has submitted a decommissioning plan or License Termination Plan (LTP) to the Commission indicating the licensee's intent to decommission in accordance with §§ 30.36(d), 40.42(d), 50.82 (a) and (b), 70.38(d), or 72.54 of this chapter, and specifying that the licensee intends to decommission by restricting use of the site. The licensee shall document in the LTP or decommissioning plan how the advice of individuals and institutions in the community who may be affected by the decommissioning has been sought and incorporated, as appropriate, following analysis of that advice.

(1) Licensees proposing to decommission by restricting use of the site shall seek advice from such affected parties regarding the following matters concerning the proposed decommissioning—

(i) Whether provisions for institutional controls proposed by the licensee:

(A) Will provide reasonable assurance that the TEDE from residual radioactivity distinguishable from background to the average member of the critical group will not exceed 25 mrem (0.25 mSv) TEDE per year;

(B) Will be enforceable; and

(C) Will not impose undue burdens on the local community or other affected parties.

(ii) Whether the licensee has provided sufficient financial assurance to enable an independent third party, including a governmental custodian of a site, to assume and carry out responsibilities for any necessary control and maintenance of the site;

(2) In seeking advice on the issues identified in § 20.1403(d)(1), the licensee shall provide for:

(i) Participation by representatives of a broad cross section of community interests who may be affected by the decommissioning;

(ii) An opportunity for a comprehensive, collective discussion on the issues by the participants represented; and

(iii) A publicly available summary of the results of all such discussions, including a description of the individual viewpoints of the participants on the issues and the extent of agreement or disagreement among the participants on the issues; and

(e) Residual radioactivity at the site has been reduced so that if the institutional controls were no longer in effect, there is reasonable assurance that the TEDE from residual radioactivity distinguishable from background to the average member of the critical group is as low as reasonably achievable and would not exceed either—

(1) 100 mrem (1 mSv) per year; or

(2) 500 mrem (5 mSv) per year provided that the licensee—

(i) Demonstrates that further reductions in residual radioactivity necessary to comply with the 100 mrem/y (1 mSv/y) value of paragraph (e)(1) of this section are not technically achievable, would be prohibitively expensive, or would result in net public or environmental harm;

(ii) Makes provisions for durable institutional controls;

(iii) Provides sufficient financial assurance to enable a responsible government entity or independent third party, including a governmental custodian of a site, both to carry out periodic rechecks of the site no less frequently than every 5 years to assure that the institutional controls remain in place as necessary to meet the criteria of § 20.1403(b) and to assume and carry out responsibilities for any necessary control and maintenance of those controls. Acceptable financial assurance mechanisms are those in paragraph (c) of this section.

§ 20.1404 Alternate criteria for license termination.

(a) The Commission may terminate a license using alternate criteria greater than the dose criterion of §§ 20.1402, 20.1403(b), and 20.1403(d)(1)(i)(A), if the licensee—

(1) Provides assurance that public health and safety would continue to be protected, and that it is unlikely that the dose from all man-made sources combined, other than medical, would be more than the 1 mSv/y (100 mrem/y) limit of subpart D, by submitting an analysis of possible sources of exposure;

(2) Has employed to the extent practical restrictions on site use according to the provisions of § 20.1403 in minimizing exposures at the site; and

(3) Reduces doses to ALARA levels, taking into consideration any detriments such as traffic accidents expected to potentially result from decontamination and waste disposal.

(4) Has submitted a decommissioning plan or License Termination Plan (LTP) to the Commission indicating the licensee's intent to decommission in accordance with §§ 30.36(d), 40.42(d), 50.82 (a) and (b), 70.38(d), or 72.54 of this chapter, and specifying that the licensee proposes to decommission by use of alternate criteria. The licensee shall document in the decommissioning plan or LTP how the advice of individuals and institutions in the community who may be affected by the decommissioning has been sought and addressed, as appropriate, following analysis of that advice. In seeking such advice, the licensee shall provide for:

(i) Participation by representatives of a broad cross section of community interests who may be affected by the decommissioning;

(ii) An opportunity for a comprehensive, collective discussion on the issues by the participants represented; and

(iii) A publicly available summary of the results of all such discussions, including a description of the individual viewpoints of the participants on the issues and the extent of agreement and disagreement on the issues.

(b) The use of alternate criteria to terminate a license requires the approval of the Commission after consideration of the NRC staff's recommendations that will address any comments provided by the Environmental Protection Agency and any public comments submitted pursuant to § 20.1405.

§ 20.1405 Public notification and public participation.

Upon the receipt of an LTP or decommissioning plan from the licensee, or a proposal by the licensee for release of a site pursuant to §§ 20.1403 or 20.1404, or

APPENDIX D: REAL ESTATE PLAN

APPENDIX D

Shallow Land Disposal Area
Parks Township
Armstrong County

FUSRAP Project

Real Estate Plan

March 17, 2006

DEPARTMENT OF THE ARMY
PITTSBURGH DISTRICT, CORPS OF ENGINEERS
FUSRAP PROJECT
SHALLOW LAND DISPOSAL AREA (SLDA) SITE
PARKS TOWNSHIP, ARMSTRONG COUNTY, PENNSYLVANIA
REAL ESTATE PLAN

TABLE OF CONTENTS

SECTION PAGE

1.0 AUTHORITY 1
2.0 LOCATION 2
3.0 BACKGROUND AND REAL ESTATE PLAN PURPOSE 2
4.0 PROJECT LANDS, EASEMENTS, RIGHTS-OF-WAY, RELOCATIONS AND DISPOSAL AREAS (LERRD). 3
5.0 NON-FEDERAL SPONSOR (NFS) OWNED LAND 4
6.0 RIGHT-OF-ENTRY 4
7.0 EXISTING FEDERAL PROJECTS WITHIN THE PROJECT LIMITS 4
8.0 FEDERALLY OWNED LAND WITHIN THE PROJECT LIMITS 4
9.0 NAVIGATIONAL SERVITUDE 5
10.0 REAL ESTATE SEGMENT MAP 5
11.0 INDUCED FLOODING 5
12.0 REAL ESTATE BASELINE COST ESTIMATE 5
13.0 PUBLIC LAW 91-646 RELOCATIONS 6
14.0 MINERAL ACTIVITY 6
15.0 ASSESSMENT OF NON-FEDERAL SPONSOR'S REAL ESTATE ACQUISITION CAPABILITY 6
16.0 ZONING ORDINANCE REQUIREMENTS 6
17.0 PROJECT SCHEDULE 7
18.0 PUBLIC FACILITY RELOCATIONS 7
19.0 HAZARDOUS, TOXIC AND RADIOACTIVE WASTE (HTRW) 7
20.0 LANDOWNER OPPOSITION 8
21.0 OTHER RELEVANT REAL ESTATE ISSUES 8

