

**Project Operating Plan – Separations Process Research Unit (SPRU) – Accelerate
North Field Land Area Remediation**

**SPRU – Accelerate North Field Land Area Remediation
Project Operating Plan**

BACKGROUND

Recovery Act Project: SPRU – Accelerate North Field Land Area Remediation
TAFS: 89-09/10-5657
Project Identification Code: 2002160
Recovery Act Bill Reference: PL 111-5 Title IV – Energy and Water Development, Defense Environmental Cleanup (H.R. 1-26)
Project Cost: \$31,775,000
Budget Authority: 06049, FD.06.10.00.0 - \$31,775,000
Program Office: Office of Environmental Management (EM)
Recovery Program Plan: EM – Defense
Management Office: DOE – SPRU Field Office
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LEADS

Implementation: Not applicable.
Breakthrough: Not applicable.
Laboratory: Not applicable.

I. SUMMARY & OBJECTIVES

Summary: The purpose of this project is to remove radioactively-contaminated soils from the 15-acre North Field Area, a part of the SPRU Disposition Project, located at the Knolls Atomic Power Laboratory (KAPL) in Niskayuna, New York. KAPL is a Naval Reactors (NR) facility. The contamination in the North Field is surface soil contamination (primarily cesium-137) resulting from the historic storage and handling of waste drums from the original, 1950's-era SPRU project (in support of the Manhattan Project). The North Field Land Area Remediation will achieve the following:

- remove radioactive contaminants above cleanup levels;
- transport about 6,000 cubic yards of soil to an off-site disposal area;
- perform confirmation sampling; and,
- re-grade and re-seed the area as appropriate.

The project involves cleanup of legacy contamination resulting from historic weapons development activities, which is a central component of the EM mission. The 15 acres of land to be remediated comprises about 50% of the contaminated soil footprint at SPRU,

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and completion of the North Field Land Area Remediation completes contaminated soil removal at SPRU.

Funding (\$14.775 M) will be used to accelerate the North Field Land Area Remediation from FY 2012 and 2013 to FY 2009 - 2011. Accelerating the North Field Land Area Remediation to FY 2009 – 2011 will provide a steady level of land remediation work at the SPRU Disposition Project. The workforce that is currently engaged in performing soil removal in the SPRU Lower Level will be retained during this period. The SPRU Disposition Project would complete EM's responsibilities at an active NR site two years early. At the conclusion of this project, the North Field will be returned to NR and will be available for continued mission use. This work is expected to be awarded via modification to an existing task order for similar work at SPRU.

\$17 M in Recovery Act funding will be used to augment base program activities by facilitating decontamination and decommissioning of Buildings G2 and H2 at SPRU. These buildings contained the laboratory and waste treatment systems used to research processes for the separation of plutonium and uranium from irradiated matrices. They were active in the early 1950's, and comprise the total SPRU building footprint of approximately 50,000 square feet. The scope of this action includes removal of underground tank vaults that contain about 50 cubic meters of transuranic (TRU) sludge that will be packaged and removed as waste.

Recovery Act funding will be used to augment D&D activities in FY 2010 and FY 2011. The D&D work is being performed by a different contractor than the North Field Land Remediation, and the D&D work is already within contract scope. The D&D work is schedule for completion in early FY 2012. Recovery Act funding will support the majority of the D&D contractor positions in FY 2010, allowing them to be retained..

This project has ties to Departmental Strategic Mission themes as follows:

- DOE Strategic Theme 4: Environmental Responsibility – Protecting the environment by providing a responsible resolution to the environmental legacy of nuclear weapons production.
 - o Goal 4.1 Environmental Cleanup – Complete cleanup of the contaminated nuclear weapons manufacturing and testing sites across the United States; and,
- DOE Strategic Theme 5: Management Excellence – enabling the mission through sound management.
 - o Goal 5.1 Integrated Management – Institute an integrated business management approach throughout DOE with clear roles and responsibilities and accountability to include effective line management oversight by both Federal and contractor organizations.

