

## DuPont Chambers Works FUSRAP Site Deepwater, NJ



Philadelphia District  
US Army Corps of Engineers

RAB Meeting – October 15, 2009

## DuPont Chambers Works FUSRAP Site

*Purpose: Overview of the project and discuss our path(s) forward.*

### *Agenda*

<i>Introductions</i>	<i>All</i>
<i>FUSRAP Project Overview</i>	<i>George Bock, USACE</i>
<i>Feasibility Study - Status</i>	<i>Carl Young, Cabrera</i>
<i>Schedule</i>	<i>George Bock, USACE</i>
<i>Program Going Forward</i>	<i>Ann Johnson, Cabrera</i>



Philadelphia District  
US Army Corps of Engineers

## DuPont Chambers Works FUSRAP Site

### *RAB Meeting – FUSRAP Project Overview*

- *Manhattan Engineer District (MED) Background*
- *Program History*
- *DuPont Chambers Works FUSRAP Project*
- *Program/Project Challenges*
- *Site Map*



Philadelphia District  
US Army Corps of Engineers

## DuPont Chambers Works FUSRAP Site

### *How and why FUSRAP was established*

- *During the 1940s, 1950s, and 1960s, work was performed at sites throughout the United States as part of the nation's early atomic energy program. Some sites' activities can be traced back as far as World War II and the Manhattan Engineer District (MED).*
- *Most sites that became contaminated during the early atomic energy program were cleaned up under the guidelines in effect at the time. In most cases those cleanup guidelines were not as strict as today's and trace amounts of radioactive materials remain at some of the sites.*



Philadelphia District  
US Army Corps of Engineers

## DuPont Chambers Works FUSRAP Site *Site History*

- *In support of MED activities, DuPont worked on developing a process for converting uranium oxide to produce uranium tetra-fluoride and small quantities of uranium metal.*
- *No enrichment or depletion occurred at the site.*

### *Processing activities included the following:*

- *Brown Oxide process (in Bldg 708 – AOC 2)*
- *Recovery process (in Bldg 845 – AOC 1)*
- *Green salt process (in Bldg 708 – AOC 2)*
- *Hexafluoride process (in Bldg J-26 Area, AOC 5)*
- *Metal process (in Bldg 708 – AOC 2)*



Philadelphia District  
US Army Corps of Engineers

## DuPont Chambers Works FUSRAP Site *Site History Cont'd*

- *1942 – Operations involving uranium began at this site.*
- *1946 – All MED activities transferred to the Atomic Energy Commission (AEC).*
- *Late 1947 – DuPont continued research for the AEC.*
- *1948-49 – AEC conducted radiological surveys and decontamination of building surfaces.*
- *1949-50 - AEC released buildings and sites back to DuPont based on then-existing criteria.*
- *In 1974 DOE initiated the FUSRAP Program.*
- *In 1997 - FUSRAP Program was transferred to the US Army Corps of Engineers.*



Philadelphia District  
US Army Corps of Engineers

## DuPont Chambers Works FUSRAP Site

### *Objectives of this Remedial Investigation*

- *Define the nature and extent of Manhattan Engineer District (MED) - related radiological contamination in each AOC or OU.*
- *Obtain the necessary data for the risk evaluation and conduct baseline risk assessment.*
- *Refine site conceptual model, including potential pathways and receptors for human health and ecological risk evaluation.*
- *If necessary, design the appropriate remedial actions for an AOC or OU.*



Philadelphia District  
US Army Corps of Engineers

## DuPont Chambers Works FUSRAP Site

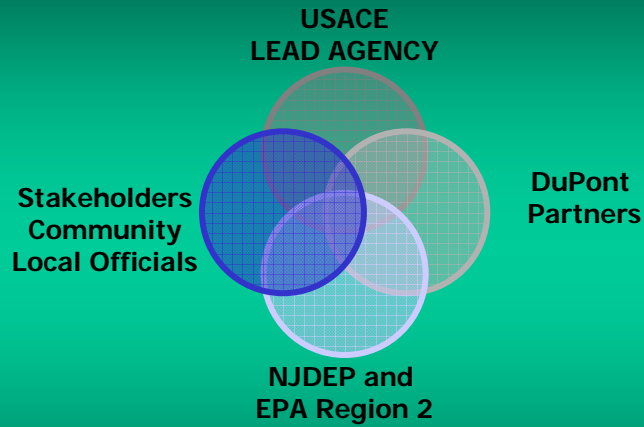
### *Challenges*

- *Active / Operating Industrial Site:*
  - *Health and safety issues*
  - *Other on-site contaminants*
  - *Rich industrial history*
- *Coordination with Regulators*
- *Not an NPL site*
- *Multiple environmental programs at Chambers Works*
- *Program concerns (budget, schedule)*