LIST OF TABLES

TABLE 1 FEDERAL COSTS 6

LIST OF EXHIBITS

EXHIBIT A SITE LOCATION MAP 9
EXHIBIT B PROJECT LIMITS 11
EXHIBIT C RIGHT-OF-ENTRY 15
EXHIBIT D PORTION OF PUBLIC LAW 106-60 17
EXHIBIT E NON-STANDARD ESTATE 19

DEPARTMENT OF THE ARMY
PITTSBURGH DISTRICT, CORPS OF ENGINEERS
PITTSBURGH, PENNSYLVANIA 15222

FUSRAP PROJECT

SHALLOW LAND DISPOSAL AREA (SLDA) SITE
PARKS TOWNSHIP, ARMSTRONG COUNTY, PENNSYLVANIA
REAL ESTATE PLAN

1.0 AUTHORITY

1.01 This project falls under the Formerly Utilized Sites Remedial Action Program (FUSRAP). This program was created in 1974 by the Department of Energy (DOE) to address sites used during the early atomic energy program that had residual contamination exceeding current regulatory limits. In the Energy and Water Development Appropriations Act of 1998, (Title I, Public Law 105-62, 111 Stat. 1326) Congress transferred the responsibility for the administration and execution of cleanup at eligible FUSRAP sites to the US Army Corps of Engineers (USACE). In the Energy and Water Development Appropriations Act of 2000 (Public Law 106-60), Congress gave further directions on program management which required USACE to follow the Comprehensive Environmental Response, Compensation and Liability Act (42 U.S.C. 9601, et seq.) known as CERCLA, and authorized the acquisition of real estate interests where necessary to achieve the objectives of approved remedial action plans. In January 2002, Section 8143 of Public Law 107-117 (115 Stat. 2280), directed USACE to cleanup radioactive waste at the Parks Township Shallow Land Disposal Area (SLDA) site. The authority language is as follows:

> *"Sec. 8143. (a) ACTIVITIES UNDER FORMERLY UTILIZED SITES REMEDIAL ACTION PROGRAM. – Subject to subsections (b) through (e) of section 611 of Public Law 106-60 (113 Stat. 502; 10 U.S.C 2701 note), the Secretary of the Army, acting through the Chief of Engineers, under the Formerly Utilized Sites Remedial Action Program shall undertake the functions and activities specified in subsection (a) of such section in order to –*
>
> *(2) clean up radioactive waste at the Shallow Land Disposal Area located in Parks Township, Armstrong County, Pennsylvania, consistent with the Memorandum of Understanding Between the United States Nuclear Regulatory Commission and the United States Army Corps of Engineers for Coordination on Cleanup and Decommissioning of the Formerly Utilized Sites Remedial Action Program (FUSRAP) Sites with NRC Licensed Facilities, dated July 5, 2001.*
>
> *(b) SPECIAL RULES REGARDING SHALLOW LAND DISPOSAL AREA.-The Secretary of the Army shall seek to recover response costs incurred by the Army Corps of Engineers for cleanup of the Shallow Land Disposal Area from appropriate responsible parties in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C 9601 et seq.). The Secretary of the Army and the Corps of Engineers shall not, by virtue of this cleanup, become liable for the actions or omissions of past, current, or future licensees, owners, or operators of the Shallow Land Disposal Area.*
>
> *(c) FUNDING SOURCES.-Amounts appropriated to the Army Corps of Engineers for fiscal year 2001 and subsequent fiscal years and available for the Formerly Utilized Sites Remedial Action Program shall be available to carry out this section."*

2.0 LOCATION

2.01 The SLDA site is located about 35 miles northeast of Pittsburgh, Pennsylvania. The site is adjacent to the community of Kiskimere in Parks Township, Armstrong County, Pennsylvania as shown on Exhibit A. The SLDA site is bordered by Kiskimere Road to the southwest and State Route 66 and the Kiskiminetas River to the northwest. A seasonal stream called Dry Run meanders along the northeast side of the site.

3.0 BACKGROUND AND REAL ESTATE PLAN PURPOSE

3.01 In 1957, the Nuclear Materials and Equipment Company (NUMEC) initiated small-scale production of high and low-enriched uranium and thorium fuel in Apollo, Pennsylvania. The Apollo facility was located approximately 2.5 miles south of the SLDA site. NUMEC operated the Apollo facility under United States Atomic Energy Commission (AEC) license No. SNM-145. By 1963, a majority of the Apollo facility was dedicated to continuous production of uranium fuel. Throughout its operation, the facility converted low-enriched uranium hexaflouride to uranium dioxide, which was used as fuel in commercial power plants. In 1963, a second product line was added to produce high-enriched uranium fuel for United States Navy propulsion reactors. Other operations included analytical laboratories, scrap recovery, uranium storage, and research and development. Between 1961 and 1970, NUMEC buried process wastes and other wastes from the Apollo facility in a series of pits (trenches) at the SLDA site in accordance with 10 CFR 20.304, “Disposal by Burial in Soil” (which was subsequently rescinded in 1981).

3.02 NUMEC also owned and operated the Parks Nuclear Fabrication facility located between State Route 66 and the SLDA site. The Parks facility has been decommissioned, the NRC license was terminated, and the property has been released for unrestricted use. The Parks site is currently vacant land owned by BWXT. Wastes from the Parks facility were not permitted for burial at the SLDA site.

