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DRAFT United States Department of Energy Early Action Statement of Basis/Proposed Plan FACT SHEET for the D-Area Operable Unit

ERD-EN-2018-0001

Savannah River Site, South Carolina **February 2018**

INTRODUCTION

This fact sheet summarizes the Early Action Statement of Basis/Proposed Plan (EASB/PP) for portions of the D-Area Operable Unit (DAOU) located at the Savannah River Site (SRS). The United States Department of Energy (USDOE) owns and operates the SRS. Hazardous substances that are regulated under the Federal law requirements of the Resource Conservation and Recovery Act and the Comprehensive Environmental Response, Compensation, and Liability Act are managed at the SRS as part of a comprehensive cleanup program.

A remedial action is needed at portions of DAOU because coal-related contaminants are present that may pose a threat to human health and the environment. The EASB/PP for the DAOU outlines the range of remedial alternatives evaluated to prevent exposure to the contaminated media (coal and coal ash) and presents the proposed remedy. The document describes how the public can comment on the proposed action through written comments and by participating in public meetings.

DAOU BACKGROUND

D Area is located in the southwest quadrant of the SRS approximately 3,000-feet east of the nearest Site boundary, the Savannah River. The DAOU is approximately 210 acres and consists of three main facility areas: the 484-D Powerhouse, the D-Area Heavy Water Facility (i.e., bubble towers), and the Moderator Processing Facility. The facilities began operation in the early 1950s. The bubble towers were shut down in January 1982, the Moderator Processing Facility remained operational until the late 1990s, and the 484-D Powerhouse (and associated support facilities) was shut down in April 2012.

The EASB/PP pertains to the following four DAOU subunits that were associated with the operation of the 484-D Powerhouse: 488-1D Ash Basin (including two Inlet Basins), 488-2D Ash Basin, 488-4D Ash Landfill, and the 489-D Coal Pile Runoff Basin (CPRB) (Southern 75%). Removal actions for each of these subunits to support an accelerated cleanup strategy for the DAOU have been completed. An aerial photograph of the DAOU EASB/PP subunits is shown in Figure 1.

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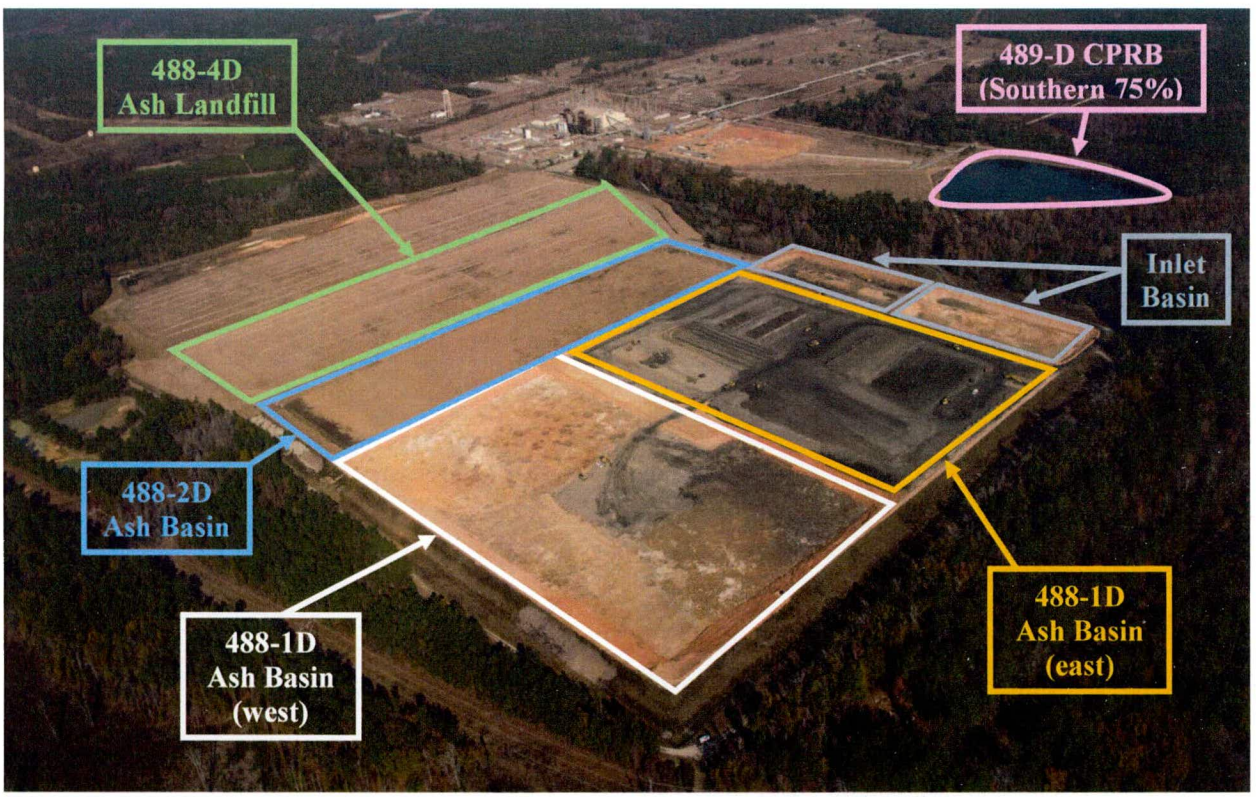