Philadelphia District  
US Army Corps of Engineers

## DuPont Chambers Works FUSRAP Site

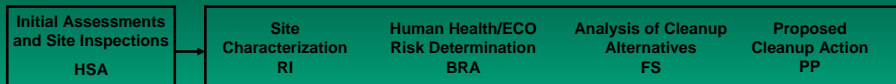


*USACE follows the administrative, procedural, and regulatory provisions of CERCLA and the NCP to guide the cleanup at Chambers Works*

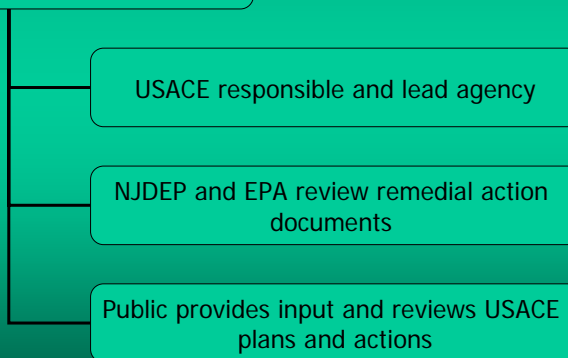


Philadelphia District  
US Army Corps of Engineers

## DuPont Chambers Works FUSRAP Site



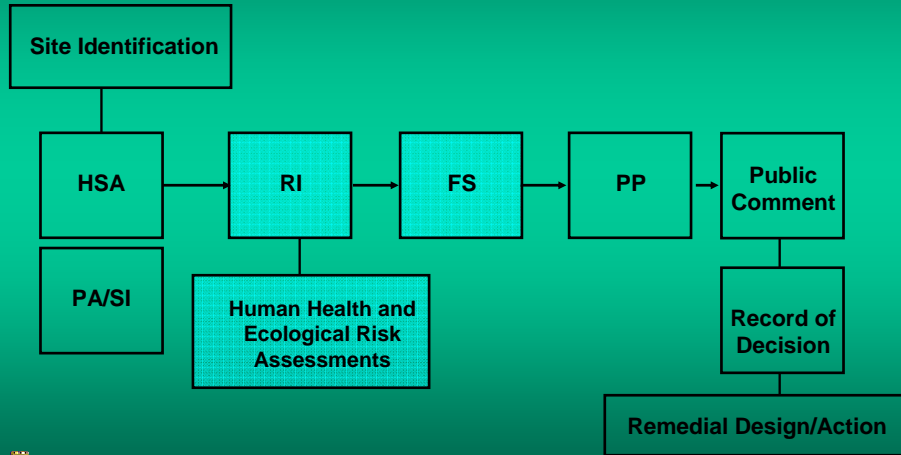
### CERCLA Cleanup Process



Philadelphia District  
US Army Corps of Engineers

## DuPont Chambers Works FUSRAP Site

### *Environmental Cleanup Process*



Philadelphia District  
US Army Corps of Engineers

11

## DuPont Chambers Works FUSRAP Site

### *Our Site*

*Three Operable Units*

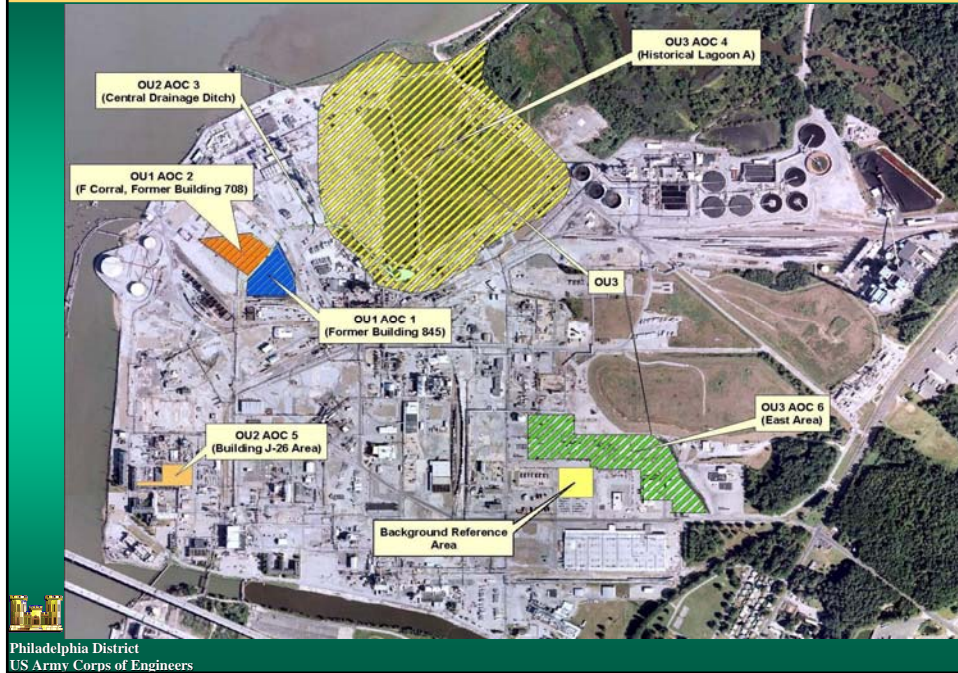
*Six Areas of Concern*



Philadelphia District  
US Army Corps of Engineers



## DuPont Chambers Works FUSRAP Site



## DuPont Chambers Works FUSRAP Site

*Where we've been*

## DuPont Chambers Works FUSRAP Site *Accomplishments and Highlights*

### *Fiscal Year (FY) 1998*

- *Sept 1998 - Completed DOE's ongoing action: Removed / disposed drums of waste and PPE remaining in Building 845.*

### *FY 1999 / 2000*

- *Oct/Nov 1999 - Corps removed structural steel from Building 845. First FUSRAP Emergency Response Removal Action.*
- *First Public and RAB Meetings.*

### *FY 2001 - 2002*

- *Completed our first Intrusive Sampling Effort: Operable Unit #1 (Building 845 and F-Corral Areas of Concern).*



Philadelphia District  
US Army Corps of Engineers