3.03 In 1967, the Atlantic Richfield Company (ARCO) bought the stock of NUMEC. In 1970, NUMEC discontinued use of the SLDA for radioactive waste disposal. In 1971, ARCO sold the stock of NUMEC to Babcock & Wilcox. BWX Technologies (BWXT) became the owner of the site in 1997. BWXT is the current licensee for the site and is responsible for compliance with the terms and conditions of the Nuclear Regulatory Commission (NRC) License SNM-2001. Work associated with nuclear materials is no longer conducted at the SLDA site.

3.04 As a point of clarification regarding the SLDA site, one can think of the original nuclear fuel processing operational setup as two (2) separate operations with one being production and the other being disposal. During the period of operation, contaminated waste originating at the Apollo facility was disposed of on other parts of land currently owned by BWXT. This disposal area became known as the Shallow Land Disposal Area and is the subject of the current cleanup effort.

3.05 Low-level nuclear wastes from the nearby decommissioned Apollo operation site were disposed of on the SLDA site in a series of ten (10) trenches as shown in Exhibit B. Buried

radiological wastes consist of mostly uranium and thorium associated with manufacturing by-products and from discarded protective clothing. Non-radiological waste included pieces of equipment, building material and trash.

3.06 Five (5) project alternatives were presented in the Feasibility Study (FS). Alternatives 4 & 5 are the same general concept of Excavation, Treatment and/or Off-Site Disposal. Implementation of either alternative 4 or 5 will require the same amount of real estate and access to the entire 44 acre SLDA site will be needed. This Real Estate Plan (REP) has been prepared to describe the LERRD necessary to implement either alternative 4 or 5 as presented in the Proposed Plan (PP).

3.07 No prior REP has been developed for this project.

4.0 PROJECT LANDS, EASEMENTS, RIGHTS-OF-WAY, RELOCATIONS AND DISPOSAL AREAS (LERRD).

4.01 The SLDA site itself contains ten (10) trenches where low-level radioactive waste was placed. These trenches are at various locations over the project area as shown in Exhibit B. The project will basically consist of excavating the contaminated waste from the trenches and hauling the waste to a disposal facility permitted to accept the radiological waste. Treatment of some of the least contaminated soil may take place on site with the intent of using it as backfill material. Once the project is completed, the site will be regraded, sloped so that water will drain adequately from the area and seeded.

4.02 Current access to the site is available from Kiskimere Road. Kiskimere Road is mainly for access to residential areas in the community of Kiskimere. Local residents have raised safety concerns regarding use of Kiskimere Road for transporting radiological wastes from the SLDA site. As a result of these concerns, a separate temporary access road from State Route 66 to the SLDA site, and over lands of BWXT, will be constructed.

4.03 It is proposed in the PP to obtain fill material from a separate, off-site source. A separate borrow site was not identified in the PP therefore, the fill material must be obtained from a properly permitted, commercially available source. The contractor will not be instructed to develop his own borrow facility.

4.04 A natural gas pipeline crosses the southeasterly side of the project area. The pipeline is owned by Dominion Peoples Natural Gas Company. The pipeline is within a few feet of Trench No. 9 and will need relocated to permit excavation of the wastes contained in Trench No. 9. The general location of the pipeline is shown on Exhibit B. Costs to negotiate the relocation agreement with Dominion are included in Table 1 of the REP. Costs to relocate the pipeline are included at Section 8.7 of the PP. The preferred route for the relocated pipeline will be at a location removed from the BWXT NRC licensed area. The route will begin within the public right-of-way of Kiskemere Road and will hug the property line of the BWXT property and cross

four (4) additional property owners eventually crossing BWXT land, at a point that is outside the NRC licensed area, and tying back into the Dominion Peoples gasline. This route is preferred because it will be separate from the NRC licensed area, which is also chemically contaminated, and will not carry additional environmental liability for Dominion Peoples when the easement is turned over as part of the relocation agreement. Three (3) estates are proposed for the pipeline relocation; two (2) standard estates found in Chapter 5 of ER405-1-12 identified as: 1) Temporary Work Area Easement, and, 2) Permanent Pipeline Easement and, 3) a non-standard Temporary Road Easement. The Temporary Work Area Easements and the non-standard Temporary Road Easement will be acquired for a period of two (2) years. The non-standard Temporary Road Easement is attached as Exhibit E and it is requested that this estate be approved for use for this project.

4.05 A portion of the BWXT land near Route 66 has been cleaned up and the NRC license has been revoked. This land does not have any radiological wastes and is not part of the cleanup efforts. A portion of the project haulroad will begin on this land and will lead to the NRC licensed area. A non-standard Temporary Road Easement is the estate proposed for this portion of the haulroad and is the same estate proposed for the Dominion Peoples pipeline relocation. The portion of the haulroad over the clean BWXT land will be for a term of 4 years. The non-standard Temporary Road Easement estate is attached as Exhibit E and it is requested that this estate be approved for use for this project.

4.05 Based on the preliminary project limits as depicted on the tax map (Exhibit B2), five (5) separate property owners own the land needed for the gasline relocation with BWXT being one (1) of the property owners. BWXT owns the land for the beginning of the haulroad (see Exhibit B3) that is outside the SLDA project limits. Therefore, administrative cost to deal with five total (5) landowners is shown in Table I.

5.0 NON-FEDERAL SPONSOR (NFS) OWNED LAND

5.01 This is a 100% federally funded project. There will not be a Non-Federal Sponsor.

6.0 RIGHT-OF-ENTRY

6.01 The COE will attempt to negotiate access to the SLDA site via a Right-of-Entry substantially conforming to the Department of the Army Right of Entry attached as Exhibit C and previously approved for use for FUSRAP. Material deviations to the approved ROE will be forwarded to higher authority for approval.

