

## **Department of Energy**

Portsmouth/Paducah Project Office 1017 Majestic Drive, Suite 200 Lexington, Kentucky 40513 (859) 219-4000

APR 04 2019

Mr. Brian Begley
Federal Facility Agreement Manager
Division of Waste Management
Kentucky Department for Environmental Protection
300 Sower Boulevard, 2nd Floor
Frankfort, Kentucky 40601

Ms. Julie Corkran
Federal Facility Agreement Manager
U.S. Environmental Protection Agency, Region 4
61 Forsyth Street
Atlanta, Georgia 30303

Dear Mr. Begley and Ms. Corkran:

PADUCAH FEDERAL FACILITY AGREEMENT—SIGNED MEMORANDUM OF AGREEMENT FOR RESOLUTION OF FORMAL DISPUTE CONCERNING KENTUCKY DEPARTMENT FOR ENVIRONMENTAL PROTECTION NONCONCURRENCE AND U.S. ENVIRONMENTAL PROTECTION AGENCY CONDITIONS SUBMITTED ON THE SITE MANAGEMENT PLAN, PADUCAH GASEOUS DIFFUSION PLANT, PADUCAH, KENTUCKY, ANNUAL REVISION—FISCAL YEAR 2018, DOE/LX/07-2418&D2

Please find enclosed the signed Memorandum of Agreement for Resolution of Formal Dispute Concerning Kentucky Department for Environmental Protection Nonconcurrence and U.S. Environmental Protection Agency Conditions Submitted on the Site Management Plan, Paducah Gaseous Diffusion Plant, Paducah, Kentucky, Annual Revision—Fiscal Year 2018, DOE/LX/07-2418&D2. The enclosed Memorandum of Agreement (MOA) memorializes the agreement reached by the Federal Facility Agreement (FFA) parties to finalize the Site Management Plan (SMP) for approval and placement of it into the Administrative Record. Per the MOA, the revised D2/R1 SMP will be renamed as the Site Management Plan, Paducah Gaseous Diffusion Plant, Paducah, Kentucky, Annual Revision—FY 2018 and FY 2019, DOE/LX/07-2418&D2/R1, and will reflect fiscal year (FY) 2018 and FY 2019. Upon approval, the D2/R1 FY 2018 and FY 2019 SMP will supersede the approved FY 2015 SMP. The next annual update to the SMP will be for FY 2020, per the schedule specified in the FFA.

The U.S. Department of Energy appreciates the efforts of the U.S. Environmental Protection Agency and the Kentucky Department for Environmental Protection to resolve the formal dispute.

PPPO-02-5516127-19

If you have any questions or require additional information, please contact me at (270) 441-6862.

Sincerely,

Pracey Duncan

Federal Facility Agreement Manager Portsmouth/Paducah Project Office

**Enclosure:** 

Signed Memorandum of Agreement

Administrative Record File—ARF ARR

e-copy w/enclosure: april.webb@ky.gov, KDEP arcorrespondence@pad.pppo.gov, FRNP brian.begley@ky.gov, KDEP chaffins.randall@epa.gov, EPA christopher.jung@ky.gov, KDEP christopher.travis@ky.gov, KDEP corkran.julie@epa.gov, EPA dave.hutchison@pad.pppo.gov, FRNP edward.winner@ky.gov, KDEP frnpcorrespondence@pad.pppo.gov, FRNP hill.franklin@epa.gov, EPA jana.white@pad.pppo.gov, FRNP jennifer.blewett@pad.pppo.gov, FRNP jennifer.woodard@pppo.gov, PPPO joel.bradburne@pppo.gov, PPPO jon.maybriar@ky.gov, KDEP kim.knerr@pppo.gov, PPPO leo.williamson@ky.gov, KDEP myrna.redfield@pad.pppo.gov, FRNP nathan.garner@ky.gov, KYRHB pad.rmc@pad.pppo.gov, SSI pope.robert@epa.gov, EPA richards.jon@epa.gov, EPA robert.edwards@pppo.gov, PPPO stephaniec.brock@ky.gov, KYRHB tabitha.owens@ky.gov, KDEP tony.hatton@ky.gov, KDEP tracey.duncan@pppo.gov, PPPO walker.mary@epa.gov, EPA

### MEMORANDUM OF AGREEMENT FOR RESOLUTION OF FORMAL DISPUTE

Concerning Kentucky Department for Environmental Protection Nonconcurrence and U.S. Environmental Protection Agency Conditions Submitted on the Site Management Plan, Paducah Gaseous Diffusion Plant, Paducah, Kentucky, Annual Revision—FY 2018, DOE/LX/07-2418&D2

#### Background

In accordance with Section XX.I, <u>Finalization of Documents</u>, of the *Federal Facility Agreement for the Paducah Gaseous Diffusion Plant*, DOE/OR/07-1707, PRS 35 (FFA, June 2015), the U.S. Environmental Protection Agency, Region 4 (EPA), in a letter to the U.S. Department of Energy (DOE), dated May 16, 2018, provided conditional concurrence on the *Site Management Plan, Paducah Gaseous Diffusion Plant, Paducah, Kentucky, Annual Revision—FY 2018*, DOE/LX/07-2418&D2. In EPA's conditional concurrence letter, EPA identified thirty-seven conditions. Pursuant to Section XXV.A, <u>Informal Dispute</u>, of the Paducah FFA, DOE invoked informal dispute resolution on June 15, 2018, regarding thirty-five of the total thirty-seven EPA conditions associated with the EPA comments.

On May 16, 2018, the Kentucky Department for Environmental Protection (KDEP) nonconcurred on the Site Management Plan, Paducah Gaseous Diffusion Plant, Paducah, Kentucky, Annual Revision—FY 2018, DOE/LX/07-2418&D2, and invoked informal dispute in accordance with Section XXV.B. of the FFA.

The FFA parties, in good faith, conducted a period of informal dispute under Section XXV.A, <u>Informal Dispute</u>, and period of formal dispute under Section XXV.B, <u>Formal Dispute</u>, of the FFA for both disputes and were only able reach agreement on fourteen of the thirty-five disputed EPA conditions. As a result, on September 20, 2018, pursuant to Section XXV.B.3, of the FFA, DOE elevated the remaining unresolved twenty-one disputed conditions to the Senior Executive Committee (SEC). KDEP also elevated its dispute to the SEC on September 20, 2018. The SEC has reviewed the written statements of formal dispute and reached a mutually acceptable resolution on the KDEP nonconcurrence and disputed EPA conditions associated with the FY 2018 Site Management Plan (SMP).

Upon approval, the FY2018 SMP will supersede the KDEP and EPA-approved FY2015 SMP. The FFA required SMP annual update was not completed in FY2016 or FY2017 as a result of tri-party agreements. Tri-party discussions of the DOE's April 2016 Site-Wide Reprioritization Proposal (including all FFA project priorities, schedules, milestones and target dates for cleanup activities) for the Paducah Gaseous Diffusion Plant were held and resulted in a signed Memorandum of Agreement on the C-400 Complex under the Federal Facility Agreement for the Paducah Gaseous Diffusion Plant, Paducah, Kentucky and Path Forward for the Fiscal Year 2017 and 2018 Site Management Plan.

#### Resolution

The undersigned agree that the Formal Dispute invoked by DOE hereby is resolved. The terms of the dispute resolution agreement (DRA or Agreement) are set forth below.

 The FFA Parties agree the attached table, entitled FY 2018 Site Management Plan Summary of Resolutions for KDEP Nonconcurrence and U.S. Environmental Protection Agency Conditions, describes how the KDEP Formal Dispute, and the DOE Formal Dispute of each of the EPA Conditions for document approval, are hereby resolved.

- DOE will revise the D2 FY 2018 SMP to incorporate the terms of this Agreement, including the specific resolutions contained in the attached Table. Additionally, the revised document will be renamed to the Site Management Plan, Paducah Gaseous Diffusion Plant, Paducah, Kentucky, Annual Revision—FY 2018 and FY 2019. DOE will submit the revised (D2/R1) FY 2018 and FY 2019 SMP to EPA and KDWM within 30 calendar days of the last signature date of this Agreement. The next update to the SMP will be for FY 2020 per the schedule specified in the FFA.
- The FFA Parties agree that EPA and KDEP will review and provide letters of written approval within 14 calendar days of receipt of DOE's submittal of the D2/RI FY 2018 and FY 2019 SMP, as long at as the submittal meets the requirements of this Memorandum of Agreement.

#### Other Terms and Conditions

Portsmouth/Paducah Project Office

Pursuant to Section XXV.B.10 of the Paducah Gaseous Diffusion Plant FFA, resolution of this dispute constitutes a final resolution of the dispute, which resolution is incorporated into and becomes a term and condition of the Paducah Gaseous Diffusion Plant FFA. Nothing in this MOA modifies other FFA Terms and Conditions or other CERCLA projects at Paducah Gaseous Diffusion Plant, except as specifically stated above. To the extent authorized under the FFA, nothing in this MOA shall prevent any of the Parties from disputing any other matters related to any of the FFA CERCLA projects.

| Mary S. Walker Acting Regional Administrator U.S. Environmental Protection Agency, Region 4 | 3/29/2019<br>Date |
|---|-------------------|
|   |                   |
| Tony Hatton Commissioner  | Date              |
| Division of Waste Management Kentucky Department for Environmental Protection               |                   |
|   | ^                 |
| Robert E. Edwards III   | Date              |
| Manager U.S. Department of Energy   |                   |

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| Mary S. Walker Acting Regional Administrator     | Date           |
|--|----------------|
|  |                |
| U.S. Environmental Protection Agency, Region 4   |                |
| Lott R. Halt                                     | Manch 29, 2019 |
| Tony Hatyon                                      | Date           |
| Commissioner                                     |                |
| Division of Waste Management                     |                |
| Kentucky Department for Environmental Protection |                |
|  |                |
|  |                |
| Robert E. Edwards III                            | Date           |
| Manager  | Dut            |
| IIS Department of Frierry                        |                |

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#### Other Terms and Conditions

U.S. Department of Energy

Portsmouth/Paducah Project Office

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| Mary S. Walker                                   | Date      |
|--|-----------|
| Acting Regional Administrator                    |           |
| U.S. Environmental Protection Agency, Region 4   |           |
|  |           |
| Tony Hatton                                      | Date      |
| Commissioner                                     |           |
| Division-of-Waste-Management                     |           |
| Kentucky Department for Environmental Protection |           |
|  |           |
| Colort & Edwards 4                               | 3/29/2019 |
| Robert E. Edwards III                            | Date      |
| Manager  |           |

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# FY 2018 Site Management Plan Summary of Resolutions for KDEP Nonconcurrence and U.S. Environmental Protection Agency Conditions

| Condition No.       | Condition  | Dispute Resolutions   |
|---------------------|--|---|
| KDEP Nonconcurrence | Failure to adhere to the terms and conditions of the   | The SMP will only include four out-year                                 |
|                     | FFA is the basis for this non-concurrence. Section   | completion milestones for the operable                                  |
|                     | XVIII of the FFA states:   | units, as required by the FFA, with dates                               |
|                     | C. Timetables and Deadlines  | consistent with the DOE lifecycle baseline.                             |
|                     | Enforceable timetables and deadlines for current   | (See Attachment 6, redlined Appendix 5                                  |
|                     | FY Commitments are contained in Appendix C to  | Enforceable Timetables and Deadlines;                                   |
|                     | this Agreement. Enforceable timetables and   | Planning Dates with Long-Term Targets.)                                 |
|                     | deadlines for FY+1 and FY+2 commitments and  | DOE will not include now out over                                       |
|                     | completion dates for the following pre-GDP   | DOE will not include new out-year enforceable commitments for the other |
|                     | shutdown OUs: surface water, groundwater, soils, burial grounds and D&D OUs are contained in the | operable units.   |
|                     | most recently approved annual SMP  | operable units.   |
| General Comment 4,  | (i) Revise the D2 SMP to include the detailed  | The revised figure removed the notations                                |
| Condition J         | October 2017 GANTT Chart (updated for titling  | for FFA CERCLA Activity and Non-  |
| Condition           | and consistency, where needed, with the SMP text   | CERCLA Activity and Potential CERCLA                                    |
|                     | and the figure on 5-5, and conditions 4 (a-h) where  | Activity and the explanatory notes. (See                                |
|                     | needed, in an Appendix to the SMP. (ii) For  | Attachment 1, Paducah Project Life Cycle                                |
|                     | transparency, retain the notations for "FFA  | Summary Schedule)   |
|                     | CERCLA Activity", "Non-CERCLA Activity" and  |   |
|                     | "Potential CERCLA Activity", and the explanatory   |   |
|                     | notes for both the (GA) Balance of Plant   |   |
|                     | Decommissioning and Soils and Slabs OU from the  |   |
|                     | October 2017 draft version of this figure.   |   |
| General Comment 4,  | In the October 2017 GANTT Chart, "Deactivation   | The revised figure no longer references the                             |
| Condition C         | and Stabilization" included the underground tunnels  | tunnels. (See Attachment 1, Paducah                                     |
|                     | that DOE asserted would be addressed outside of  | Project Life Cycle Summary Schedule)                                    |
|                     | the CERCLA FFA ("non-CERCLA). In the D2  | DOE III IIII I  |
|                     | SMP, this scope of work is moved to "Base  | DOE will provide additional structure                                   |
|                     | Operations", masking DOE's intention to address  | information on the use and construction of                              |
|                     | the tunnels as "non-CERCLA" stabilization and  | the tunnels during scoping of the FY 2020 SMP.                          |
|                     | deactivation. It remains EPA's position that tunnels   | SWP.  |
|                     | at PGDP should be included in the Appendix 4 Decontamination and                                 |   |
|                     | Decommissioning (D&D) OU for NTCRA or a  |   |
|                     | Removal Site Evaluation under the FFA. Revise the  |   |
|                     | figure to note that the tunnels will be addressed in   |   |
|                     | the D&D OU (see "f', below) and add the tunnels to   |   |
|                     | the D&D OU in Appendix 4.  |   |
| General Comment 4,  | EPA does not recognize "Process and Support  | The revised figure has been clarified to                                |
| Condition F         | Facility Demolition" as an OU that was scoped by   | identify that the facilities that require a                             |
|                     | the FFA parties and incorporated into Sections 3   | CERCLA Site Evaluation or Non-Time                                      |
|                     | and 4 of the SMP. (i) For clarity, accuracy and  | Critical Removal Action (NTCRA) will be                                 |
|                     | internal document consistency, revise the row title  | identified in the D&D OU. (See  |
|                     | to reflect the Remaining (post-GDP) D&D OU that  | Attachment 1, Paducah Project Life Cycle                                |
|                     | is described in Section 3 of the SMP. (ii) Add the   | Summary Schedule)   |
|                     | PGDP tunnels (including but not limited to   |   |
|                     | C310/310A; C335; C-331; C333-C333A; C-337-   | The revised figure no longer references the                             |
|                     | 337A) to the Remaining D&D OU.   | tunnels.  |
| General Comment 4,  | "Balance of Plant Demolition" is structured by   | The revised figure has been clarified to                                |
| Condition G         | seventeen (17) Geographic Areas (see, also, Figure   | identify that the facilities that require a                             |