Figure 1. Aerial Photograph of the DAOU EASB/PP Subunits

488-1D Ash Basin: Ash Consolidation and Geosynthetic Cover System

Arsenic and coal-related radionuclides were identified as constituents of concern (COCs) in surface ash that may pose a risk to human receptors (future industrial worker risk >1E-06)[1] and arsenic may pose a risk to ecological receptors (hazard quotient [HQ] >1)[2] at the 488-1D Ash Basin and Inlet Basins. The non-time critical removal action to address the surface ash problem included water and vegetation removal, monitoring well abandonment/replacement, ash excavation/consolidation, installation of a geosynthetic cover system, and confirmation sampling. Following completion of the removal action, coal-related contaminants remain beneath the engineered cover system at the 488-1D Ash Basin that require a final remedial action.

- Coal-related contaminants beneath the engineered cover system (eastern end) pose a risk to human receptors (future industrial worker) and ecological receptors if direct exposure were to occur.

[1] A risk greater than or equal to 1E-06 indicates a probability of 1 chance in 1,000,000 of an individual developing cancer.
[2] A hazard quotient (HQ) greater than or equal to 1 indicates that a receptor could experience adverse effects from exposure to the contaminant.

- Coal-related contaminants beneath the engineered cover system pose a potential for migration of contaminants to groundwater above protection standards if leaching of the source material were to occur.
- Coal-related constituents may remain in soil in the western end of the basin and the Inlet Basins that would pose a risk to human receptors (hypothetical future resident).

488-2D Ash Basin: Ash Excavation

Arsenic and coal-related contaminants were identified as COCs in surface ash that may pose a risk to human receptors (future industrial worker risk >1E-06) and arsenic may pose a risk to ecological receptors (HQ >1). The time critical removal action to address the surface ash problem included water removal, ash excavation, placement of excavated ash into the 488-4D Ash Landfill, and confirmation sampling. Although there were no contaminant exceedances for the future industrial worker scenario following the removal action, uncertainties regarding the evaluation of the hexavalent chromium (i.e., coal-related contaminant) were inconclusive to support unrestricted land use and require a final remedial action.

- Coal-related contaminants may remain in basin soils that pose a risk to human receptors (hypothetical future resident).

488-4D Ash Landfill: Geosynthetic Cover System

Arsenic and coal-related contaminants were identified as COCs in surface ash that may pose a risk to human receptors (future industrial worker risk >1E-06) and arsenic may pose a risk to ecological receptors (HQ >1). The non-time critical removal action for the 488-4D Ash Landfill included monitoring well abandonment/replacement and installation of a geosynthetic cover system. Following completion of the removal action, waste consisting primarily of coal and coal-related combustion ash remain beneath the engineered cover system at the 488-4D Ash Landfill that require a final remedial action.