7.0 EXISTING FEDERAL PROJECTS WITHIN THE PROJECT LIMITS

7.01 There are no existing Federal Projects within the proposed project limits.

8.0 FEDERALLY OWNED LAND WITHIN THE PROJECT LIMITS

8.01 There is no existing Federally owned land within the proposed project limits.

9.0 NAVIGATIONAL SERVITUDE

9.01 The project is not located within the limits of a navigable waterway. Navigational servitude does not apply.

10.0 REAL ESTATE SEGMENT MAP

10.01 A segment map was not prepared as part of this REP. The general project limits are shown on Exhibit B1. Exhibit B2 is a portion of the tax map and shows the land required to relocate the Dominion Peoples Gasline. Exhibit B3 is another portion of the tax map showing the haulroad over the clean area of the BWXT land. The real estate segment map and legal descriptions will be prepared prior to negotiating the right-of-entry agreement with BWXT, the easements for the haulroad and the easements for the Dominion Peoples pipeline relocation. Land will be acquired over parcel numbers 16, 30, 49, 32.001, 33 and 34 as identified on the Armstrong County tax map 215 as shown on Exhibits B2 and B3.

11.0 INDUCED FLOODING

11.01 The proposed project area is outside the floodplain. Removal of the contaminated waste and the subsequent regrading of the site will not cause additional flooding to occur.

12.0 REAL ESTATE BASELINE COST ESTIMATE

12.01 The cleanup work at the SLDA site will be performed under a right-of-entry. Since an interest in land will not be acquired a gross appraisal to determine the land value of the NRC licensed area was not prepared for this REP. Should condemnation become necessary a nominal sum based on a real estate estimate will be recommended for deposit in the registry of the court. A gross appraisal was prepared for the Dominion Peoples gasline relocation (shown on Exhibit B2) and the BWXT haulroad (shown on Exhibit B3).

12.02 The costs for the haulroad over BWXT land near Route 66 as well as the land required for the Dominion Peoples gasline relocation are listed in Table 1.

12.02 The total Federal estimated labor and contracting costs related to real estate activities for the project are presented below.

TABLE 1 FEDERAL COSTS

ADMINISTRATIVE				**Estimated Cost**
Surveying and Mapping			Contractor /Other COE	$ 15,000
Negotiate Site Access Agreement			Labor	$ 30,000
Negotiate Relocation Agreement			Labor	$ 20,000
Acquisition (5 owners)			Labor	$ 75,000
Condemnation			Labor	$ 25,000
Title Evidence (5 owners)			Contractor	$ 25,000
Sub-Total				**$ 176,000**
LAND	Acres	Term		
Site Access Agreement for Condemnation	N/A	N/A	Land	$ 100*
Perm. Easement for Gasline Relocation	1.42	N/A	Land	$ 6,000
Temp. Work Ease. for Gasline Relocation	3.26	2 yrs.	Land	$ 3,000
Temp. Road Ease. for Gasline Relocation	0.28	2 yrs	Land	$ 500
Temp. Road Ease. for BWXT Haulroad	1.15	4 yrs	Land	$ 2,000
25% Contingency (Land Only)				$ 2,900
Sub-Total				**$ 14,500**
Grand Total	**6.11**			**$ 190,500**

* Nominal amount should condemnation be required

13.0 PUBLIC LAW 91-646 RELOCATIONS

13.01 No persons, farms or businesses will be relocated as a result of this project.

14.0 MINERAL ACTIVITY

14.01 The Upper Freeport coal seam was strip mined in the area of the decommissioned Parks Nuclear Fabrication facility (area of Trench 10). Under Trenches 1 thru 9, the Upper Freeport coal seam was deep mined and the abandoned mine workings are located under the project area. All economically recoverable coal has been removed. There is no evidence of oil wells, gas wells or other minerals within the proposed project limits. The cleanup activity will be temporary in nature and no permanent structures will be built within the limits of the project. Should they exist, there is no need to acquire any mineral interests within the proposed project area.

15.0 ASSESSMENT OF NON-FEDERAL SPONSOR'S REAL ESTATE ACQUISITION CAPABILITY

15.01 A sponsor assessment is not required. This is a 100% federally funded project.

16.0 ZONING ORDINANCE REQUIREMENTS

16.01 There are no zoning ordinances proposed in lieu of, or to facilitate, LERRD requirements

in connection with this project.

17.0 PROJECT SCHEDULE

17.01 A Project Management Plan (PMP) will be developed prior to submission of the Proposed Plan to Lakes and Rivers Division. A detailed project schedule will be part of the PMP. The real estate activities below are based on a current draft schedule developed by the project team.

Obtain Title Contractor ……	Mar 2006 to Jun 2006
Order and Receive Preliminary Title Evidence ……	Jul 2006 to Sep 2006
Survey, Mapping & Legal Descriptions ……..	Apr 2006 to Jul 2006
Appraisals ……	Aug 2006 to Oct 2006
Negotiations …….	Nov 2006 to Feb 2007
Condemnation ……..	Mar 2007 to Sep 2007
Certify Real Estate ……	Mar 2007 to Sep 2007
Award Task Order for Remediation …….	Nov 2007

18.0 PUBLIC FACILITY RELOCATIONS

18.01 A gas line owned by Dominion Peoples crosses the SLDA project in close proximity to the trenches that will be excavated (see attached Exhibit B1). The gas line will need relocated to allow for cleanup of the radiological waste. An Attorney's Opinion of Compensability determined that Dominion Peoples has a compensable interest in real estate. The Government will acquire a permanent easement for placement of the new gasline and will turn this easement over to Dominion Peoples as part of the relocation agreement. The estimated costs for the construction activities required to relocate the gasline are covered in the Proposed Plan.

18.02 A relocation agreement will be negotiated with Dominion Peoples to allow for relocation of the natural gas pipeline. A permanent utility easement will be acquired for the relocation. Dominion Peoples will be required to abandon their real estate interests for the portion of the pipeline that will be relocated. Dominion Peoples will install the new gasline and will make the necessary connections to their existing pipeline. The old pipeline will be removed by the project contractor and disposed of in a proper manner since it may be contaminated much the same as the materials in the trenches. An estimate for the cost of thereal estate interests for the relocation in addition to the administrative costs is included in the total real estate costs at Table 1.