This project supports the EM strategic and mission goals as follows:

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Table 2a: Budget Implementation Monthly & Yearly Obligations (\$M)

	FY 2009 Q3			FY 2009 Q4			FY 2010 Q1		
	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
SPRU – Accelerate North Field Land Area Remediation									
	FY 2010 Q2			FY 2010 Q3			FY 2010 Q4		
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept
	FY 2011 Q1			FY 2011 Q2			FY 2011 Q3 & Q4		
	Oct	Nov	Dec	Jan	Feb	Mar	Apr – Sept		
	FY 2012		FY 2013			FY 2014		FY 2015	

Table 2b: Budget Implementation Monthly & Yearly Expenditures (\$M)

	FY 2009 Q3			FY 2009 Q4			FY 2010 Q1		
	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
SPRU – Accelerate North Field Land Area Remediation									
	FY 2010 Q2			FY 2010 Q3			FY 2010 Q4		
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept
	FY 2011 Q1			FY 2011 Q2			FY 2011 Q3 & Q4		
	Oct	Nov	Dec	Jan	Feb	Mar	Apr – Sept		
	FY 2012		FY 2013			FY 2014		FY 2015	

NOTES: These profiles were developed by the DOE-SPRU staff, based upon substantially similar work currently being performed as part of the SPRU Disposition Project. Following task order modification, the land remediation contractor will prepare a cost and schedule baseline, and these profiles will be subject to change at that time. Award of the modified task order is scheduled for June 2009; no obligations or expenditures are planned before that time.

Funds Returned and Offsetting Collections

Not applicable to this project.

Table 3: Funds Returned and Offsetting Collections (\$M)

	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15
Not applicable.							

Indirect Costs

The contractor currently performing similar work at the SPRU Disposition Project has an indirect rate of 3.51%.

Changes to Baseline Budget

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Table 4: Changes to Baseline Budgets (\$M)

Changes to Baseline Budget	Increase/Decrease	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15
Project Acceleration	Increase (Decrease)							

NOTES: The table above represents the changes to the SPRU budget baseline resulting from acceleration of the North Field Land remediation from FY2012-2014 to FY2009-2011. Figures from FY2012-2014 are taken from the approved CD-2/3 for SPRU and include contractor fee, funded contingency at 50% confidence, and costs for support contracts such as independent verification. The DOE-SPRU Field Office estimates that up to \$500,000 could be saved through project acceleration.

Milestones

The SPRU North Field Land Remediation Project is not a capital asset project. Performance measures for this project are presented in Section III, Table 6.

**Table 5: Delivery Schedule for Capital Asset Projects
N/A (until OECM and EM agree on 413.3A graded approach)**

Program/OECM Milestone	Delivery (End) Date	Comments
Develop capital asset projects Integrated Project List	.	.
Develop Parametric Performance Baseline (Individual Projects)		
If < \$100 M Perform IPR, > \$100 M Perform EIR (Individual Projects)		
Approve Performance Baseline		
Approve Start of Construction		
Approve Project Completion		

NOTES: None.

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III. PERFORMANCE

Performance Measures

Following receipt of funding, activities for land remediation in FY 2009 will focus on preparation and validation of the contractor’s project baseline, and approval of project work plans and safety documentation. Land remediation field work (excavation and shipment of contaminated soil and confirmatory sampling) will begin in April 2010, and the project will be completed in September 2010. Note that the dates shown below were prepared by the DOE-SPRU Field Office staff and may change pending receipt of the contractor’s schedule. The land remediation task order modification will, however, contain the requirement that work be completed by September 30, 2011.

Recovery Act funds that will be used to augment D&D activities are anticipated to be focused on tank removal activities in Building H2. Expenses for these activities will be incurred in FY 2010 and FY 2011.