- Waste consisting primarily of coal and coal-combustion ash beneath the engineered cover system poses a risk to human receptors (future industrial worker) and ecological receptors if direct exposure were to occur.
- Waste beneath the engineered cover system poses a potential for migration of contaminants to groundwater above protection standards if leaching of the source material were to occur.

489-D CPRB (Southern 75%): Coal Excavation

Arsenic was identified as a COC in basin sediment (coal residue) that may pose a risk to human receptors (future industrial worker risk >1E-06). Arsenic and 2-methylnapthalene in sediment and aluminum, beryllium, cobalt, copper, iron, manganese and zinc in surface water were present at levels that may pose a risk to ecological receptors (HQs >1). The non-time critical removal action for the 489-D CPRB included water removal, residual coal/contaminated sediment excavation and placement into the 488-1D Ash Basin, and confirmation sampling. No human health, ecological or contaminant migration problems remained following the non-time critical removal action, and the 489-D CPRB (Southern 75%) meets the criteria for unrestricted land use.[3]

CLEANUP GOALS

The remedial action objectives for the 488-1D Ash Basin, 488-2D Ash Basin and 488-4D Ash Landfill are described below:

488-1D Ash Basin

- Maintain the engineered cover system (eastern end) to eliminate or control all routes of exposure to contaminants beneath the cover that pose a risk to future industrial workers and ecological receptors and/or present a contaminant migration concern.
- Protect hypothetical future residents from exposure to residual contamination in soil in the western end of the basin and the Inlet Basins.

488-2D Ash Basin

- Protect hypothetical future residents from exposure to residual contamination in basin soils.

488-4D Ash Landfill

- Maintain the engineered cover system to eliminate or control all routes of exposure to contaminants beneath the cover that pose a risk to future industrial workers and ecological receptors.

[3] 489-D CPRB (Northern 25%) addressed in the *Early Action Record of Decision Remedial Alternative Selection for D-Area Operable Unit*, SRNS-RP-2010-00162, Revision 1.1, June 2011.

- Maintain the engineered cover system to prevent migration of contaminants to groundwater that could exceed groundwater protection standards.

PROPOSED REMEDY

The preferred remedial alternative for the 488-1D Ash Basin, 488-2D Ash Basin and 488-4D Ash Landfill subunits of the DAOU is Land Use Controls to prevent unrestricted land use. No current or future development of the DAOU is planned and land use is reasonably anticipated to remain industrial. The USDOE will restrict land use through administrative measures and the placement and maintenance of warning signs at these subunits.

No remedial action for the 489-D CPRB (Southern 75%) is needed. The 489-D CPRB (Southern 75%) poses no risk to human health and the environment and supports unrestricted land use.

The United States Environmental Protection Agency and South Carolina Department of Health and Environmental Control concur with the proposed remedies.

FOR MORE INFORMATION

The Administrative Record File, which contains the information pertaining to the selection of the response action, is available at the following locations:

US Department of Energy
Public Reading Room
Gregg-Graniteville Library
University of South Carolina – Aiken
471 University Parkway
Aiken, South Carolina 29803
(803) 641-3504

Thomas Cooper Library
Government Information and Maps
Department
University of South Carolina
1322 Green Street
Columbia, South Carolina 29208
(803) 777-4841

Hard copies of the EASB/PP for the DAOU are available at the following locations:

Reese Library
Government Information Department
Augusta University
2500 Walton Way
Augusta, Georgia 30904
(706) 737-1744

Asa H. Gordon Library
Savannah State University
2200 Tompkins Road
Savannah, Georgia 31404
(912) 358-4324

HOW TO SUBMIT COMMENTS

The public comment period for the EASB/PP for the DAOU begins July 26, 2018, and ends September 8, 2018. To request a public meeting during the public comment period, to obtain more information concerning this document, or to submit written comments, contact one of the following:

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