19.0 HAZARDOUS, TOXIC AND RADIOACTIVE WASTE (HTRW)

19.01 The NRC licensed area is contaminated with low-level radioactive waste. The feasibility report proposes to clean up the radioactive wastes from the NRC licensed site under CERCLA guidelines. An investigation into HTRW was part of the CERCLA process for the NRC licensed area. The site may be contaminated with other chemicals. Any chemicals commingled with the low level radioactive materials will be removed. Chemicals that may be present on other parts of the SLDA site will not be removed as part of the clean-up action.

19.02 HTRW studies have not been conducted on the BWXT land for a portion of the haulroad beginning at Route 66 or for the lands needed for the Dominion Peoples pipeline relocation.

Efforts are being conducted now by the Buffalo District to obtain rights-of-entry (ROE) for Survey and Exploration to allow for investigation of these lands. As soon as these ROE's are obtained, a Phase I HTRW investigation will be completed. Land acquisition will not begin until the results of the Phase I HTRW study are available and confirm that there are no contaminates within the limits of the proposed acquisition

20.0 LANDOWNER OPPOSITION

20.01 There is currently no known landowner opposition to the project other than the request that Kiskimere Road not be used to transport waste from the SLDA site.

21.0 OTHER RELEVANT REAL ESTATE ISSUES

21.01 This project is being implemented under CERCLA guidelines. The NEPA process and more specifically separate HTRW and NHPA investigations are covered under the CERCLA process for the NRC licensed area.

21.02 A Cultural Resource study has not been conducted for a portion of the haulroad beginning at Route 66 or for the lands needed for the Dominion Peoples pipeline relocation. Efforts are being conducted now by the Buffalo District to obtain rights-of-entry (ROE) for Survey and Exploration to allow for investigation of these lands. As soon as these ROE's are obtained, a Phase I Cultural Resource study will be completed. Land acquisition will not begin until the results of the Phase I Cultural Resource study are available and confirms that there are no historically significant features within the limits of the proposed acquisition.

21.03 An attempt will be made to do the remedial work on the NRC licensed area under a right-of-entry. Should condemnation be necessary to acquire access to the property, the COE will condemn for a standard temporary work area easement estate as listed in ER405-1-12, Chapter 5. In the event of condemnation, the Declaration of Taking will, at a minimum, reference 33 U.S.C. § 591, 40 U.S.C. §§ 257-258a, and the Energy and Water Development Appropriations Act, Public Law 105-62, 111 Stat. 1326 (1997).

21.04 Approval of a Non-Standard Temporary Road Easement is requested as explained in paragraph 4.05.

21.05 This REP is tentative in nature, for planning purposes only and both the final real property acquisition lines and the estimate of value are subject to change even after the approval of this REP.