| Condition No.      | Condition   | Dispute Resolutions                         |
|--------------------|---|---|
|                    | 3.6). DOE proposes that some facilities in GAs will     | CERCLA Site Evaluation or NTCRA will        |
|                    | be Decommissioned under CERCLA and others               | be identified in the D&D OU. (See           |
|                    | outside of CERCLA, depending on whether a               | Attachment 1, Paducah Project Life Cycle    |
|                    | known release or threat of a release is documented.     | Summary Schedule)                           |
|                    | The release threat is not proposed by DOE to be         | •   |
|                    | evaluated until after Deactivation of each facility is  | Revised Figure 3-6 for Geographical Areas   |
|                    | completed. DOE states that GAs 3, 6 and 7 do not        | has been provided to FFA Parties and        |
|                    | have facilities present to be decommissioned;           | accepted as a replacement for Figure 3-6.   |
|                    | however, EPA noted during SMP scoping                   | (See Attachment 2)                          |
|                    | discussions that the GA 3 footprint may include         | ,   |
|                    | buildings from the former Kentucky Ordnance             |   |
|                    | Works requiring evaluation for D&D. (i) Revise the      |   |
|                    | title of this row to "Geographic Areas Balance of       |   |
|                    | Plan Demolition OU". (ii) Use of a single green bar     |   |
|                    | to illustrate "field work" misleads the reader that     |   |
|                    | this is all CERCLA FFA field work. Revise this          |   |
|                    | row to include at least one green bar (CERCLA           |   |
|                    | Decommissioning) and a bar of another color (non-       |   |
|                    | CERCLA Decommissioning) to communicate                  |   |
|                    | DOE's GA Balance of Plant paradigm to the reader.       |   |
|                    | (iii) Related figure 3-6 in the SMP is of relatively    |   |
|                    | low quality and hard to interpret. Replace the          |   |
|                    | current Figure 3-6 image with the Geographical          |   |
|                    | Areas map dated May 17 that is used by DOE-             |   |
|                    | PGDP (provided as Attachment 1 to this letter).         |   |
| General Comment 4, | The figure on page 5-5 is a high-level (low detail)     | The revised figure is titled <i>Paducah</i> |
| Condition A        | representation of the Life Cycle <i>Plan</i> (schedules | Project Life Cycle Summary Schedule.        |
|                    | and scope), not a <i>Baseline</i> (schedules, scope and | (See Attachment 1, Paducah Project Life     |
|                    | budget). For accuracy and transparency, revise the      | Cycle Summary Schedule)                     |
|                    | title of the figure to read "Paducah GDP Life Cycle     |   |
|                    | Plan".  |   |
| General Comment 4, | The top row of activities appears to represent a        | The revised figure includes a Base          |
| Condition B        | variety of non-FFA and FFA post-ROD                     | Operations section. (See Attachment 1,      |
|                    | maintenance activities. Add the notation "Base          | Paducah Project Life Cycle Summary          |
|                    | Operations" to orient the reader.                       | Schedule)                                   |
| General Comment 4, | DOE continues to be vague (in previous SMPs and         | The revised figure includes a label called  |
| Condition D        | the current SMP) regarding whether the Waste            | Waste Disposal Alternatives OU. (See        |
|                    | Disposal Alternatives Evaluation for the On-Site        | Attachment 1, Paducah Project Life Cycle    |
|                    | Waste Disposal Facility is, or is not, an Operable      | Summary Schedule)                           |
|                    | Unit under the FFA. Revise the figure (and related      | , ,   |
|                    | SMP text in Section 4) to notate the OSWDF              | The SMP text will be revised for            |
|                    | project as an OU, or move the project to "Base          | consistency.                                |
|                    | Operations" (see "b", above), as a project under        | ,   |
|                    | "Waste/Landfill Operations".                            |   |
| General Comment 4, | The FFA Parties agreed to -establish one OU for         | The revised figure identifies the DUF6      |
| Condition E        | Soils and a separate OU for DUF6 Footprint              | Footprint Underlying Soils OU and the       |
|                    | Underlying Soils. Revise the Lifecycle Plan to          | Soils OU as two separate OUs.               |
|                    | clearly distinguish between these two OUs (separate     | (Attachment 1, Paducah Project Life Cycle   |
|                    | rows or add "OU notations) and for internal             | Summary Schedule)                           |
|                    | consistency with the Section 3 SMP text.                | , ,,  |
| General Comment 4, | Revise the row title (CSOU) to spell out                | The revised figure spells out               |
| Condition H        | "Comprehensive Site".                                   | Comprehensive Site OU. (See Attachment      |
|                    |   | 1, Paducah Project Life Cycle Summary       |
|                    | 1   | Schedule)                                   |

| Condition No.                     | Condition   | <b>Dispute Resolutions</b>   |
|-----------------------------------|---|--|
| General Comment 4,<br>Condition I | Revise page 5-3 narrative ( <i>Operable Unit Sequencing</i> ) to clarify that the figure on 5-5 is the Lifecycle Plan, not the Lifecycle Baseline (a Baseline would include budget information that is not provided in the SMP).  | Text has been changed to refer to the Life<br>Cycle Schedule when discussing the<br>figure. (See Attachment 1, Paducah<br>Project Life Cycle Summary Schedule and<br>Attachment 3 for redlined text for page 5-<br>3)  |
| General Comment 7                 | Provide to KDEP and EPA an electronic copy of the PGDP LCB approved by HQ earlier in 2018. EPA understands that the LCB may be provided as Official Use Only with restrictions required by DOE related to records management.   | DOE provided the remaining Life Cycle Baseline Packages for the remediation and D&D projects on 7/19/18 for review and discussion. DOE provided a full set of electronic files via ftp transfer on 7/23/18.  |
| General Comment 8                 | Revise the SMP to include (in an existing or a new Appendix) a table (as illustrated below) that captures all MOAs that have been executed by the FFA Parties to date. The Appendix may also include MOAs signed by the FFA Parties that did not arise from, or resolve, an FFA dispute (such as the August 2017 C400 Complex MOA). | DOE provided a table of Dispute and Non-Dispute Memorandums of Agreements via email. This table will not be added to the SMP. The following are those that should be referenced in the appropriate sections of the FY 2018 SMP.  Memorandum of Agreement for Resolution of Formal Dispute of the Remedial Investigation/Feasibility Study Report for CERCLA Waste Disposal Alternatives Evaluation at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky, DOE/LX/07-0244&D2, February 27, 2018  Memorandum of Agreement for Resolution of the Formal Dispute for the Remedial Investigation/Feasibility Study Report for CERCLA Waste Disposal Alternatives Evaluation at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky, DOE/LX/07-0244&D2, February 8, 2017  Memorandum of Agreement for Resolution of Informal Dispute for the Focused Feasibility Study for the Southwest Plume Volatile Organic Compound Sources Oil Landfarm and C-720 Northeast and Southeast Sites) at the Paducah Gaseous Diffusion Plant, Paducah, KY (DOE/LX/07-0186&D2), May 20, 2010  Memorandum of Agreement for Resolution of Formal Dispute Regarding the Nonconcurrence by EPA and KDEP on the DOE Milestone Modification Request for Submittal of the Revised Proposed Plan for the Volatile Organic Compound Contamination at the C-400 Cleaning Building at the Paducah, Kentucky (DOE/LX/07-2407&D1), October 6, 2017 |

| Condition No.                      | Condition  | <b>Dispute Resolutions</b>  |
|------------------------------------|--|---|
|                                    |  | Memorandum of Agreement for Resolution of Formal Dispute of the Explanation of Significant Differences to the Record of Decision for the Interim Remedial Action of the Northeast Plume at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky (DOE/LX/07-1291&D2), and Remedial Action Work Plan for Optimization of the Northeast Plume Interim Remedial Action at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky (DOE/LX/07-1280&D2), August 4, 2015  |
| General Comment 11                 | Revise the footnote for consistency with CERCLA to read as follows:  A portion of the SWMUs/Areas of concern listed may not quality as NFAs per CERCLA and may require additional characterization for radionuclides and other CERCLA hazardous substances under the appropriate OU.   | The D2 FY 2018 No Further Action (NFA) listing will be utilized and the footnote below that was included in the D1 FY 2018 SMP will be restored.  A portion of the SWMUs/areas of concerns listed may not qualify as NFAs per CERCLA and may require additional characterization for radionuclides under the appropriate OU. (See Attachment 4 for redlined text changes for page 4-11)  Minor corrections to the NFA listing identified since issuance of the D2 will be noted and included in the revised document. |
| Specific Comment 2,<br>Condition   | Revise the SWMU listing to include all 22 SWMUs and status notations in the "Description" column consistent with the D2 C-400 Building Removal Notification document (DOE/LX/07-2420&D2, May 7, 2018).   | The proposed changes to the table for listing the 22 SWMUs were accepted by EPA and KY on 7/18/18. (See Attachment 5 for redlined text for page 4-3).   |
| Specific Comment 5,<br>Condition 5 | Although no conditions were specified, EPA linked this comment to GC-4 above because it provided input on the figure referenced in GC-4 that requires a replacement of that figure with a more detailed GANTT Chart.   | Resolved under General Comment 4<br>Conditions.   |
| General Comment 1,<br>Condition A  | Using standard FFA schedule logic, incorporate schedules through the Remedial Action Completion Report (RACR) with deadlines and target dates for the following projects:  a Plant Area Vapor Intrusion Remedial Investigation Study (Groundwater OU) with an enforceable milestone date of 3rd Q FY2020 for submission of the Dl Work Plan. | Per the SEC discussions, only the four out-<br>year completion milestones for the<br>operable units, as required by the FFA will<br>be added as part of the FY 2018/2019<br>SMP.  No additional changes will be made to the<br>SMP.   |
| General Comment 1,<br>Condition B  | Using standard FFA schedule logic, incorporate schedules through the Remedial Action Completion Report (RACR) with deadlines and target dates for the following projects:  SWMUs 5 and 6 Burial Grounds with submission of the draft ROD in 2021 (CERCLA documentation has been completed through the Proposed Plan and                      | Per the SEC discussions, only the four out-<br>year completion milestones for the<br>operable units, as required by the FFA will<br>be added as part of the FY 2018/2019<br>SMP.  |