## DuPont Chambers Works FUSRAP Site *Accomplishments and Highlights*

### *FY 2003 and 2004*

- *Completed Intrusive Sampling Effort of OU #2.*
- *Completed CPT Field Investigation Screening Effort of OU #3.*
- *Completed Groundwater Well Installation in OU #1 and #2.*

### *FY 2005 / 2006*

- *Completed the Groundwater Well Installation throughout the site..*
- *Completed the Sampling of Operable Unit #3.*



Philadelphia District  
US Army Corps of Engineers



## DuPont Chambers Works FUSRAP Site *Accomplishments and Highlights*

*FY 2007 / 2008*

- *Performed groundwater sampling - Winter and Spring 2007*
  - *Sampled over 40 wells, including existing DuPont wells*
  - *Uranium found in the 'A' aquifer in OU #3, (AOC 4)*
  - *Demonstrated no movement of uranium in groundwater*
- *Conducted additional sampling for all media in support of RI and BRA report preparation.*
- *Submitted Draft Sitewide Remedial Investigation report to Corps Team for Review.*
- *Submitted Draft Baseline Risk Assessment – human health and screening level ecological risk assessment for Corps Team to review.*



Philadelphia District  
US Army Corps of Engineers

## DuPont Chambers Works FUSRAP Site *Accomplishments and Goals*

*FY 2009*

- *Completed the Remedial Investigation (RI) and Risk Assessment (RA) Reports.*
- *Regulator Review of RI and RA began June 2009.*
  - *Regulator meeting in July 2009 to discuss RI and RA Reports.*
  - *Comments are currently being addressed by the Corps.*
- *Draft Feasibility Study (FS) Report*
  - *Corps Review started.*
  - *ITR Review to start – November 2009.*