Exhibit A
Site Location
Map

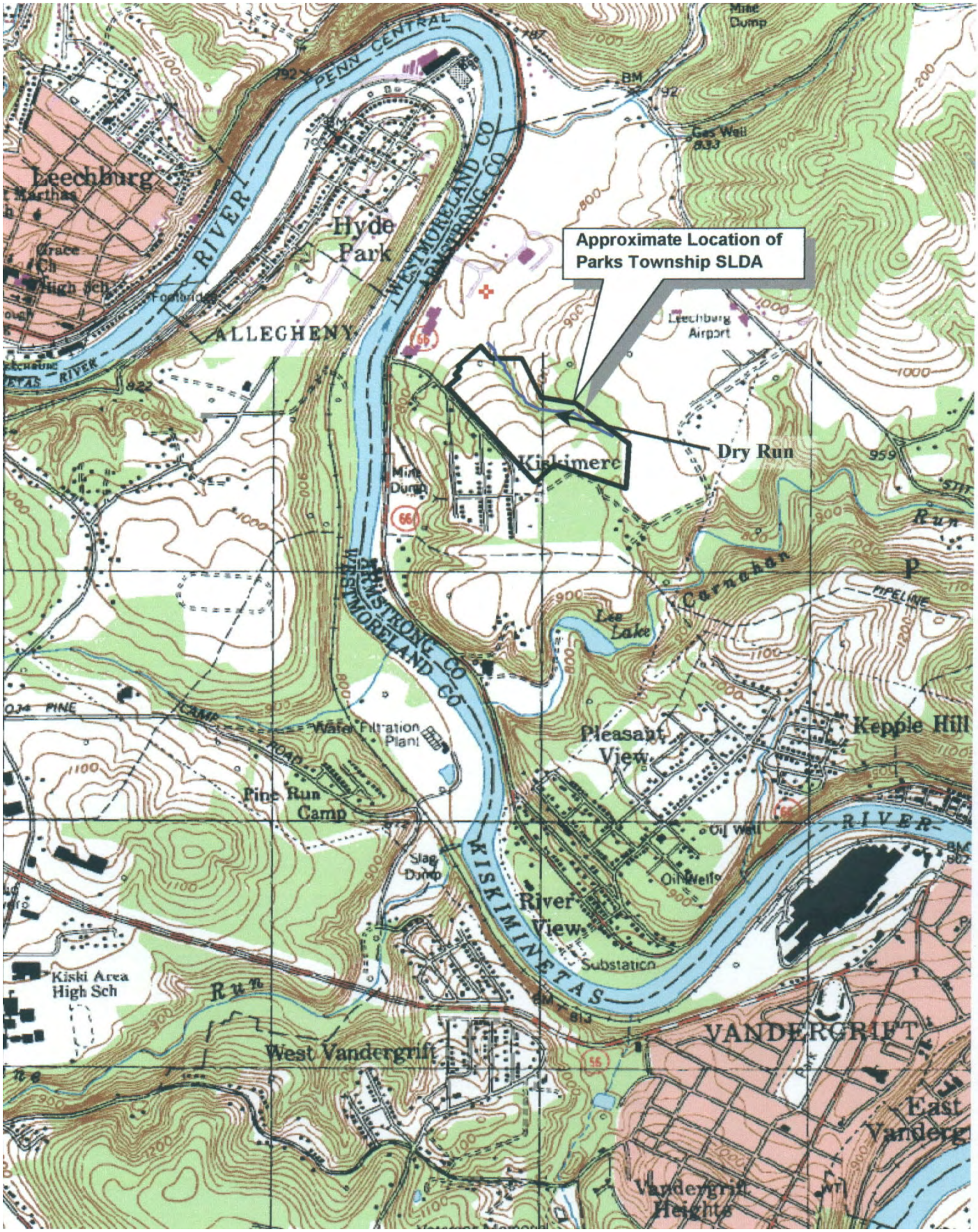


EXHIBIT A
SITE LOCATION MAP

Exhibit B
Project Limits

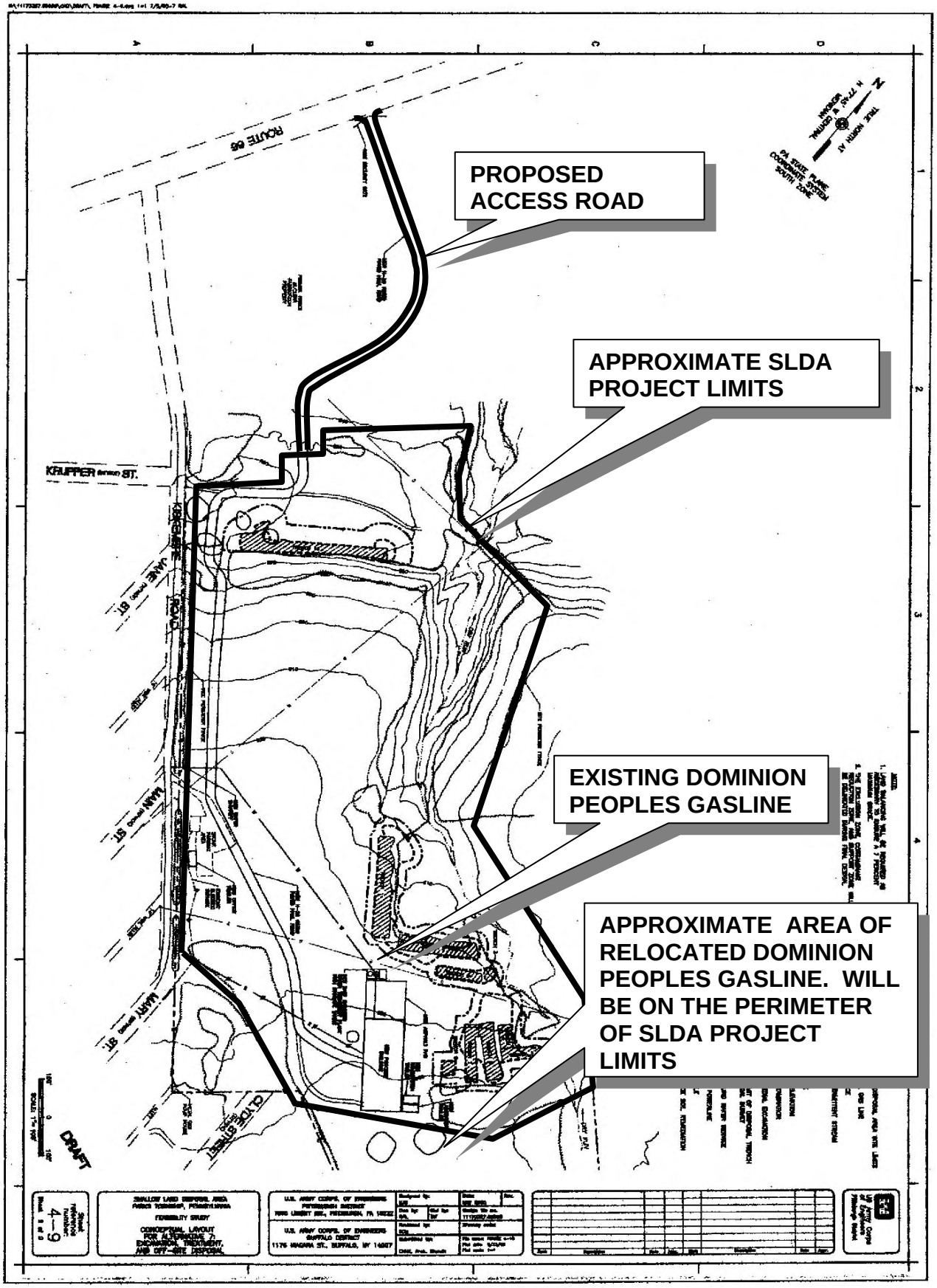


EXHIBIT B1
PROJECT LIMITS

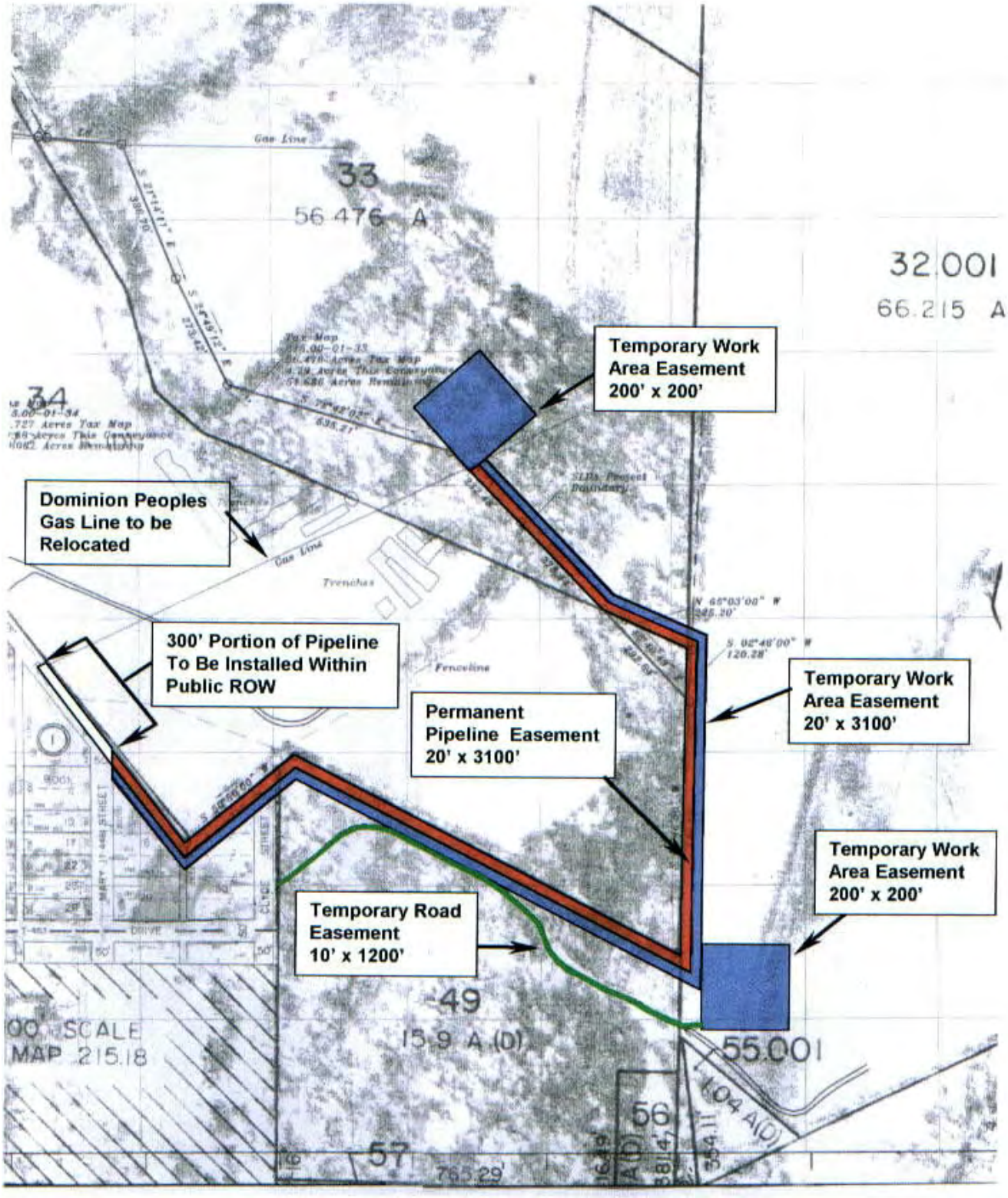