| Condition No.                     | Condition   | Dispute Resolutions   |
|-----------------------------------|---|---|
|                                   | wastes have been demonstrated to be sitting in groundwater).  | No additional changes will be made to the SMP.  |
| General Comment 1,<br>Condition C | Using standard FFA schedule logic, incorporate schedules through the Remedial Action Completion Report (RACR) with deadlines and target dates for the following projects:  SWMUs 2 and 3 Burial Grounds with submission of the Dl Proposed Plan in 2023 (a major ongoing source of TCE contamination to groundwater;  CERCLA documentation through the Feasibility Study was completed in 2017).                          | Per the SEC discussions, only the four out-<br>year completion milestones for the<br>operable units, as required by the FFA will<br>be added as part of the FY 2018/2019<br>SMP.  No additional changes will be made to<br>SMP.   |
| General Comment 1,<br>Condition D | Using standard FFA schedule logic, incorporate schedules through the Remedial Action Completion Report (RACR) with deadlines and target dates for the following projects:  SWMU 4 Burial Ground with submission of the DI Proposed Plan in 2025 (a major ongoing source of TCE contamination to groundwater, CERCLA documentation through the Feasibility Study will be completed in 2018).                               | Per the SEC discussions, only the four out-<br>year completion milestones for the<br>operable units, as required by the FFA will<br>be added as part of the FY 2018/2019<br>SMP.  No additional changes will be made to<br>SMP.   |
| General Comment 2,<br>Condition A | As required by the terms and conditions of the FFA, revise the FY2018 SMP to include the FY2015 enforceable outyear milestones for the Surface Water (09/30/2032) and Ground Water OUs (09/30/2032) <i>or</i> propose new milestone dates and supporting rationale for consideration and approval by KDEP and EPA.  | The SMP will include out-year completion milestones for the Surface Water and Groundwater operable units, as required by the FFA, with new dates consistent with the DOE lifecycle baseline. (See Attachment 6, redlined Appendix 5 Enforceable Timetables and Deadlines; Planning Dates with Long-Term Targets.)   |
| General Comment 2,<br>Condition B | Consistent with the FFA language and tri-party agreement to establish outyear enforceable completion milestones for the "pre-Gaseous Diffusion Plant" OUs, revise the SMP to propose outyear enforceable completion milestones for the 'post-Gaseous Diffusion Plant' OUs: Lagoons OU, Burial Grounds OU, Soils OU, Soils and Slabs OU, Facility D&D OU, DUF 6 Footprint Underlying Soils OU, and Comprehensive Site OU." | The SMP will include out-year completion milestones for the Burial Grounds and Soils operable units, as required by the FFA, with new dates consistent with the DOE lifecycle baseline. (See Attachment 6, redlined Appendix 5 Enforceable Timetables and Deadlines; Planning Dates with Long-Term Targets.)  Per the SEC discussions, only the four out-year completion milestones for the operable units, as required by the FFA will be added as part of the FY 2018/2019 SMP. |
| General Comment 3,<br>Condition A | Using Condition 1 and standard FFA schedule logic, establish outyear enforceable milestone dates in the revised D2 SMP as noted below:  a. Plant Area Vapor Intrusion Remedial Investigation Study (Groundwater OU) – DI RI Report.   | No additional changes will be made to SMP.  Per the SEC discussions, only the four outyear completion milestones for the operable units, as required by the FFA will be added as part of the FY 2018/2019 SMP.  No enforceable milestone will be added.   |

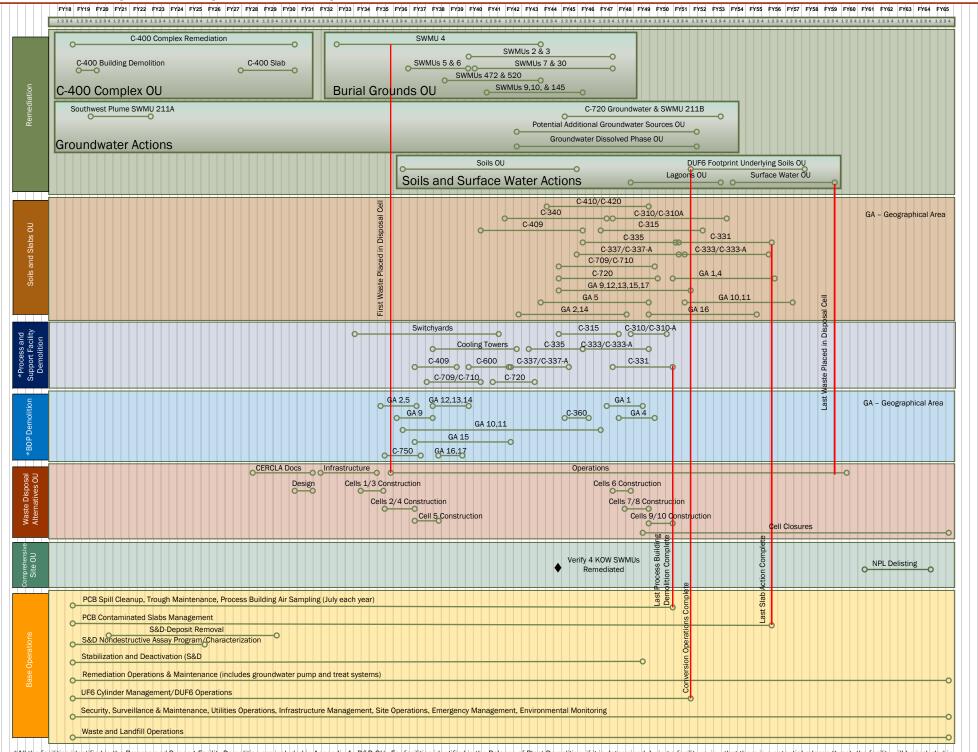
| Condition No.                     | Condition  | <b>Dispute Resolutions</b>   |
|-----------------------------------|--|--|
| General Comment 3,<br>Condition B | Using Condition 1 and standard FFA schedule logic, establish outyear enforceable milestone dates in the revised D2 SMP as noted below: SWMUs 5 and 6 Burial Grounds – DI RACR. | Per the SEC discussions, only the four out-<br>year completion milestones for the<br>operable units, as required by the FFA will<br>be added as part of the FY 2018/2019<br>SMP.   |
|                                   |  | No additional changes will be made to the SMP.   |
| General Comment 3,<br>Condition C | Using Condition 1 and standard FFA schedule logic, establish outyear enforceable milestone dates in the revised D2 SMP as noted below: SWMUs 2 and 3 Burial Grounds – DI RACR. | Per the SEC discussions, only the four out-<br>year completion milestones for the<br>operable units, as required by the FFA will<br>be added as part of the FY 2018/2019<br>SMP.   |
|                                   |  | No additional changes will be made to the SMP.   |
| General Comment 3,<br>Condition D | Using Condition 1 and standard FFA schedule logic, establish outyear enforceable milestone dates in the revised D2 SMP as noted below: SWMU 4 Burial Grounds- DI RACR.         | Per the SEC discussions, only the four out-<br>year completion milestones for the<br>operable units, as required by the FFA will<br>be added as part of the FY 2018/2019<br>SMP.   |
|                                   |  | No additional changes will be made to the SMP.   |
| General Comment 9,<br>Condition A | Revise the SMP (Appendix 3) to describe the Plant Area Vapor Intrusion Study Remedial Investigation (RI) scope of work at PGDP (Appendix 3).                                   | The following text will be added to Appendix 3 of the SMP in the Dissolved Phase Groundwater OU section.   |
|                                   |  | "DOE will develop a Plant Industrial Area<br>Vapor Intrusion Preliminary Risk<br>Assessment Work Plan and Report to<br>focus on PGDP buildings located over the<br>groundwater plumes, consistent with EPA<br>vapor intrusion guidance, with input from<br>EPA and KDEP utilizing a project team   |
|                                   |  | developed from the technical working groups established to evaluate and make recommendations to FFA Managers on programmatic issues at the PGDP. Work plan development will begin in FY 2019 and be completed in FY 2020. The work plan will identify the information to be obtained and decision criteria for responding to the question of whether |
|                                   |  | vapor intrusion from volatile organic compounds in soils and groundwater poses a potential threat to human health in buildings located over these areas at the Paducah Site and if human exposure to vapor intrusion is under control. Upon completion of the assessment, a Plant  |
|                                   |  | Industrial Area Vapor Intrusion Preliminary Risk Assessment Report will be issued by DOE (scheduled in FY 2021). The Work Plan and Report will be FFA  |

| Condition No.                      | Condition  | Dispute Resolutions   |
|------------------------------------|--|---|
|                                    |  | Secondary Documents subject to regulatory review and concurrence, and DOE written responses to comments, consistent with FFA Section XX. Review/Comment on Draft/Final Documents. The report will specify whether any additional actions are necessary to satisfy the question of potential threat to human health from vapor intrusion and/or to bring human exposure to vapor intrusion under control. Additional FFA actions may include Remedial Investigation, Removal Actions and early (remedial) actions. EPA and KY reserve the right to request Additional Work (FFA Section XIX) in the absence of either party's concurrence on the Work Plan or Report.  Because plume conditions are dynamic and will change over the next several decades, the Dissolved Phase Operable Unit will include a data quality objective to address the site-wide vapor intrusion pathway for the site. Prior to the Dissolved Phase Operable Unit, a data quality objective to address vapor intrusion will be included in other operable units' project RI scoping and subsequent investigations and decision-making, as appropriate." |
| General Comment 9,<br>Condition B  | Revise the SMP (Appendix 5) to provide a schedule with milestones and planning dates for the Vapor Intrusion Study Remedial Investigation (RI).  | Per the SEC discussions, only the four out-<br>year completion milestones for the<br>operable units, as required by the FFA will<br>be added as part of the FY 2018/2019 SMP<br>No enforceable milestone or planning<br>dates will be added.  |
| General Comment 9,<br>Condition C  | Establish an enforceable milestone date (mm/dd/yyyy) in 3 <sup>rd</sup> Q FY2020 for submission of the Dl Vapor Intrusion Study RI Work Plan to KDEP and EPA.  | Per the SEC discussions, only the four out-<br>year completion milestones for the<br>operable units, as required by the FFA will<br>be added as part of the FY 2018/2019 SMP<br>No enforceable milestone will be added.   |
| General Comment 13,<br>Condition A | The schedule for updates to the Community Relations Plan should be transparent in the SMP to all stakeholders, particularly the local community, to facilitate understanding and participation in the cleanup process. Revise Appendix 5 to include an enforceable milestone date for submittal of the D1 CRP in 2018 (June 30, 2018). | Per the SEC discussions, only the four out-<br>year completion milestones for the<br>operable units, as required by the FFA will<br>be added as part of the FY 2018/2019 SMP<br>No enforceable milestone will be added.   |
| General Comment 13,<br>Condition C | Revise Appendix 5 to include an enforceable milestone date (mm/dd/yyyy) for submittal of the D1 CRP in 2020.   | Per the SEC discussions, only the four out-<br>year completion milestones for the<br>operable units, as required by the FFA will<br>be added as part of the FY 2018/2019<br>SMP.  |

| Condition No.                      | Condition  | Dispute Resolutions   |
|------------------------------------|--|---|
| General Comment 13,<br>Condition B | Revise the SMP (Appendix 3) to briefly describe a plan to conduct broad-reaching educational outreach and a community survey tailored to the new PGDP Lifecycle Plan and Baseline (including delay of the potential future OSWDF, incorporation of the remaining deactivation and decommissioning scope of work and pushing the Superfund Site cleanup completion date to 2065), the results of which will be incorporated into the 2020 CRP update. | No enforceable milestone will be added.  DOE will not include this requirement in the SMP. DOE, EPA and KDEP will discuss the need for community surveys, as needed, in support of the next CRP update.   |
| General Comment 14,<br>Condition A | Consistent with CERCLA Section 120 and Section XXX - Five Year Review - of the PGDP FFA, revise Appendix 5 to reflect the date for DOE submission to KDEP and EPA of the 2013 Five Year Review Addendum for the C400 2005 ROD Vapor Intrusion Study. In the "comments" field, insert a citation referencing the EPA "protectiveness deferred" letter of September 30, 2014.  | DOE will update the status of this action under Appendix 1 to reflect the requested reference as follows:  "The 2013 Five-Year Review resulted in a deferred protectiveness status from EPA as stated in a letter from R. Chaffins dated September 30, 2014. DOE conducted a vapor intrusion study for the C-400 Building and results are documented in the 2013 Five Year Review Addendum dated November 9, 2018." |
| General Comment 14,<br>Condition B | Revise Appendix 5 to reflect the date for DOE submission of the 2018 Five Year Review (May 28, 2018).  | The D2 FY 2018 SMP already included the 2018 planning date for submittal of the D1 Five Year Review. No changes will be made to the document.   |
| General Comment 14,<br>Condition C | Revise Appendix 5 to reflect the statutory date for approval of the 2018 Five Year Review.   | The D2 FY 2018 SMP already included the 2019 planning date for approval of the Five Year Review. No changes will be made to the document.   |
| Specific Comment 1,<br>Condition A | Revise the language in Appendix 3 to state that EPA does not agree with DOE's assumptions predicating all PGDP environmental media cleanup scope and schedules on the potential future construction of a CERCLA on-site waste disposal facility. This language can be included as a footnote on the appropriate page.  | The requested language will not be included in the SMP. A future decision to construct a CERCLA on-site waste disposal facility will be made through the FFA remedy selection and decision document process.  |
| Specific Comment 1,<br>Condition B | Add language to Section 3 (page 3-28 of the D2) stating that EPA does not agree with DOE's assumptions predicating all GPDP environmental media cleanup scope and schedule on the potential future construction of a CERCLA on-site waste disposal facility. This language can be included as a footnote on page 3-28.   | This change will not be included in the SMP. A future decision to construct a CERCLA on-site waste disposal facility will be made through the FFA remedy selection and decision document process.   |

