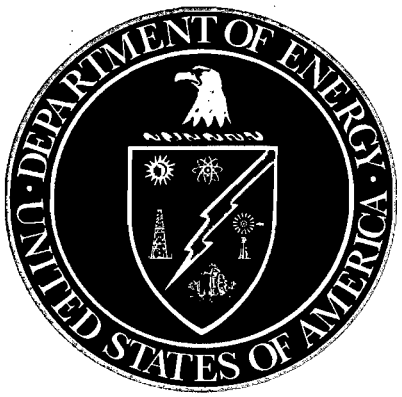

Plan

for

Remediation Efforts for Legacy Contamination Argonne National Laboratory Argonne, Illinois

Office of Environmental Management U.S. Department of Energy

June 2009

INTRODUCTION

House Report 110-921 accompanying the Energy and Water Development Appropriations, 2009 bill (H.R. 7324) requested that the U.S. Department of Energy (DOE) provide a plan on out-year remediation efforts and funding requirements needed to address the legacy contamination at the Argonne National Laboratory (ANL). The Congressional language stated:

> *The Committee directs the Environmental Management program to coordinate with the DOE program offices that contributed to the contamination at Argonne, and present to the Committee a plan on the out-year remediation efforts and funding needs to address the legacy contamination within 90 days of enactment of this legislation.*

BACKGROUND

The ANL site is approximately 27 miles southwest of downtown Chicago in DuPage County, Illinois. The 1,500 acre ANL site is completely surrounded by the 2,240 acre Waterfall Glen Forest Preserve. ANL is a large, multi-program science laboratory that has been involved in research and development on behalf of DOE and its predecessor agencies since 1943. ANL is operated for the DOE by UChicago Argonne LLC under a performance-based management contract awarded on July 31, 2006. From 1943 to 1992, ANL operated a number of experimental nuclear reactors and associated research facilities resulting in the contamination of facilities, soil, and groundwater with hazardous chemicals and radioactive materials due to accidental spills, past materials management practices, and former waste disposal practices. The Omnibus Appropriations Act of 2009 provided total DOE funding for ANL of approximately $450 million.

PLAN FOR REMEDIATION AND FUNDING

In October 2007, the decision was made to terminate nuclear operations at ANL. The Office of Environmental Management (EM), in December 2007 requested that other Departmental programs nominate facilities and legacy materials for transfer to EM. The impetus for that request was the Deputy Secretary of Energy's fiscal year (FY) 2008 Program Decision Memorandum that mandated EM to begin accepting surplus assets from other programs. During 2008, EM coordinated with the Office of Science regarding current and future excess facilities and legacy contamination. In May 2008, an onsite review and walk-down of the facilities was performed. The table below indicates planned excess facilities, excess nuclear materials (i.e., irradiated fuel specimens), legacy materials and legacy wastes (transuranic (TRU) wastes, low-level radioactive wastes (LLW), and mixed low-level radioactive wastes and hazardous wastes (MLLW)).

Plan for ANL Excess Facilities and Waste/Materials

Facility/Waste Materials	Bldg. #	Proposed Transfer Year	Funding Source	Estimated Completion	Comment
Building 310 (WM Reactor Engineering Building) D&D	310	FY 2009	EM Recovery Act	FY 2011	
Building 330 CP-5 Reactor Demolition	330	FY 2009	EM Recovery Act	FY 2011	
Alpha Gamma Hot Cells Facility Waste and Materials Disposition (Cleanout)	212	FY 2009	EM Recovery Act	FY 2011	Some identified materials may be TRU wastes.
"Next Phase" TRU Disposal (included as part of the following: Alpha Gamma Hot Cells Cleanout, K Wing Hot Cell Cleanout Waste Management Facility Building 306 Cleanout; Building 200 M-Wing Excess Nuclear Material Cleanout ; Excess Nuclear Material and Waste Cleanout Building 205 (multiple wings other than K) Waste Removal from Shell Radioactive Building	200, 205, 212, 306, and 331	FY 2009	EM Recovery Act	FY 2011	
Removal of LLW, MLLW, Chemical (hazardous) wastes, unneeded nuclear material, and accountable material	Many – include IPNS, Buildings 200, 212, 205, 205 K-Wing; waste management buildings (LLW, MLLW)	FY 2009	FY 2009 Omnibus	FY 2012	Additional residual inventory of legacy wastes and materials exists, following this disposition.
Alpha Gamma Hot Cells Clean-out and Decontamination	Building 212 (partial)	FY 2013	TBD	TBD	Waste disposition still underway in FY 2012.
Alpha Gamma Building 212 Demolition	Building 212	FY 2014	TBD	TBD	
Intense Pulsed Neutron Source (IPNS) (Neutron Accelerator)	Several – includes 361, 391, 375	FY 2011	TBD	TBD	FY 2011 planning activities
Building 200 D&D (demolition) In addition to Building 200 M and K Wings, MB Hot Cell)	Building 200; multiple wings	FY 2012	TBD	TBD	FY 2012 planning activities
Shell Radioactive Building 331 (Demolition)	Building 331 and yards	FY 2013	TBD	TBD	FY 2013 planning activities
Demolition of Waste Management Facility Building 306	Building 306 and misc. areas	FY 2013	TBD	TBD	FY 2013 planning activities
Building 202 (Demolition)	Building 202	FY 2015	TBD	TBD	
Building 205 (Demolition)	Building 205	FY 2015	TBD	TBD	

EM is using funding under the American Recovery and Reinvestment Act of 2009 (Recovery Act) to accelerate proposed waste disposition and excessive facilities cleanup activities at several sites, including ANL. ANL is scheduled to receive $98.5 million, which will be used for demolition of Buildings 310 and 330, removal of TRU wastes, and disposition of wastes and materials from the Alpha Gamma Hot Cell Facility, F Wing. Estimated completion dates for this work is FY 2011.

Following completion of Recovery Act activities in FY 2011, preliminary estimates indicate that decommissioning and waste disposition will take 9 to 12 years to address facilities and sites in this transfer. The estimated cost for this scope of cleanup work ranges from $210 million to $450 million. This cost range is considered to be a very preliminary estimate. The Office of Science and the EM program are working to develop more detailed cost and schedule estimates that reflect an increased understanding of the scope of work, as well as the effects of 2009 appropriations.