EXHIBIT B2
PROJECT LIMITS

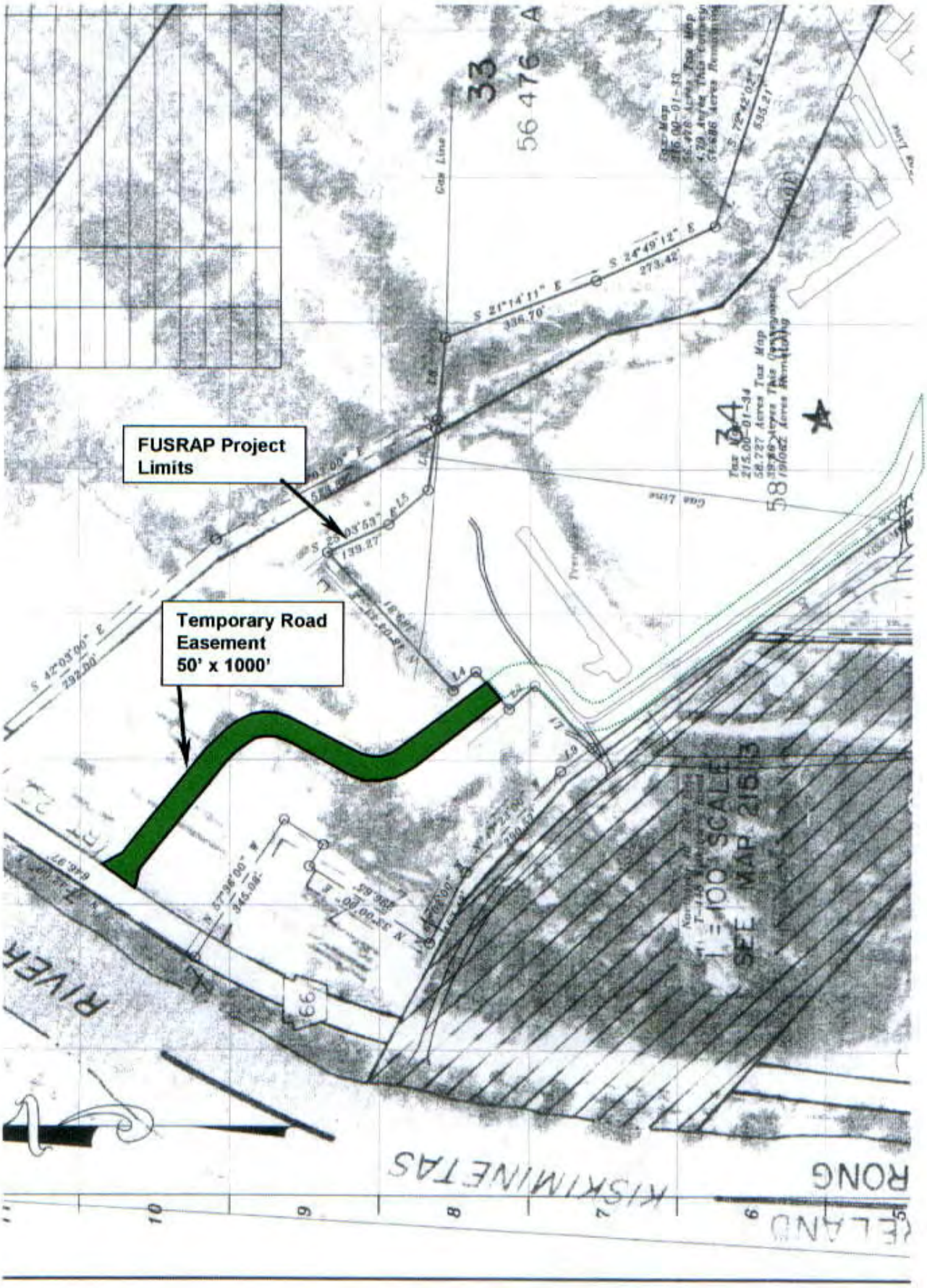


EXHIBIT B3
PROJECT LIMITS

Exhibit C
Right-of-Entry

DEPARTMENT OF THE ARMY

RIGHT OF ENTRY

_____ _____

(Site Name) (Tract Number)