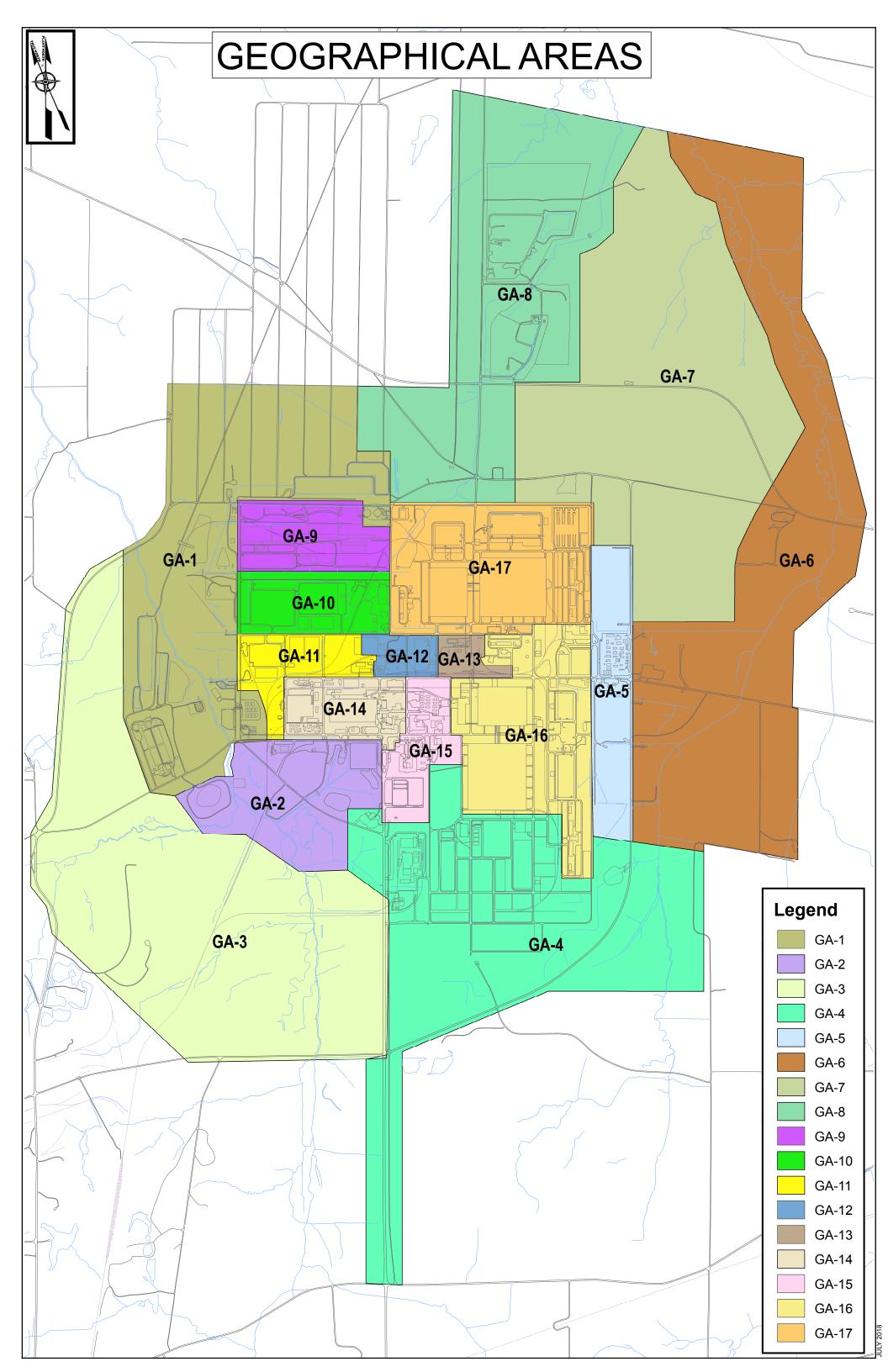
# Attachment 1 Paducah Project Life Cycle Summary Schedule

# Paducah Project Life Cycle Summary Schedule



\*All the facilities identified in the Process and Support Facility Demolition are included in Appendix 4 - D&D QU. For facilities identified in the Balance of Plant Demolition, if it is determined during a facility review that there is a potential release threat, the facilities will be included in Appendix 4 - D&D QU. The FFA Parties have agreed to continue collaboration during scoping of the D1 FY 2020 Site Management Plan to complete the review of the Appendix 8 facilities, the timing for Appendix 4 facilities Removal Site Evaluation, and the timing and process for screening the facilities in Appendix 6 for inclusions in Appendix 4 - D&D QU.

Attachment 2
Geographical Areas



# Attachment 3 Redline Text Changes to Page 5-3

## **Operable Unit Sequencing**

The Paducah Life Cycle Baseline has been updated to integrate and logically sequence site projects to remediate environmental media (including slabs); complete operating missions; deactivate facilities and systems; remove equipment and disposition small structures; decommission and demolish facilities; complete the Comprehensive Site Operable Unit (CSOU); achieve National Priorities De-listing; and turn over the site for future use. The following figure shows the major projects and activities in the Paducah Life Cycle BaselineSchedule, their sequence, and inter-relationships among projects. This figure shows both non-Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) site activities and CERCLA activities that are required to complete the decommissioning and remediation scope at the Paducah Site.

# Attachment 4 Redline Text Changes to Page 4-11

Solid Waste Management Units/Areas of Concern by Operable Unit (Continued)

| NO FURTHER ACTION <sup>10</sup> |  |                                  |
|---------------------------------|--|----------------------------------|
| SWMU No.                        | Description  | NFA Approval By                  |
| 12                              | C-747-A UF <sub>4</sub> Drum Yard                  | FFA Managers Agreement-          |
|                                 |  | November 17, 2011; FFA Managers  |
|                                 |  | Meeting, 4/12/2012               |
| 24                              | C-750-D UST  | KDWM (UST Branch) 11/23/1999     |
| 25                              | C-750 1,000-gal Waste Oil Tank (UST)               | EPA HSWA Class 1 Permit Mod      |
|                                 |  | 3/17/1993—Regulated by RCRA      |
|                                 |  | Permit; KDWM (UST Branch)        |
|                                 |  | 6/20/1994                        |
| 29                              | C-746-B TRU Storage Area                           | EPA HSWA Class 1 Permit Mod      |
|                                 |  | 3/17/1993                        |
| 34                              | C-746-M PCB Waste Storage Area                     | EPA HSWA Class 1 Permit Mod      |
|                                 |  | 3/17/1993                        |
| 35                              | C-337 PCB Waste Storage Area                       | EPA HSWA Class 1 Permit Mod      |
|                                 |  | 3/17/1993                        |
| 36                              | C-337 PCB Waste Staging Area                       | EPA HSWA Class 1 Permit Mod      |
|                                 |  | 3/17/1993                        |
| 37                              | C-333 PCB Waste Staging Area                       | EPA HSWA Class 1 Permit Mod      |
|                                 |  | 3/17/1993                        |
| 39                              | C-746-B PCB Waste Storage Area                     | EPA HSWA Class 1 Permit Mod      |
|                                 |  | 3/17/1993                        |
| 43                              | C-746-B Waste Chemical Storage Area                | EPA HSWA Class 1 Permit Mod      |
|                                 |  | 3/17/1993; Closed after 1993     |
| 45                              | C-746-R Waste Solvent Storage Area                 | EPA HSWA Class 1 Permit Mod      |
|                                 | -  | 3/17/1993; Closed after 1993     |
| 46                              | C-409 Hazardous Waste Pilot Plant <sup>11</sup>    | EPA HSWA Class 1 Permit Mod      |
|                                 |  | 3/17/1993—Regulated by RCRA      |
|                                 |  | Permit; KDWM (Mod #13) 9/26/1999 |
| 48                              | Gold Dissolver Storage Tank (DMSA C400-03)         | EPA HSWA Class 1 Permit Mod      |
|                                 |  | 3/17/1993; KDWM 7/8/2010         |
| 49                              | C-400-B Waste Solution Storage Tank                | EPA HSWA Class 1 Permit Mod      |
|                                 |  | 3/17/1993—Regulated by RCRA      |
|                                 |  | Permit; KDWM 9/26/1997           |
| 50                              | C-400-C Nickel Stripper Evaporation Tank           | EPA HSWA Class 1 Permit Mod      |
|                                 |  | 3/17/1993—Regulated by RCRA      |
|                                 |  | Permit; KDWM (Mod #13) 9/26/1999 |
| 51                              | C-400-D Lime Precipitation Tank                    | EPA HSWA Class 1 Permit Mod      |
|                                 |  | 3/17/1993—Regulated by RCRA      |
|                                 |  | Permit; KDWM (ROC) 8/8/1994      |
| 52                              | C-400 Waste Decontamination Solution Storage Tanks | EPA HSWA Class 1 Permit Mod      |
|                                 |  | 3/17/1993                        |
| 53                              | C-400 NaOH Precipitation Unit                      | EPA HSWA Class 1 Permit Mod      |
|                                 | _  | 3/17/1993                        |
| 54                              | C-400 Degreaser Solvent Recovery Unit              | EPA HSWA Class 1 Permit Mod      |
|                                 |  | 3/17/1993; KDWM 7/8/2010         |
| 72                              | C-200 Underground Gasoline Tanks                   | EPA HSWA Class 1 Permit Mod      |
|                                 |  | 3/17/1993; KDWM (UST C-200A;     |
|                                 |  | UST Branch) 11/23/1999           |

A portion of the SWMUs/areas of concerns listed may not qualify as NFAs per CERCLA and may require additional characterization for radionuclides under the appropriate OU.
 Radiological contamination associated with the sump in this unit will be addressed under the D&D program for the C-409 Stabilization Building.

# Attachment 5 Redline Text Changes to Page 4-3

Solid Waste Management Units/Areas of Concern by Operable Unit

| C-400 COMPLEX |                                    |       |  |  |  |  |
|---------------|------------------------------------|-------|--|--|--|--|
| Operable Unit | Subproject                         | SWMU  | Description  |  |  |  |
|               |                                    | No.   |  |  |  |  |
|               | C-400 D&D                          | Other | C-400 Building [building foundation (i.e., slab) will remain in                        |  |  |  |
|               | C-400 D&D                          |       | place]   |  |  |  |
|               |                                    | 11    | C-400 TCE Leak Site  |  |  |  |
|               |                                    | 40    | C-403 Neutralization Tank slab and underlying soils                                    |  |  |  |
|               |                                    | 47    | C-400 Technetium Storage Tank Area   |  |  |  |
|               |                                    | 98    | C-400 Basement Sump  |  |  |  |
|               |                                    | 203   | C-400 Discard Waste System slab and underlying soils                                   |  |  |  |
| C-400         | C-400 Final                        | 480   | C-402 Lime House building slab and underlying soils                                    |  |  |  |
| Complex OU    | Remedial                           | 533   | TCE Spill Site from TCE Unloading Operations at C-400                                  |  |  |  |
|               | Action                             |       | IUs (349, 350, 351, 352, and 353) within the C-400 Building are                        |  |  |  |
|               |                                    |       | at were designated as SWMUs under the Kentucky Hazardous                               |  |  |  |
|               |                                    |       | nagement Permit pursuant to a DOE-KDEP Agreed Order                                    |  |  |  |
|               |                                    |       | 003) and were not identified for action under the FFA. Ten                             |  |  |  |
|               |                                    |       | AUs within the C-400 Building (48, 49, 50, 51, 52, 53, 54, 383,                        |  |  |  |
|               |                                    |       | 37) have been designated as no further action and are listed in                        |  |  |  |
|               |                                    |       | ther Action section of Appendix 4.   |  |  |  |
|               |                                    |       | ROUNDWATER   |  |  |  |
|               | C-400 Interim                      | 11    | C-400 TCE Leak Site  |  |  |  |
|               | Remedial                           | 533   | TCE Spill Site from TCE Unloading Operations at C-400                                  |  |  |  |
|               | Action                             | 1     | 0.747.0.011 1 France   |  |  |  |
|               | Southwest                          | 1     | C-747-C Oil Land Farm  |  |  |  |
|               | Plume Sources                      | 211 A | C-720 TCE Spill Site Northeast   |  |  |  |
| CWOLL         |                                    | 211 B | C-720 TCE Spill Site Southeast   |  |  |  |
| GWOU          | Dissolved-                         | 201   | Northwest Groundwater Plume  |  |  |  |
|               | Phase Plumes                       | 202   | Northeast Groundwater Plume  |  |  |  |
|               |                                    | 210   | Southwest Groundwater Plume  |  |  |  |
|               | Potential                          | NA    | This operable unit is being reserved for remaining sources to                          |  |  |  |
|               | Additional                         |       | groundwater contamination that may be identified in the future                         |  |  |  |
|               | Groundwater<br>Sources             |       |  |  |  |  |
|               | Bources                            | CI    | URFACE WATER   |  |  |  |
|               |                                    | 58    | NSDD (Outside) (includes KPDES 003)  |  |  |  |
|               | S                                  | 60    | C-375-E2 Effluent Ditch (KPDES 002) <sup>1</sup>                                       |  |  |  |
|               | R                                  | 61    | C-375-E5 Effluent Ditch (KPDES 013) <sup>1</sup>                                       |  |  |  |
|               |                                    | 62    | C-375-S6 SW Ditch (KPDES 009) <sup>1</sup>   |  |  |  |
|               | Removal Action  OU Remedial Action | 63    | C-375-W7 Oil Skimmer Ditch (KPDES 008 and KPDES 004)                                   |  |  |  |
| SWOU          | /al                                | 66    | C-375-E3 Effluent Ditch (KPDES 000)  |  |  |  |
|               | Ac                                 |       | C-375-E3 Effluent Ditch (KPDES 010)  C-375-E4 Effluent Ditch (C-340 Ditch) (KPDES 011) |  |  |  |
|               | tion                               | 67    |  |  |  |  |
|               | n<br>ctic                          | 68    | C-375-W8 Effluent Ditch (KPDES 015)  |  |  |  |
|               | nc                                 | 69    | C-375-W9 Effluent Ditch (KPDES 001)  |  |  |  |
|               |                                    | 92    | Fill Area for Dirt from the C-420 PCB Spill Site                                       |  |  |  |

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<sup>&</sup>lt;sup>1</sup> The results of the Surface Water Operable Unit (SWOU) (On-Site) Site Investigation determined that there were no unacceptable levels of risk to current and anticipated future receptors that warranted inclusion of Solid Waste Management Unit (SWMU) 60 (Outfall 002), SWMU 168 (Outfall 012), or SWMU 102 [Paducah Gaseous Diffusion Plant (PGDP) storm sewer systems associated with C-333-A, C-337-A, C-340, C-535, and C-537]. As a result, no action will be taken for these SWMUs as originally planned under the SWOU removal action. These SWMUs will be evaluated further as part of the SWOU remedial action. It also should be noted that during development of the Sampling and Analysis Plan (SAP) for SWOU (On-Site) Removal Action, Outfall 003 and Outfall 013 were evaluated. This assessment of the outfalls, which included a review of historical data, indicated that Outfall 009 and Outfall 013 did not require an early action, and further assessment of Outfall 009 and Outfall 013 would be addressed during the Comprehensive Site Operable Unit (CSOU). Based upon current site strategy, Outfall 009 and Outfall 013 also will be addressed as part of the SWOU remedial action.