Philadelphia District  
US Army Corps of Engineers

## DuPont Chambers Works FUSRAP Site

### *Activities Since Last Meeting - April 09*



Philadelphia District  
US Army Corps of Engineers

## DuPont Chambers Works FUSRAP Site

### *Project Activities May – September 2009*

- *Technical Planning Meeting – USACE – early May*
- *Draft Feasibility Study Submitted - end of May*
- *Stakeholders/Partnering Meeting – July 22<sup>nd</sup>*
  - *NJDEP, EPA, DuPont, and USACE Team*
  - *Review of RI and Baseline Risk Assessment*
- *Draft Feasibility Study Response to Corps Team Comments and Revisions - late Sept 09*



Philadelphia District  
US Army Corps of Engineers

## DuPont Chambers Works FUSRAP Site

# *Schedule*



Philadelphia District  
US Army Corps of Engineers

## DuPont Chambers Works FUSRAP Site

### *FY10- Document Review and Revision*

#### **USACE**

**Respond to NJDEP Comments  
Remedial Investigation/Risk Assessment**

#### **NJDEP and EPA**

**Draft Feasibility Study/Proposed Plan Review**



Philadelphia District  
US Army Corps of Engineers

## DuPont Chambers Works FUSRAP Site

### *July 09 Stakeholders/ Partnering Meeting*

NJDEP

EPA

DuPont

USACE

- Facilitate review of RI/BRA
- Technical discussions among counterparts
- Effective communication
- Schedule and project priorities
- Issue identification/ resolution



Philadelphia District  
US Army Corps of Engineers

## DuPont Chambers Works FUSRAP Site *Big Picture Schedule*

*FY 09 (Fall 2009) Draft Remedial Investigation (RI)  
Report for Regulatory Agency Review*

*FY 09 – FY 10 Draft Feasibility (FS) Report to USACE HQ*

*FY 10 – FY 11 FS Report to Regulators for Review*

*FY 11 Proposed Plan – Corps, Regulator and Public  
Review and Comment Period to be Completed*

*FY 12 Record of Decision*

*FY 13 Remediation to Begin (possible removal)*



Philadelphia District  
US Army Corps of Engineers



## DuPont Chambers Works FUSRAP Site *Big Picture Schedule*

Respond to NJDEP comments on the Remedial Investigation and Baseline Risk Assessment	November 4, 2009
Finalize documents	January 2010
Feasibility Study and Proposed Plan to NJDEP	April 30, 2010
NJDEP comments due to USACE	August 2010
Public Comment Period and Public Meeting	Spring 2011

 Philadelphia District  
US Army Corps of Engineers

### Review Schedule - CERCLA Documents Remedial Investigation, Feasibility Study & Proposed Plan

Respond to NJDEP comments on the Remedial Investigation and Baseline Risk Assessment	November 4, 2009
Finalize documents	January 2010
Feasibility Study and Proposed Plan to NJDEP	April 30, 2010
NJDEP comments due to USACE	August 2010
Public Comment Period and Public Meeting	Spring 2011

 Philadelphia District  
US Army Corps of Engineers



## DuPont Chambers Works FUSRAP Site

### DOE Information

The screenshot displays the U.S. Department of Energy website. On the left, the 'Considered Sites Database' is visible, with a table for 'FUSRAP CONSIDERED SITES'. The table has columns for 'FIELD', 'DATA', and 'SOURCE'. The 'Data' column contains the following information:

FIELD	DATA	SOURCE
Site Name -- ID	E. 1. DU POINT -- NJ 06	
Designated Name	E. 1. Du Pont de Nemours and Company Deepwater, NJ	
Alternative Name(s)	None	

On the right, the 'ExpectMore' section is visible, titled 'DETAILED INFORMATION ON THE ENERGY EMPLOYEES OCCUPATIONAL ILLNESS COMPENSATION PROGRAM ASSESSMENT'. Below this, there are sections for 'QUICK CLICKS', 'IN THE NEWS', and 'SPECIAL FEATURES'. The 'IN THE NEWS' section features a photo of Secretary Bolton speaking at a podium.

**Occupational Illness Compensation Program**  
**1-866-888-3322**

**<http://www.whitehouse.gov/omb/expectmore/detail/10009004.2007.html>**



Philadelphia District  
US Army Corps of Engineers

**<http://www.energy.gov/index.htm>**

## DuPont Chambers Works FUSRAP Site

### Public Web Site

**<http://fusrap.eaest.com>**



Philadelphia District  
US Army Corps of Engineers