The undersigned, hereinafter called the "Grantor," in consideration of the performance of remedial activities under the Formerly Utilized Sites Remedial Action Program by the UNITED STATES OF AMERICA, hereinafter called the "Government," hereby grants to the Government, its agents, employees, representatives, contractors and assigns, an irrevocable right of entry upon the property located at _____ _____, and more particularly described in Exhibit "A" attached hereto, subject to the following terms and conditions:

1. This Right of Entry is granted for purposes of performing surveys and investigations, collecting samples and making test borings, and remediating radiological and chemical contamination of soils, groundwater and structures including, but not limited to, the right to store, move and remove equipment and supplies; excavate and dispose of contaminated soil and backfill with suitable soil and restore the property to its previous condition; construct, operate, maintain, repair, replace, and remove groundwater extraction, treatment and injection systems and monitoring wells; and perform such other work as may be necessary and incident to implementation of the Formerly Utilized Sites Remedial Action Program for a period not to exceed _____ beginning with the date of this instrument.

2. This Right of Entry includes the right of ingress and egress on other lands of the Grantor provided that such ingress and egress is necessary and not otherwise conveniently available to the Government.

3. All tools, equipment, and other property taken or placed upon the land by the Government shall remain the property of the Government and may be removed by the Government at any time within a reasonable period after the expiration of this Right of Entry.

4. The Government shall have the right to patrol and police the land during the period of this Right of Entry.

5. If any action of the Government in the exercise of the rights granted herein results in damage to the real property, the Government will, in its sole discretion, either repair such damage or make an appropriate settlement with the Grantor. In no event shall such repair or settlement exceed the fair market value of the fee simple title to the real property at the time immediately preceding such damage. The Government's liability under this clause is subject to the availability of appropriations for such payment, and nothing contained in this agreement may be considered as implying that Congress will at a later date appropriate funds sufficient to meet any deficiencies. The provisions of this clause are without prejudice to any rights the Grantor may have to make a claim under applicable laws for any damages other than those provided for herein.

WITNESS MY HAND AND SEAL this _____ day of _____, 199__.

_____ (SEAL)

[Typed Name]

_____ (SEAL)

[Typed Name]

Accepted:

UNITED STATES OF AMERICA

By: _____

[Typed Name]

[Title]

Exhibit D
Portion of Public Law 106-60

(3) SALE OF OBLIGATIONS.—Any obligation acquired by the Fund may be sold by the Secretary of the Treasury at the market price.

(4) CREDITS TO FUND.—The interest on, and the proceeds from the sale or redemption of, any obligations held in the Fund shall be credited to and form a part of the Fund.

SEC. 609. LAKE CASCADE. (a) DESIGNATION.—The reservoir commonly known as the "Cascade Reservoir", created as a result of the building of the Cascade Dam authorized by the matter under the heading "BUREAU OF RECLAMATION" of the fifth section of the Interior Department Appropriation Act, 1942 (55 Stat. 334, chapter 259) for the Boise Project, Idaho, Payette division, is redesignated as "Lake Cascade".

(b) REFERENCES.—Any reference in any law, regulation, document, record, map, or other paper of the United States to "Cascade Reservoir" shall be considered to be a reference to "Lake Cascade".

SEC. 610. Section 4(h)(10)(D) of the Pacific Northwest Electric Power Planning and Conservation Act (16 U.S.C. 839b(h)(10)(D)) is amended by striking clauses (vii) and (viii) and inserting the following:

"(vii) COST LIMITATION.—The annual cost of this provision shall not exceed $500,000 in 1997 dollars.".

10 USC 2701 note.

SEC. 611. (a) The Secretary of the Army, acting through the Chief of Engineers, in carrying out the program known as the Formerly Utilized Sites Remedial Action Program, shall undertake the following functions and activities to be performed at eligible sites where remediation has not been completed:

(1) Sampling and assessment of contaminated areas.

(2) Characterization of site conditions.

(3) Determination of the nature and extent of contamination.

(4) Selection of the necessary and appropriate response actions as the lead Federal agency.

(5) Cleanup and closeout of sites.

(6) Any other functions and activities determined by the Secretary of the Army, acting through the Chief of Engineers, as necessary for carrying out that program, including the acquisition of real estate interests where necessary, which may be transferred upon completion of remediation to the administrative jurisdiction of the Secretary of Energy.

(b) Any response action under that program by the Secretary of the Army, acting through the Chief of Engineers, shall be subject to the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9601 et seq.) (in this section referred to as "CERCLA"), and the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR 300).

(c) Any sums recovered under CERCLA or other authority from a liable party, contractor, insurer, surety, or other person for any expenditures by the Army Corps of Engineers or the Department of Energy for response actions under that program shall be credited to the amounts made available to carry out that program and shall be available until expended for costs of response actions for any eligible site.

(d) The Secretary of Energy may exercise the authority under section 168 of the Atomic Energy Act of 1954 (42 U.S.C. 2208) to make payments in lieu of taxes for federally owned property at which activities under that program are carried out, regardless

Exhibit E
Non-Standard Estate

TEMPORARY ROAD EASEMENT

A temporary and assignable easement and right-of-way in, on, over and across (the land described in Schedule A) (Tract No(s). _____, _____ and _____)for a period of _____years beginning with the date of this instrument or when possession is granted to the United States for the location, construction, operation, maintenance, alteration and replacement of (a) road(s) and appurtenances thereto; together with the right to trim, cut, fell and remove therefrom all trees, underbrush, obstructions and other vegetation, structures, or obstacles within the limits of the right-of-way, (reserving, however, to the owners, their successors and assigns, the right to cross over or under the right-of-way as access to their adjoining land); subject, however, to existing easements for public roads and highways, public utilities, railroads and pipelines.