# **Attachment 6**

Redline Text Changes to Appendix 5, "Enforceable Timetables and Deadlines: Planning Dates with Long-Term Targets,"

#### C-400 Complex Operable Unit (07)

The C-400 Complex Operable Unit (OU) is the current priority project for the remediation program at the Paducah Site. Deactivation of the C-400 Building is the precursor, non-CERCLA activity to the C-400 Building Decontamination and Decommissioning (D&D) Removal Action. Demolition will be conducted as a CERCLA non-time-critical removal action followed by a CERCLA Remedial Investigation/Feasibility Study (RI/FS) evaluating and identifying the response actions necessary to remediate soil and groundwater sources within the C-400 Complex OU area.

|             |  |            | e Timetable<br>adlines <sup>1</sup> | Planning Dates<br>with Long-Term<br>Targets for |  |
|-------------|--|------------|-------------------------------------|---|--|
| g           | D. II  | FY 2018-FY | G . ***                             | Decision  |  |
| Subproject  |  | 2020       | Out-Year                            | Documents <sup>2</sup>                          | Comments   |
| C-400       | D1 Removal Notification                            | 3/1/18     |                                     |   |  |
| D&D         | D1 Engineering Evaluation/Cost Analysis (EE/CA)    | 5/2/18     |                                     |   |  |
|             | D1 Action Memorandum                               | 8/14/18    |                                     |   |  |
|             | D1 Removal Action Work Plan                        | 8/17/18    |                                     |   |  |
|             | Removal Action Field Start                         | 11/27/18   |                                     |   |  |
| C-400 Final | D1 Remedial Investigation Work Plan                | 11/28/18   |                                     |   |  |
| Remedial    | Remedial Investigation Field Start                 | 11/13/19   |                                     |   |  |
| Action      | D1 Remedial Investigation/Feasibility Study Report |            |                                     | 3rd Quarter 2021                                |  |
|             | D1 Proposed Plan                                   |            |                                     | 1st Quarter 2022                                | D1 Proposed Plan is submitted 45 days after U.S. Environmental Protection Agency (EPA) and Kentucky (KY) approval of the Feasibility Study. <sup>3</sup> The Proposed Plan is submitted for public comment within two weeks of approval. |
|             | D1 Record of Decision (ROD)                        |            |                                     | -   | D1 ROD is submitted 30 days after close of public comment period on the Proposed Plan [Federal Facility Agreement (FFA) Section XIV.D].  |
|             | D1 Remedial Design Work Plan                       |            |                                     | 4th Quarter 2022                                |  |
|             | D1 Remedial Design Report (90% Design)             |            |                                     | 4th Quarter 2023                                |  |
|             | D1 Remedial Action Work Plan                       |            |                                     | 4th Quarter 2023                                |  |
|             | Remedial Action Field Start                        |            | 1st Quarter<br>2024                 |   |  |
|             | D1 Remedial Action Completion Report               |            |                                     | 4th Quarter 2030                                | D1 Remedial Action Completion Report is<br>submitted 150 days after Remedial Action is<br>completed.   |

#### Groundwater Operable Unit (01)

The C-400 Volatile Organic Compound Interim Remedial Source Action is complete. The last phase (Phase IIb) was not completed, and the source area will be addressed under the C-400 Complex OU. A completion report will be submitted for the phases completed (i.e., Phase I, Phase IIa) under the 2005 Interim ROD.

The Southwest Plume Sources—Solid Waste Management Unit (SWMU) 211-A is a groundwater source action being implemented under the 2012 Southwest Plume Sources ROD. The area is a source to groundwater contamination and is identified as a priority project to be completed in the near-term, along with the C-400 Complex OU actions.

|                 |  | Enforceable Timetable and<br>Deadlines <sup>1</sup> |          | Planning Dates<br>with Long-Term<br>Targets for |   |
|-----------------|--|---|----------|---|---|
| Subproject      | Deliverable                            | FY 2018–FY 2020                                     | Out-Year | Decision Documents <sup>2</sup>                 | Comments                                    |
| C-400 Interim   | D1 Remedial Action Completion Report   | 2/7/18  |          |   |   |
| Remedial        | for IRA                                |   |          |   |   |
| Action          |  |   |          |   |   |
| Southwest       | D1 Remedial Design Report (90% Design) | 11/8/19   |          |   |   |
| Plume           |  |   |          |   |   |
| Sources—        | D1 Remedial Action Work Plan           | 12/8/19   |          |   |   |
| SWMU 211-A      | D1 Remedial Action Completion Report   |   |          | 2nd Quarter 2021                                | D1 Remedial Action Completion Report is     |
| (Enhanced In    |  |   |          |   | submitted 150 days after Remedial Action is |
| Situ            |  |   |          |   | completed.                                  |
| Bioremediation) |  |   |          |   |   |

#### Waste Disposal Alternatives (06)

The Waste Disposal Alternatives Project will evaluate whether various types of waste generated by the CERCLA projects at that Paducah Site will be dispositioned at multiple existing disposal facilities available throughout the country or at an on-site waste disposal facility (OSWDF) to be built at the Paducah Site for disposal of the majority of waste generated by decommissioning, demolition, burial grounds excavation, and environmental media remediation. The project will be completed in the time frame necessary to ensure that an OSWDF (if selected) is available for the first potential burial ground excavation, SWMU 4, and for demolition of gaseous diffusion plant process and support buildings, with the exception of the C-400 Building, which is prioritized for demolition in fiscal year (FY) 2019 in order to complete soil and groundwater remediation beneath the C-400 Building. Design and construction of the first cell (phase) of a potential OSWDF will require a significant budget over a period of four years. During that period, there are no other remedial actions supported by the projected Paducah Site funding levels. All available remediation funding is dedicated to completing this project as quickly as possible, based on the funding that is provided.

| Planning Dates with |

|                |   | Enforceable Tin<br>Deadlin |          | Planning Dates with<br>Long-Term Targets<br>for Decision |   |
|----------------|---|----------------------------|----------|--|---|
| Subproject     | Deliverable                                     | FY 2018-FY 2020            | Out-Year | Documents <sup>2</sup>                                   | Comments  |
| Waste Disposal | D1 Remedial Investigation/Feasibility           |                            |          | 4th Quarter 2027   |   |
| Alternatives   | Study   |                            |          |  |   |
|                | D1 Proposed Plan                                |                            |          | 2nd Quarter 2028   | D1 Proposed Plan is submitted 45 days after EPA and KY approval of the FS. <sup>3</sup> The Proposed Plan is submitted for public comment within two weeks of approval.   |
|                | D1 ROD  |                            |          | 4th Quarter 2028   | D1 ROD is submitted 30 days after close of public comment period on the Proposed Plan (FFA Section XIV.D).  |
|                | D1 Remedial Design Work Plan                    |                            |          | 3rd Quarter 2029   |   |
|                | D1 Remedial Design Report                       |                            |          | 3rd Quarter 2030   | FFA schedule logic has been modified to account for the complexity of the project.  |
|                | D1 Remedial Action Work Plan                    |                            |          | 3rd Quarter 2031   | FFA schedule logic has been modified to account for the complexity of the project.  |
|                | D1 Interim Remedial Action<br>Completion Report |                            |          | 4 <sup>th</sup> Quarter 2035                             | The D1 Interim Remedial Action Completion Report is a post-construction report to be issued prior to the start of operations. A D1 Final Remedial Action Completion Report will be issued when operations cease and closure has been completed. |

Burial Grounds Operable Unit (05)

The Burial Grounds OU consists of 12 SWMUs grouped into subprojects. SWMU 4 is the highest priority project, with the others subprojects being addressed in parallel with and sequenced to have continuous field work, while also considering the best fit to stabilize annual costs.

| Planning Dates with |

|                    |   | Enforceable Tin<br>Deadlin |          | Long-Term Targets for Decision |          |
|--------------------|---|----------------------------|----------|--------------------------------|----------|
| Subproject         | Deliverable   | FY 2018-FY 2020            | Out-Year | Documents <sup>2</sup>         | Comments |
| SWMU 4             | D1 Proposed Plan  |                            |          | 4th Quarter 2033               |          |
| Remedial<br>Action | D1 ROD  |                            |          | 2 <sup>nd</sup> Quarter 2034   |          |
|                    | D1 Remedial Design Work Plan (Waste Portion)                    |                            |          | 4 <sup>th</sup> Quarter 2034   |          |
|                    | D1 Remedial Design Report<br>(Waste Portion)                    |                            |          | 1st Quarter 2035               |          |
|                    | D1 Remedial Action Work Plan<br>(Waste Portion)                 |                            |          | 1st Quarter 2035               |          |
|                    | D1 Interim Remedial Action Completion<br>Report (Waste Portion) |                            |          | 4 <sup>th</sup> Quarter 2038   |          |
|                    | D1 Remedial Design Work Plan<br>(Groundwater Treatment)         |                            |          | 2 <sup>nd</sup> Quarter 2038   |          |
|                    | D1 Remedial Design Report<br>(Groundwater Treatment)            |                            |          | 4 <sup>th</sup> Quarter 2038   |          |
|                    | D1 Remedial Action Work Plan<br>(Groundwater Treatment)         |                            |          | 1 <sup>st</sup> Quarter 2039   |          |
|                    | D1 Remedial Action Completion Report (Groundwater Treatment)    |                            |          | 3 <sup>rd</sup> Quarter 2041   |          |

|                      |  | Enforceable Timetable and Deadlines¹ FY 2018–FY 2020 Out-Year |  | Planning Dates with<br>Long-Term Targets<br>for Decision |          |
|----------------------|--|---|--|--|----------|
| Subproject           | Deliverable  |   |  | Documents <sup>2</sup>                                   | Comments |
| SWMUs 2 and          | D1 Feasibility Study (if update necessary)                             |   |  | 3 <sup>rd</sup> Quarter 2039                             |          |
| 3 Remedial<br>Action | D1 Proposed Plan   |   |  | 1st Quarter 2040   |          |
|                      | D1 ROD   |   |  | 3 <sup>rd</sup> Quarter 2040                             |          |
|                      | SWMU 2 D1 Remedial Design Work Plan<br>(Waste Portion)                 |   |  | 1 <sup>st</sup> Quarter 2041                             |          |
|                      | SWMU 2 D1 Remedial Design Report<br>(Waste Portion)                    |   |  | 2 <sup>nd</sup> Quarter 2041                             |          |
|                      | SWMU 2 D1 Remedial Action Work Plan<br>(Waste Portion)                 |   |  | 2 <sup>nd</sup> Quarter 2041                             |          |
|                      | SWMU 2 D1 Interim Remedial Action<br>Completion Report (Waste Portion) |   |  | 3 <sup>rd</sup> Quarter 2042                             |          |
|                      | SWMU 2 D1 Remedial Design Work Plan<br>(Groundwater Treatment)         |   |  | 2 <sup>nd</sup> Quarter 2043                             |          |
|                      | SWMU 2 D1 Remedial Design Report<br>(Groundwater Treatment)            |   |  | 3 <sup>rd</sup> Quarter 2043                             |          |
|                      | SWMU 2 D1 Remedial Action Work Plan<br>(Groundwater Treatment)         |   |  | 4 <sup>th</sup> Quarter 2043                             |          |
|                      | SWMU 2 D1 Remedial Action<br>Completion Report                         |   |  | 2 <sup>nd</sup> Quarter 2045                             |          |
|                      | SWMU 3 D1 Remedial Design Work Plan                                    |   |  | 1st Quarter 2041   |          |
|                      | SWMU 3 D1 Remedial Design Report                                       |   |  | 2 <sup>nd</sup> Quarter 2041                             |          |
|                      | SWMU 3 D1 Remedial Action Work Plan                                    |   |  | 2 <sup>nd</sup> Quarter 2041                             |          |
|                      | SWMU 3 D1 Remedial Action<br>Completion Report                         |   |  | 4 <sup>th</sup> Quarter 2043                             |          |