Weekly Schedule	Date
Statement of Work (SOW) Exhibits to EMCBC Contracts	3/5/2009
Resolve comments on the SOW from EMCBC Contracts	3/13/2009
Prepare draft action memorandum revision	3/20/2009
Receive approval of draft action memorandum revision	3/27/2009
Request a revised proposal/contract	3/31/2009
Issue public notice for the public comment period for action memorandum	4/10/2009
Open public comment period	4/17/2009
Address contractor questions on the request for proposal	4/24/2009
Negotiate a revised proposal/contract	5/1/2009
Issue negotiation position	5/8/2009

Monthly Milestones	Date
Modify land remediation task order	Jun-09
Land contractor issue a revised Worker Health & Safety Plan for approval	Jul-09
Land contractor issue a revised Radiological Protection Plan for approval	Aug-09
Land contractor issue an Excavation Work Plan	Sep-09
Initiate H2 tank vault entry preparation	Oct-09
Issue Land Contractor Baseline Document	Oct-09
Complete H2 tank vault entry review	Nov-09
Independent Project Review of Land Contractor Baseline	Nov-09
Complete H2 vault entry	Dec-09
Land contractor self-certify EVMS system (\$20M-\$50M)	Dec-09
Complete Tank 1 cold & dark preparation	Jan-10
Corrective actions complete from land baseline review	Jan-10
Complete Tank 3 piping isolation	Feb-10
Land contractor train field work crew	Feb-10
Complete Tank 6 piping system isolation	Mar-10

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Conduct Readiness Verification for North Field	Mar-10
Complete Tank 2 piping system isolation	Apr-10
Begin North Field excavation work	Apr-10
Complete Tank 5 piping system isolation	May-10
Begin radiological waste soil shipments	May-10
Complete Tank 7/all tank system isolation	Jun-10
Survey first land excavation area	Jun-10
Remove sludge from Tank 1	Jul-10
Issue Final Status Survey (FSS) Report for the first land excavation area	Jul-10
Remove sludge from Tank 3	Aug-10
Approve FSS Report	Aug-10
Remove sludge from Tank 6	Sep-10
Commence backfilling approved North Field excavations	Sep-10
Remove sludge from Tank 4	Oct-10
Excavate last North Field FSS unit for field season 1 (3,000 yrd3 excavated in FY 10)	Oct-10
Remove sludge from Tank 2	Nov-10
Conclude North Field Season 1- Winter Break	Nov-10
Remove sludge from Tank 5	Dec-10
Survey last excavation area of field season 1	Dec-10
Remove sludge from Tank 7	Jan-11
Issue last Final Status Survey (FSS) Report for first field season 1	Jan-11
Complete tank disposition in Building H2	Feb-11
Execute cost reduction initiatives/initiate mobilization for field season 2	Feb-11
Resume field work	Mar-11
Begin radiological waste shipments for field season 2	Apr-11
Survey excavation area of field season 2	May-11
Complete North Field excavation/waste shipments (2,600 yrd3 excavated in FY 11)	Jun-11
Approve FSS Report	Jul-11
Backfill Excavation	Aug-11
North Field Contract Closed	Sep-11

Table 6: Project Performance Targets

Recovery Act Project Identification Code	2002160
Linkage To S-1 Priorities	Links to National Security and Legacy Priority 3: Complete legacy environmental cleanup.
Linkage to Current Program Goal (if applicable)	DOE Strategic Theme 4: Environmental Responsibility – Protecting the environment by providing a responsible resolution to the environmental legacy of nuclear weapons production. Goal 4.1 Environmental Cleanup – Complete cleanup of the contaminated nuclear weapons manufacturing and testing sites across the United States.