| Burial Grounds Operable Unit (05) (Continued) |   |  |          |  |          |  |  |
|---|---|--|----------|--|----------|--|--|
|   |   | Enforceable Timetable and Deadlines <sup>1</sup> |          | Planning Dates with<br>Long-Term Targets<br>for Decision |          |  |  |
| Subproject                                    | Deliverable   | FY 2018-FY 2020                                  | Out-Year | Documents <sup>2</sup>                                   | Comments |  |  |
| SWMUs 5 and                                   | D1 Proposed Plan  |  |          | 2 <sup>nd</sup> Quarter 2037                             |          |  |  |
| 6 Remedial<br>Action                          | D1 ROD  |  |          | 4 <sup>th</sup> Quarter 2037                             |          |  |  |
|   | D1 Remedial Design Work Plan                                    |  |          | 2 <sup>nd</sup> Quarter 2038                             |          |  |  |
|   | D1 Remedial Design Report                                       |  |          | 3 <sup>rd</sup> Quarter 2038                             |          |  |  |
|   | D1 Remedial Action Work Plan                                    |  |          | 4th Quarter 2038   |          |  |  |
|   | D1 Remedial Action Completion Report                            |  |          | 1st Quarter 2040   |          |  |  |
| SWMUs 7 and                                   | D1 Feasibility Study (if update necessary)                      |  |          | 4 <sup>th</sup> Quarter 2040                             |          |  |  |
| 30 Remedial                                   | D1 Proposed Plan  |  |          | 2 <sup>nd</sup> Quarter 2041                             |          |  |  |
| Action  | D1 ROD  |  |          | 4th Quarter 2041   |          |  |  |
|   | D1 Remedial Design Work Plan<br>(Waste Portion)                 |  |          | 2 <sup>nd</sup> Quarter 2042                             |          |  |  |
|   | D1 Remedial Design Report<br>(Waste Portion)                    |  |          | 3 <sup>rd</sup> Quarter 2042                             |          |  |  |
|   | D1 Remedial Action Work Plan<br>(Waste Portion)                 |  |          | 4 <sup>th</sup> Quarter 2042                             |          |  |  |
|   | D1 Interim Remedial Action Completion<br>Report (Waste Portion) |  |          | 2 <sup>nd</sup> Quarter 2044                             |          |  |  |
|   | D1 Remedial Design Work Plan<br>(Groundwater Treatment)         |  |          | 2 <sup>nd</sup> Quarter 2044                             |          |  |  |
|   | D1 Remedial Design Report<br>(Groundwater Treatment)            |  |          | 3 <sup>rd</sup> Quarter 2044                             |          |  |  |
|   | D1 Remedial Action Work Plan<br>(Groundwater Treatment)         |  |          | 3 <sup>rd</sup> Quarter 2044                             |          |  |  |
|   | D1 Remedial Action Completion Report                            |  |          | 1st Quarter 2047   |          |  |  |

|              | Buria                                | al Grounds Operabl  | le Unit (05) (C | Continued)   |          |
|--------------|--------------------------------------|---|-----------------|--|----------|
|              |                                      | Enforceable Timetable and Deadlines <sup>1</sup> Long-Tel for D |                 | Planning Dates with<br>Long-Term Targets<br>for Decision |          |
| Subproject   | Deliverable                          |   |                 | Documents <sup>2</sup>                                   | Comments |
| SWMUs 9, 10, | D1 Remedial Investigation Work Plan  |   |                 | 4th Quarter 2040   |          |
| and 145      | Addendum                             |   |                 |  |          |
| Remedial     | D1 Remedial Investigation Report     |   |                 | 1 <sup>st</sup> Quarter 2042                             |          |
| Action       | Addendum                             |   |                 |  |          |
|              | D1 Feasibility Study                 |   |                 | 3 <sup>rd</sup> Quarter 2042                             |          |
|              | D1 Proposed Plan                     |   |                 | 1st Quarter 2043   |          |
|              | D1 ROD                               |   |                 | 3 <sup>rd</sup> Quarter 2043                             |          |
|              | D1 Remedial Design Work Plan         |   |                 | 1st Quarter 2044   |          |
|              | D1 Remedial Design Report            |   | •               | 3 <sup>rd</sup> Quarter 2044                             |          |
|              | D1 Remedial Action Work Plan         |   | •               | 4th Quarter 2044   |          |
|              | D1 Remedial Action Completion Report |   | _               | 1st Quarter 2046   |          |

|                |  | Enforceable Timetable and<br>Deadlines <sup>1</sup> |            | Planning Dates with<br>Long-Term Targets<br>for Decision |   |
|----------------|--|---|------------|--|---|
| Subproject     | Deliverable  | FY 2018-FY 2020                                     | Out-Year   | Documents <sup>2</sup>                                   | Comments  |
| Additional     | SWMU 472 Remedial Investigation Work                     |   |            | 1st Quarter 2039   |   |
| Burial Grounds | Plan   |   |            |  |   |
|                | SWMU 472 Remedial Investigation                          |   |            | 1st Quarter 2040   |   |
|                | Report<br>SWMU 472 D1 Feasibility Study                  |   |            | 3 <sup>rd</sup> Quarter 2040                             | -   |
|                | SWMU 472 D1 Preasibility Study SWMU 472 D1 Proposed Plan |   |            | 1st Quarter 2041   | -   |
|                | SWMU 472 D1 ROD  |   |            | 3 <sup>rd</sup> Quarter 2041                             | -   |
|                | SWMU 472 D1 ROD SWMU 472 D1 Remedial Design Work         |   |            | 1st Quarter 2042   | -   |
|                | Plan   |   |            | 1 Quarter 2042   |   |
|                | SWMU 472 D1 Remedial Design Report                       |   |            | 2 <sup>nd</sup> Quarter 2042                             | 1   |
|                | SWMU 472 D1 Remedial Action Work                         |   |            | 2 <sup>nd</sup> Quarter 2042                             | 1   |
|                | Plan   |   |            |  |   |
|                | SWMU 472 D1 Remedial Action                              |   |            | 4 <sup>th</sup> Quarter 2043                             |   |
|                | Completion Report  |   |            |  | -   |
|                | SWMU 520 Remedial Investigation Work Plan                |   |            | 1 <sup>st</sup> Quarter 2039                             |   |
|                | SWMU 520 Remedial Investigation                          |   |            | 1st Quarter 2040   | 1   |
|                | Report   |   |            |  |   |
|                | SWMU 520 D1 Feasibility Study                            |   |            | 3 <sup>rd</sup> Quarter 2040                             |   |
|                | SWMU 520 D1 Proposed Plan                                |   |            | 1st Quarter 2041   |   |
|                | SWMU 520 D1 ROD  |   |            | 3 <sup>rd</sup> Quarter 2041                             |   |
|                | SWMU 520 D1 Remedial Design Work                         |   |            | 1st Quarter 2042   |   |
|                | Plan   |   |            |  |   |
|                | SWMU 520 D1 Remedial Design Report                       |   |            | 2 <sup>nd</sup> Quarter 2042                             |   |
|                | SWMU 520 D1 Remedial Action Work                         |   |            | 2 <sup>nd</sup> Quarter 2042                             |   |
|                | Plan   |   |            | ut a sair  | 4   |
|                | SWMU 520 D1 Remedial Action                              |   |            | 4th Quarter 2043   |   |
| D.COTT         | Completion Report  |   | 10/01/00/  |  |   |
| <u>BGOU</u>    | BGOU Remedial Action Completion                          |   | 12/31/2046 |  | This date reflects the completion repo                        |
|                | Report   |   |            |  | for the last BGOU subproject (SWMU 7 and 30 Remedial Action). |

Groundwater Operable Unit (01)

The Groundwater OU includes an additional source action for SWMU 211-B, an investigation to identify any additional sources and potential remedial action, and dissolved phase treatment to complete the groundwater remedial actions.

|             |  |                 |          | Planning Dates with<br>Long-Term Targets<br>for Decision |          |
|-------------|--|-----------------|----------|--|----------|
| Subproject  | Deliverable                            | FY 2018-FY 2020 | Out-Year | Documents <sup>2</sup>                                   | Comments |
| Southwest   | D1 Remedial Design Work Plan           |                 |          | 4th Quarter 2044   |          |
| Plume       | D1 Remedial Design Report (90% Design) |                 |          | 2 <sup>nd</sup> Quarter 2048                             |          |
| Sources—    | D1 Remedial Action Work Plan           |                 |          | 2 <sup>nd</sup> Quarter 2048                             |          |
| SWMU 211-B  | D1 Remedial Action Completion Report   |                 |          | 2 <sup>nd</sup> Quarter 2052                             |          |
| Potential   | D1 Site Investigation Work Plan        |                 |          | 3rd Quarter 2042   |          |
| Additional  | D1 Site Investigation Report           |                 |          | 3 <sup>rd</sup> Quarter 2043                             |          |
| Groundwater | D1 Remedial Investigation Work Plan    |                 |          | 4 <sup>th</sup> Quarter 2043                             |          |
| Sources     | D1 Remedial Investigation Report       |                 |          | 3 <sup>rd</sup> Quarter 2044                             |          |
|             | D1 Feasibility Study Report            |                 |          | 1st Quarter 2045   |          |
|             | D1 Proposed Plan                       |                 |          | 4th Quarter 2045   |          |
|             | D1 Record of Decision                  |                 |          | 1st Quarter 2046   |          |
|             | D1 Remedial Design Work Plan           |                 |          | 4th Quarter 2046   |          |
|             | D1 Remedial Design Report (90% Design) |                 |          | 2 <sup>nd</sup> Quarter 2047                             |          |
|             | D1 Remedial Action Work Plan           |                 |          | 2 <sup>nd</sup> Quarter 2047                             |          |
|             | D1 Remedial Action Completion Report   |                 |          | 4th Quarter 2048   |          |
|             |  |                 |          |  |          |

|              | Groundwater Operable Unit (01)                  |                 |           |                              |          |  |  |  |
|--------------|---|-----------------|-----------|------------------------------|----------|--|--|--|
|              |   |                 |           | Enforceable Timetable and    |          | Planning Dates with<br>Long-Term Targets<br>for Decision |  |  |
| Subproject   | Deliverable                                     | FY 2018-FY 2020 | Out-Year  | Documents <sup>2</sup>       | Comments |  |  |  |
| Dissolved-   | D1 Remedial Investigation Work Plan             |                 |           | 1st Quarter 2042             |          |  |  |  |
| Phase Plumes | D1 Remedial Investigation Report                |                 |           | 1st Quarter 2044             |          |  |  |  |
|              | D1 Feasibility Study Report                     |                 |           | 3 <sup>rd</sup> Quarter 2044 |          |  |  |  |
|              | D1 Proposed Plan                                |                 |           | 2 <sup>nd</sup> Quarter 2045 |          |  |  |  |
|              | D1 ROD  |                 |           | 4th Quarter 2045             |          |  |  |  |
|              | D1 Treatability Work Plan                       |                 |           | 2 <sup>nd</sup> Quarter 2043 |          |  |  |  |
|              | D1 Treatability Study Report                    |                 |           | 1st Quarter 2045             |          |  |  |  |
|              | D1 Remedial Design Work Plan                    |                 |           | 1st Quarter 2046             |          |  |  |  |
|              | D1 Remedial Design Report                       |                 |           | 2 <sup>nd</sup> Quarter 2046 |          |  |  |  |
|              | D1 Remedial Action Work Plan                    |                 |           | 3 <sup>rd</sup> Quarter 2046 |          |  |  |  |
| GWOU         | D1 Interim Remedial Action Completion<br>Report |                 | 9/30/2048 | 4 <sup>th</sup> Quarter 2048 |          |  |  |  |

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Soils Operable Unit (04)

The Soils OU consists of a number of areas with identified soils contamination. Many of these areas are small units that are in close proximity with site buildings and other structures. The project is planned for two groupings of SWMUs; however, the SWMUs within each grouping have not yet been determined.

|            |                               | Enforceable Timetable and Deadlines <sup>1</sup> |            | Planning Dates<br>with Long-Term<br>Targets for |          |
|------------|-------------------------------|--|------------|---|----------|
| Subproject | Deliverable                   | FY 2018–FY 2020                                  | Out-Year   | Decision Documents <sup>2</sup>                 | Comments |
| Remedial   | D1 Feasibility Study          |  |            | 2 <sup>nd</sup> Quarter 2039                    |          |
| Action 1   | D1 Proposed Plan              |  |            | 4th Quarter 2039                                |          |
|            | D1 ROD                        |  |            | 2 <sup>nd</sup> Quarter 2040                    |          |
|            | D1 Remedial Design Work Plan  |  |            | 4th Quarter 2040                                |          |
|            | D1 Remedial Design Report     |  |            | 1st Quarter 2041                                |          |
|            | D1 Remedial Action Work Plan  |  |            | 2 <sup>nd</sup> Quarter 2041                    |          |
|            | D1 Remedial Action Completion |  |            | 4 <sup>th</sup> Quarter 2042                    |          |
|            | Report                        |  |            |   |          |
| Remedial   | D1 Feasibility Study          |  |            | 4th Quarter 2040                                |          |
| Action 2   | D1 Proposed Plan              |  |            | 2 <sup>nd</sup> Quarter 2041                    |          |
|            | D1 ROD                        |  |            | 4th Quarter 2041                                |          |
|            | D1 Remedial Design Work Plan  |  |            | 2 <sup>nd</sup> Quarter 2042                    |          |
|            | D1 Remedial Design Report     |  |            | 3 <sup>rd</sup> Quarter 2042                    |          |
|            | D1 Remedial Action Work Plan  |  |            | 4th Quarter 2042                                |          |
| Soils OU   | D1 Remedial Action Completion |  | 12/31/2044 | 1st Quarter 2044                                |          |
|            | Report                        |  |            |   |          |

DUF<sub>6</sub> Footprint Underlying Soils Operable Unit (08)

The DUF<sub>6</sub> Footprint Underlying Soils OU includes SWMUs identified as a result of soil contamination prior to construction of the DUF<sub>6</sub> conversion facility. These SWMUs are located underneath the currently operating DUF<sub>6</sub> conversion facility. It also includes the outfall ditches that discharge process and runoff from the facility and DUF<sub>6</sub> area.

|            |                                      | Enforceable Timetable and |  | Planning Dates with<br>Long-Term Targets<br>for Decision |          |
|------------|--------------------------------------|---------------------------|--|--|----------|
| Subproject | Deliverable                          |                           |  | Documents <sup>2</sup>                                   | Comments |
| N/A        | D1 Remedial Investigation Work Plan  |                           |  | 4th Quarter 2051   |          |
|            | D1 Remedial Investigation Report     |                           |  | 4 <sup>th</sup> Quarter 2052                             |          |
|            | D1 Feasibility Study                 |                           |  | 3 <sup>rd</sup> Quarter 2053                             |          |
|            | D1 Proposed Plan                     |                           |  | 1st Quarter 2054   |          |
|            | D1 ROD                               |                           |  | 4 <sup>th</sup> Quarter 2055                             |          |
|            | D1 Remedial Design Work Plan         |                           |  | 4 <sup>th</sup> Quarter 2055                             |          |
|            | D1 Remedial Design Report            |                           |  | 4th Quarter 2056   |          |
|            | D1 Remedial Action Work Plan         |                           |  | 4th Quarter 2056   |          |
|            | D1 Remedial Action Completion Report |                           |  | 2 <sup>nd</sup> Quarter 2057                             |          |

## **Decontamination and Decommissioning Operable Unit (10)**

D&D OU consists of many facilities grouped into subprojects that will be dispositioned utilizing the CERCLA process. Some facilities already have been designated for inclusion within this operable unit, based on existing information that requires that the facilities be dispositioned under CERCLA. Other facilities are grouped into geographical areas (GAs) and will be addressed appropriately based on each facility's specific conditions. Facility characterization, deposit removal, and deactivation are non-CERCLA activities that must be completed before D&D can occur. Additionally, the potential OSWDF must be constructed and capable of accepting this CERCLA waste. Additional cells (phases) within the potential OSWDF must be constructed throughout D&D in order to have cells (phases) available for disposition. As demolition is progressing, OSWDF expansion is sequenced logically to account for the facility volumes generated. The D&D OU will take a total of 15 years to complete.

|                |  | Enforceable Tin<br>Deadlin |          | Planning Dates with<br>Long-Term Targets<br>for Decision |          |
|----------------|--|----------------------------|----------|--|----------|
| Subproject     | Deliverable  | FY 2018-FY 2020            | Out-Year | Documents <sup>2</sup>                                   | Comments |
| Switchyards    | D1 Removal Notification (Site Evaluation)          |                            |          | 2 <sup>nd</sup> Quarter 2036                             |          |
| D&D            | Switchyards slabs and soils                        |                            |          |  |          |
|                | D1 EE/CA Switchyards slabs and soils               |                            |          | 3 <sup>rd</sup> Quarter 2036                             |          |
|                | D1 Action Memorandum Switchyards slabs and soils   |                            |          | 4th Quarter 2036   |          |
|                | D1 Removal Action Work Plan Switchyards slabs      |                            |          | 1st Quarter 2037   |          |
|                | and soils  |                            |          |  |          |
| Cooling Towers | D1 Removal Notification (Site Evaluation) Cooling  |                            |          | 3 <sup>rd</sup> Quarter 2038                             |          |
| D&D            | Tower Buildings                                    |                            |          |  |          |
|                | D1 EE/CA Cooling Tower Buildings                   |                            |          | 4th Quarter 2038   |          |
|                | D1 Action Memorandum Cooling Tower Buildings       |                            |          | 1st Quarter 2039   |          |
|                | D1 Removal Action Work Plan Cooling Tower          |                            |          | 2 <sup>nd</sup> Quarter 2039                             |          |
|                | Buildings  |                            |          |  |          |
| C-409 D&D      | D1 Removal Notification (Site Evaluation) C-409    |                            |          | 1st Quarter 2038   |          |
|                | D1 EE/CA C-409                                     |                            |          | 2 <sup>nd</sup> Quarter 2038                             |          |
|                | D1 Action Memorandum C-409                         |                            |          | 3 <sup>rd</sup> Quarter 2038                             |          |
|                | D1 Removal Action Work Plan C-409                  |                            |          | 4th Quarter 2038   |          |
| C-709/C-710    | D1 Removal Notification (Site Evaluation) C-709/C- |                            |          | 1st Quarter 2038   |          |
| D&D            | 710  |                            |          |  |          |
|                | D1 EE/CA C-709/C-710                               |                            |          | 2 <sup>nd</sup> Quarter 2038                             |          |
|                | D1 Action Memorandum                               |                            | •        | 4th Quarter 2038   |          |
|                | C-709/C-710  |                            |          |  |          |
|                | D1 Removal Action Work Plan                        |                            |          | 1st Quarter 2039   |          |
|                | C-709/C-710  |                            |          |  |          |

C-333/C-333-A

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| Decontamination and Decommissioning Operable Unit (10) |   |  |          |  |          |  |  |  |
|--|---|--|----------|--|----------|--|--|--|
|  |   | Enforceable Timetable and Deadlines <sup>1</sup> |          | Planning Dates with<br>Long-Term Targets<br>for Decision |          |  |  |  |
| Subproject   | Deliverable   | FY 2018-FY 2020                                  | Out-Year | Documents <sup>2</sup>                                   | Comments |  |  |  |
| C-331 D&D  | D1 Removal Notification (Site Evaluation) C-331   |  |          | 4 <sup>th</sup> Quarter 2047                             |          |  |  |  |
|  | D1 EE/CA C-331  |  |          | 1 <sup>st</sup> Quarter 2048                             |          |  |  |  |
|  | D1 Action Memorandum C-331  |  |          | 3 <sup>rd</sup> Quarter 2048                             |          |  |  |  |
|  | D1 Removal Action Work Plan C-331   |  |          | 4 <sup>th</sup> Quarter 2048                             |          |  |  |  |
| C-310/C-310-A<br>D&D                                   | D1 Removal Notification (Site Evaluation) C-310/C-310-A   |  |          | 1 <sup>st</sup> Quarter 2048                             |          |  |  |  |
|  | D1 EE/CA C-310/C-310-A  |  |          | 2 <sup>nd</sup> Quarter 2048                             |          |  |  |  |
|  | D1 Action Memorandum<br>C-310/C-310-A   |  |          | 4 <sup>th</sup> Quarter 2048                             |          |  |  |  |
|  | D1 Removal Action Work Plan<br>C-310/C-310-A  |  |          | 1 <sup>st</sup> Quarter 2049                             |          |  |  |  |
| GA 1<br>D&D  | D1 Removal Notification (Site Evaluation) GA 1 (includes C-615 Sewage Treatment Plant and C-616 Former Chromate Treatment System) |  |          | 1 <sup>st</sup> Quarter 2047                             |          |  |  |  |
|  | D1 EE/CA GA 1 (includes C-615 Sewage<br>Treatment Plant and C-616 Former Chromate<br>Treatment System)                            |  |          | 2 <sup>nd</sup> Quarter 2047                             |          |  |  |  |
|  | D1 Action Memorandum GA 1 (includes C-615<br>Sewage Treatment Plant and C-616 Former<br>Chromate Treatment System)                |  |          | 4 <sup>th</sup> Quarter 2047                             |          |  |  |  |
|  | D1 Removal Action Work Plan GA 1 (includes<br>C-615 Sewage Treatment Plant and C-616<br>Former Chromate Treatment System)         |  |          | 1 <sup>st</sup> Quarter 2048                             |          |  |  |  |
| GA 10<br>D&D   | D1 Removal Notification (Site Evaluation) GA 10 (includes C-726)  |  |          | 2 <sup>nd</sup> Quarter 2041                             |          |  |  |  |
|  | D1 EE/CA GA 10 (includes C-726)   |  |          | 3 <sup>rd</sup> Quarter 2041                             |          |  |  |  |
|  | D1 Action Memorandum GA-10 (includes C-726)   |  |          | 1st Quarter 2042   |          |  |  |  |
|  | D1 Removal Action Work Plan<br>GA 10 (includes C-726)   |  |          | 2 <sup>nd</sup> Quarter 2042                             |          |  |  |  |

|              | Decontamination and Decommissioning Operable Unit (10)              |   |          |  |          |  |  |  |  |
|--------------|---|---|----------|--|----------|--|--|--|--|
|              |   | Enforceable Timetable and<br>Deadlines <sup>1</sup> |          | Planning Dates with<br>Long-Term Targets<br>for Decision |          |  |  |  |  |
| Subproject   | Deliverable   | FY 2018-FY 2020                                     | Out-Year | Documents <sup>2</sup>                                   | Comments |  |  |  |  |
| GA 13<br>D&D | D1 Removal Notification (Site Evaluation) GA<br>13 (includes C-415) |   |          | 1st Quarter 2041   |          |  |  |  |  |
|              | D1 EE/CA GA 13 (includes C-415)                                     |   |          | 2 <sup>nd</sup> Quarter 2041                             |          |  |  |  |  |
|              | D1 Action Memorandum GA 13 (includes C-415)                         |   |          | 3 <sup>rd</sup> Quarter 2041                             |          |  |  |  |  |
|              | D1 Removal Action Work Plan<br>GA 13 (includes C-415)               |   |          | 4 <sup>th</sup> Quarter 2041                             |          |  |  |  |  |
| GA 14        | D1 Removal Notification (Site Evaluation) GA                        |   |          | 2 <sup>nd</sup> Quarter 2037                             |          |  |  |  |  |
| D&D          | 14 (includes C-724-A and C-728)                                     |   |          |  |          |  |  |  |  |
|              | D1 EE/CA GA 14 (includes C-724-A and C-728)                         |   |          | 3 <sup>rd</sup> Quarter 2037                             |          |  |  |  |  |
|              | D1 Action Memorandum GA 14 (includes C-724-A and C-728)             |   |          | 1 <sup>st</sup> Quarter 2038                             |          |  |  |  |  |
|              | D1 Removal Action Work Plan<br>GA 14 (includes C-724-A and C-728)   |   |          | 2 <sup>nd</sup> Quarter 2038                             |          |  |  |  |  |

## Soils and Slabs Operable Unit (11)

This OU contains many subprojects to address the various slabs at the Paducah Site. The large process and support facilities have specific subprojects identified for each slab. Other slabs are grouped in GAs will be addressed appropriately, based on each areas specific conditions. These subprojects are designated for planning purposes only. The physical characteristics and previous actions taken within the GAs will determined the appropriate action for completion. The Soils and Slabs OU will take a total of 15 years to complete and will overlap with the D&D and Soils OUs.