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	<p>This project supports the EM strategic and mission goals as follows:</p> <p>EM is transporting and disposing of transuranic and low-level wastes in a safe and cost effective manner to reduce risk.</p> <p>EM is decontaminating and decommissioning facilities that provide no further value to reduce long-term liabilities and maximize resources for cleanup.</p> <p>EM is remediating soil and ground water contaminated with the radioactive and hazardous constituents.</p>
Two-Year Outcome-Oriented Performance Measure	Remediate 15 acres of land contaminated with radioactivity; dispose of 6,000 cubic yards of waste at an appropriate off-site facility; re-grade and re-seed area; return land to NR for future use. Facilitates D&D of Buildings G2 and H2 (50,000square feet total), including shipment of 50 cubic meters of TRU waste and disposition of six 10,000-gallon waste storage tanks.
First Year Performance Target	Complete excavation of 3,000 cubic yards of contaminated soil (October 2010)
Q1 - Project-Level Quarterly Performance Milestone(s)	D&D contractor completes H2 Vault entry (December 2009); soil removal contractor baseline validated; all soil removal project planning documentation approved (January 2010)
Q2 - Project-Level Quarterly Performance Milestone(s)	Soil removal field work initiated (April 2010)
Q3 - Project-Level Quarterly Performance Milestone(s)	First Final Status Survey Unit excavated and survey report prepared (July 2010); H2 tank sludge removal begins (July 2010)
Q4 - Project-Level Quarterly Performance Milestone(s)	Backfill excavations from first field season (October 2010)
Second Year Performance Target	Complete North Field Land Area Remediation (September 2011); complete Building H2 tank disposition
Q1 - Project-Level Quarterly	Complete Final Status Survey Reports from

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Performance Milestone(s)	first field season (January 2011); complete H2 tank disposition (February 2011)
Q2 - Project-Level Quarterly Performance Milestone(s)	Resume field work and waste shipments for second field season (April 2011)
Q3 - Project-Level Quarterly Performance Milestone(s)	Complete excavation and waste shipment for second field season (June 2011)
Q4 - Project-Level Quarterly Performance Milestone(s)	Complete Final Status Survey Reports for second field season; complete backfill and re-grade of project areas (August 2011)

NOTE: Program goals are being accelerated through receipt of Recovery Act funding through the remediation of radioactive contamination in the SPRU North Field Area two years earlier than previously planned (FY2011 vs. FY2013). The overall project outcome will be enhanced through anticipated cost savings realized by the acceleration and by the ability to use currently available work planning documents. The project outcome is further enhanced by the ability to return the North Field for future use two years earlier than anticipated.

National Strategic Benefits

Table 7: National Strategic Benefits

1. Carbon Emission Reductions: Not applicable.
2. Oil Consumption Reductions: Not applicable.

NOTES : None.

IV. MANAGEMENT

Secretarial-level Items

Intended Results and Linkage to Secretary’s Priorities

The North Field Land Area Remediation links to the Secretary’s priorities by cleaning up a site that is contaminated by radioactivity from historic nuclear weapons development activities (see National Security and Legacy Priority 3: Complete legacy environmental cleanup). Approximately 15 acres of land will be made available for future use when the project is completed, and 6,000 cubic yards will be taken off-site to a disposal facility. The project is cost effective, saving money through accelerating the work and modifying an existing task order. Workers currently engaged in soil cleanup at the SPRU Lower Level will be retained. The project’s risks are well-known, manageable, and are commensurate with work currently being performed as part of the SPRU Disposition Project.

Table 8: Secretary's Priorities

Secretary’s Priorities	Project Impacts (Qualitative)	Project Impacts (Quantitative)
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Science and Discovery	Not applicable.	Not applicable.
Clean, Secure Energy	Not applicable.	Not applicable.
Economic Prosperity	Positive economic impact resulting from purchasing supplies and materials from local businesses and vendors, as well as by retaining local contractors for project support functions.	Retains workers currently engaged in soil cleanup at SPRU beginning in FY 2010.
National Security and Legacy	Cleans up a legacy contamination site from historic nuclear weapons development activities and makes the land available for future use	Remediates a 15-acre site contaminated with radioactivity, and removes 6,000 cubic yards of contaminated soil to an off-site disposal facility; facilitates D&D and TRU waste shipment from two facilities totaling 50,000 square feet.
Climate Change	Not applicable.	Not applicable.

Collaboration and Coordination

Ongoing coordination and collaboration occurs with the local DOE-Naval Reactors Office in the execution of the SPRU Disposition Project. The SPRU Field Office provides weekly status briefings and quarterly management briefings to NR, and coordinates on issues including cleanup levels, project completion measures, work planning and execution, and external communications. NR and its contractors provide services such as security, utilities and emergency response capability to the DOE-SPRU Field Office and its contractors. Roles and responsibilities are formalized in a Memorandum of Agreement between EM and NR establishing the SPRU Disposition Project, as well as in a local agreement among DOE-SPRU, NR and NR's site contractor.

Portions of the SPRU project are regulated by the New York State Department of Environmental Conservation (NYSDEC) through a Resource Conservation and Recovery Act (RCRA) corrective action permit. While the activities planned to be performed using Recovery Act funds are not regulated by RCRA, the SPRU Field Office regularly informs NYSDEC staff and management of general project activities and status. The DOE-SPRU Field Office also appraises local government (most notably the Town of Niskayuna, New York) of project progress.

Prior to accelerating North Field remediation, DOE-SPRU will revise its Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Action Memorandum. Issued in September 2007, the Action Memorandum selected the remedial alternatives for most of the SPRU Disposition Project, but deferred a selection

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for the North Field. DOE-SPRU, with assistance from the EM Consolidated Business Center, will announce that soil removal is the preferred alternative for the North Field, and request public comments. Following the public comment period (and assuming the public is supportive), the Action Memorandum will be revised to note that removal is being selected as the preferred alternative for the North Field, and that the project is being accelerated. (Note: public comment has already been sought for other aspects of the SPRU Disposition Project, and removal was supported by those who commented.)

Federal Infrastructure Investments

There are no infrastructure investment project activities associated with the SPRU Recovery Act Project.

However, ancillary benefits will be achieved through the elimination of facilities resulting in reduced electrical power consumption and corresponding reduction of greenhouse gas emissions. Reuse/Recycle of excess materials could result in reduced consumption in fossil fuels required to process raw materials.

These facilities contain hazardous or radiological material. Accelerating the removal and proper disposal reduces risk of releases of this material to the environment

Line Management

The SPRU Disposition Project Work Breakdown Structure (WBS) has separate entries for North Field work, and all costs on this project will be collected and evaluated separately from other SPRU activities. The task order Statement of Work for soil removal will contain unambiguous performance elements and project completion criteria. Upon submittal of the project baseline by the soil removal contractor, the DOE-SPRU Field Office (with assistance from the EM Consolidated Business Center) will perform an Independent Project Review (IPR).

The SPRU WBS structure allows for D&D activities to be tracked separately. The D&D portion of the SPRU Disposition Project has already been the subject of an IPR.

The soil contractor will be required to self-certify its Earned Value Management System (EVMS) to ensure the validity of project reporting; the D&D contractor is in the process of having its EVMS certified by the Office of Engineering and Construction Management. The DOE-SPRU Field Office meets weekly with the contractors to review project status, and the contractors submit separate monthly status reports that are reviewed by the Field Office. The DOE-SPRU Field Office has prepared a Task Order Management Plan for its ongoing work; the elements of this plan will be applied to the North Field Land Area Remediation.

Needs from Staff Offices

1) Human Capital

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The SPRU Field Office anticipates the need for one additional field oversight person to serve as a Facility Representative in Training through FY2011. This position is proposed as a full-time Federal position, with the need for a mobility agreement and career ladder to attract candidates. Pending hiring of a Federal employee for the SPRU Field Office, SPRU requests use of a contractor on an interim basis to fulfill this function.

Table 9: Information on Hiring Under the Recovery Act

# & Type of Positions	Location	Federal or Contractor	Timeframe
General Engineer/Physical Scientist, GS-801/1301-13/14	SPRU Field Office, Niskayuna, New York	Federal	2+ years, through FY 2011, with mobility agreement

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