|            | a total of 13 years to complete and will overlag |                 |          | Planning Dates with<br>Long-Term Targets<br>for Decision |          |
|------------|--|-----------------|----------|--|----------|
| Subproject | Deliverable                                      | FY 2018-FY 2020 | Out-Year | Documents <sup>2</sup>                                   | Comments |
| C-409 Slab | D1 Remedial Investigation Work Plan C-409 Slab   |                 |          | 4th Quarter 2040   |          |
|            | D1 Remedial Investigation Report                 |                 |          | 2 <sup>nd</sup> Quarter 2042                             |          |
|            | C-409 Slab                                       |                 |          |  |          |
|            | D1 Feasibility Study C-409 Slab                  |                 |          | 4th Quarter 2042   |          |
|            | D1 Proposed Plan C-409 Slab                      |                 |          | 2 <sup>nd</sup> Quarter 2043                             |          |
|            | D1 ROD C-409 Slab                                |                 |          | 4th Quarter 2043   |          |
|            | D1 Remedial Design Work Plan                     |                 |          | 2 <sup>nd</sup> Quarter 2044                             |          |
|            | C-409 Slab                                       |                 |          |  |          |
|            | D1 Remedial Design Report C-409 Slab             |                 |          | 3 <sup>rd</sup> Quarter 2044                             |          |
|            | D1 Remedial Action Work Plan                     |                 |          | 4 <sup>th</sup> Quarter 2044                             |          |
|            | C-409 Slab                                       |                 |          |  |          |
|            | D1 Remedial Action Completion Report C-409       |                 |          | 1st Quarter 2046   |          |
|            | Slab   |                 |          |  |          |
| C-340 Slab | D1 Remedial Investigation Work Plan C-340 Slab   |                 |          | 3 <sup>rd</sup> Quarter 2042                             |          |
|            | D1 Remedial Investigation Report                 |                 |          | 1 <sup>st</sup> Quarter 2044                             |          |
|            | C-340 Slab                                       |                 |          |  |          |
|            | D1 Feasibility Study C-340 Slab                  |                 |          | 3 <sup>rd</sup> Quarter 2044                             |          |
|            | D1 Proposed Plan C-340 Slab                      |                 |          | 1st Quarter 2045   |          |
|            | D1 ROD C-340 Slab                                |                 |          | 3 <sup>rd</sup> Quarter 2045                             |          |
|            | D1 Remedial Design Work Plan                     |                 |          | 1st Quarter 2046   |          |
|            | C-340 Slab                                       |                 |          |  |          |
|            | D1 Remedial Design Report                        |                 |          | 2 <sup>nd</sup> Quarter 2046                             |          |
|            | C-340 Slab                                       |                 |          |  |          |
|            | D1 Remedial Action Work Plan C-340 Slab          |                 |          | 2 <sup>nd</sup> Quarter 2046                             |          |
|            | D1 Remedial Action Completion Report C-340       |                 |          | 3 <sup>rd</sup> Quarter 2047                             |          |
|            | Slab   |                 |          |  |          |

| Soils and Slabs Operable Unit (11) |   |                            |          |  |          |  |  |
|------------------------------------|---|----------------------------|----------|--|----------|--|--|
|                                    |   | Enforceable Tin<br>Deadlin |          | Planning Dates with<br>Long-Term Targets<br>for Decision |          |  |  |
| Subproject                         | Deliverable   | FY 2018-FY 2020            | Out-Year | Documents <sup>2</sup>                                   | Comments |  |  |
| C-709/C-710                        | D1 Remedial Investigation Work Plan C-709/C-710       |                            |          | 2 <sup>nd</sup> Quarter 2044                             |          |  |  |
| Slab                               | Slab  |                            |          |  |          |  |  |
|                                    | D1 Remedial Investigation Report                      |                            |          | 4 <sup>th</sup> Quarter 2045                             |          |  |  |
|                                    | C-709/C-710 Slab                                      |                            |          |  |          |  |  |
|                                    | D1 Feasibility Study C-709/C-710 Slab                 |                            |          | 2 <sup>nd</sup> Quarter 2046                             |          |  |  |
|                                    | D1 Proposed Plan C-709/C-710 Slab                     |                            |          | 4 <sup>th</sup> Quarter 2046                             |          |  |  |
|                                    | D1 ROD C-709/C-710 Slab                               |                            |          | 2 <sup>nd</sup> Quarter 2047                             |          |  |  |
|                                    | D1 Remedial Design Work Plan                          |                            |          | 4th Quarter 2047   |          |  |  |
|                                    | C-709/C-710 Slab                                      |                            |          |  |          |  |  |
|                                    | D1 Remedial Design Report C-709/                      |                            |          | 1st Quarter 2048   |          |  |  |
|                                    | C-710 Slab  |                            |          |  |          |  |  |
|                                    | D1 Remedial Action Work Plan                          |                            |          | 1st Quarter 2048   |          |  |  |
|                                    | C-709/C-710 Slab                                      |                            |          |  |          |  |  |
|                                    | D1 Remedial Action Completion Report C-709/C-710 Slab |                            |          | 3 <sup>rd</sup> Quarter 2049                             |          |  |  |
| C-720 Slab                         | D1 Remedial Investigation Work Plan C-720 Slab        |                            |          | 2 <sup>nd</sup> Quarter 2044                             |          |  |  |
|                                    | D1 Remedial Investigation Report                      |                            |          | 3 <sup>rd</sup> Quarter 2045                             |          |  |  |
|                                    | C-720 Slab  |                            |          |  |          |  |  |
|                                    | D1 Feasibility Study C-720 Slab                       |                            |          | 1st Quarter 2046   |          |  |  |
|                                    | D1 Proposed Plan C-720 Slab                           |                            |          | 3 <sup>rd</sup> Quarter 2046                             |          |  |  |
|                                    | D1 ROD C-720 Slab                                     |                            |          | 1st Quarter 2047   |          |  |  |
|                                    | D1 Remedial Design Work Plan                          |                            |          | 3 <sup>rd</sup> Quarter 2047                             |          |  |  |
|                                    | C-720 Slab  |                            |          |  |          |  |  |
|                                    | D1 Remedial Design Report C-720 Slab                  |                            |          | 4th Quarter 2047   |          |  |  |
|                                    | D1 Remedial Action Work Plan                          |                            |          | 4th Quarter 2047   |          |  |  |
|                                    | C-720 Slab  |                            |          |  |          |  |  |
|                                    | D1 Remedial Action Completion Report C-720            |                            |          | 2 <sup>nd</sup> Quarter 2049                             |          |  |  |
|                                    | Slab  |                            |          |  |          |  |  |

|             | Soils and Slabs Operable Unit (11)              |                 |   |                              |          |  |  |  |  |
|-------------|---|-----------------|---|------------------------------|----------|--|--|--|--|
|             |   |                 | Enforceable Timetable and<br>Deadlines <sup>1</sup> |                              |          |  |  |  |  |
| Subproject  | Deliverable                                     | FY 2018-FY 2020 | Out-Year  | Documents <sup>2</sup>       | Comments |  |  |  |  |
| C-410/C-420 | D1 Remedial Investigation Work Plan C-410/C-420 |                 |   | 4th Quarter 2043             |          |  |  |  |  |
| Slabs       | Slab  |                 |   |                              |          |  |  |  |  |
|             | D1 Remedial Investigation Report                |                 |   | 2 <sup>nd</sup> Quarter 2045 |          |  |  |  |  |
|             | C-410/C-420 Slab                                |                 |   |                              |          |  |  |  |  |
|             | D1 Feasibility Study C-410/C-420 Slab           |                 |   | 4th Quarter 2045             |          |  |  |  |  |
|             | D1 Proposed Plan C-410/C-420 Slab               |                 |   | 2 <sup>nd</sup> Quarter 2046 |          |  |  |  |  |
|             | D1 ROD C-410/C-420 Slab                         |                 |   | 4th Quarter 2046             |          |  |  |  |  |
|             | D1 Remedial Design Work Plan                    |                 |   | 2 <sup>nd</sup> Quarter 2047 |          |  |  |  |  |
|             | C-410/C-420 Slab                                |                 |   |                              |          |  |  |  |  |
|             | D1 Remedial Design Report                       |                 |   | 3 <sup>rd</sup> Quarter 2047 |          |  |  |  |  |
|             | C-410/C-420 Slab                                |                 |   |                              |          |  |  |  |  |
|             | D1 Remedial Action Work Plan                    |                 |   | 3 <sup>rd</sup> Quarter 2047 |          |  |  |  |  |
|             | C-410/C-420 Slab                                |                 |   |                              |          |  |  |  |  |
|             | D1 Remedial Action Completion Report C-410/     |                 |   | 1st Quarter 2049             |          |  |  |  |  |
|             | C-420 Slab                                      |                 |   |                              |          |  |  |  |  |
|             | D1 Remedial Investigation Work Plan C-337/      |                 |   | 4 <sup>th</sup> Quarter 2046 |          |  |  |  |  |
| Slab        | C-337A Slab                                     |                 |   |                              |          |  |  |  |  |
|             | D1 Remedial Investigation Report C-337/C-337A   |                 |   | 3 <sup>rd</sup> Quarter 2047 |          |  |  |  |  |
|             | Slab  |                 |   |                              |          |  |  |  |  |
|             | D1 Feasibility Study C-337/C-337A Slab          |                 |   | 1st Quarter 2048             |          |  |  |  |  |
|             | D1 Proposed Plan C-337/C-337A Slab              |                 |   | 3 <sup>rd</sup> Quarter 2048 |          |  |  |  |  |
|             | D1 ROD C-337/C-337A Slab                        |                 |   | 1st Quarter 2050             |          |  |  |  |  |
|             | D1 Remedial Design Work Plan                    |                 |   | 3 <sup>rd</sup> Quarter 2050 |          |  |  |  |  |
|             | C-337/C-337A Slab                               |                 |   |                              |          |  |  |  |  |
|             | D1 Remedial Design Report C-337/                |                 |   | 4th Quarter 2050             |          |  |  |  |  |
|             | C-337A Slab                                     |                 |   |                              |          |  |  |  |  |
|             | D1 Remedial Action Work Plan                    |                 |   | 1st Quarter 2051             |          |  |  |  |  |
|             | C-337/C-337A Slab                               |                 |   |                              |          |  |  |  |  |
|             | D1 Remedial Action Completion Report C-337/     |                 |   | 3 <sup>rd</sup> Quarter 2052 |          |  |  |  |  |
|             | C-337A Slab                                     |                 |   |                              |          |  |  |  |  |

|            | Soils ar                                       | nd Slabs Operable l                              | Unit (11) |  |          |  |  |
|------------|--|--|-----------|--|----------|--|--|
|            |  | Enforceable Timetable and Deadlines <sup>1</sup> |           | Enforceable Timetable and Long-Term Targ |          | Planning Dates with<br>Long-Term Targets<br>for Decision |  |
| Subproject | Deliverable                                    | FY 2018-FY 2020                                  | Out-Year  | Documents <sup>2</sup>                   | Comments |  |  |
| C-335 Slab | D1 Remedial Investigation Work Plan C-335 Slab |  |           | 1st Quarter 2047                         |          |  |  |
|            | D1 Remedial Investigation Report               |  |           | 4th Quarter 2047                         |          |  |  |
|            | C-335 Slab                                     |  |           |  |          |  |  |
|            | D1 Feasibility Study C-335 Slab                |  |           | 3 <sup>rd</sup> Quarter 2048             |          |  |  |
|            | D1 Proposed Plan C-335 Slab                    |  |           | 1st Quarter 2049                         |          |  |  |
|            | D1 ROD C-335 Slab                              |  |           | 3 <sup>rd</sup> Quarter 2049             |          |  |  |
|            | D1 Remedial Design Work Plan                   |  |           | 1st Quarter 2050                         |          |  |  |
|            | C-335 Slab                                     |  |           |  |          |  |  |
|            | D1 Remedial Design Report C-335 Slab           |  |           | 2 <sup>nd</sup> Quarter 2050             |          |  |  |
|            | D1 Remedial Action Work Plan                   |  |           | 3 <sup>rd</sup> Quarter 2050             |          |  |  |
|            | C-335 Slab                                     |  |           |  |          |  |  |
|            | D1 Remedial Action Completion Report C-335     |  |           | 3 <sup>rd</sup> Quarter 2051             |          |  |  |
|            | Slab   |  |           |  |          |  |  |
| C-310 Slab | D1 Remedial Investigation Work Plan C-310 Slab |  |           | 4 <sup>th</sup> Quarter 2048             |          |  |  |
|            | D1 Remedial Investigation Report               |  |           | 4 <sup>th</sup> Quarter 2049             |          |  |  |
|            | C- C-310 Slab                                  |  |           |  |          |  |  |
|            | D1 Feasibility Study C-310 Slab                |  |           | 2 <sup>nd</sup> Quarter 2050             |          |  |  |
|            | D1 Proposed Plan C-310 Slab                    |  |           | 4 <sup>th</sup> Quarter 2050             |          |  |  |
|            | D1 ROD C-310 Slab                              |  |           | 2 <sup>nd</sup> Quarter 2051             |          |  |  |
|            | D1 Remedial Design Work Plan                   |  |           | 4 <sup>th</sup> Quarter 2051             |          |  |  |
|            | C-310 Slab                                     |  |           |  |          |  |  |
|            | D1 Remedial Design Report                      |  |           | 1st Quarter 2052                         |          |  |  |
|            | C-310 Slab                                     |  |           | 411.0                                    |          |  |  |
|            | D1 Remedial Action Work Plan                   |  |           | 1st Quarter 2052                         |          |  |  |
|            | C-310 Slab                                     |  |           | and 0                                    |          |  |  |
|            | D1 Remedial Action Completion Report C-310     |  |           | 2 <sup>nd</sup> Quarter 2053             |          |  |  |
|            | Slab   |  |           |  |          |  |  |

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| Soils and Slabs Operable Unit (11) |   |                            |          |  |          |  |  |  |
|------------------------------------|---|----------------------------|----------|--|----------|--|--|--|
|                                    |   | Enforceable Tin<br>Deadlin |          | Planning Dates with<br>Long-Term Targets<br>for Decision |          |  |  |  |
| Subproject                         | Deliverable   | FY 2018-FY 2020            | Out-Year | Documents <sup>2</sup>                                   | Comments |  |  |  |
| C-315 Slab                         | D1 Remedial Investigation Work Plan C-315 Slab              |                            |          | 4 <sup>th</sup> Quarter 2047                             |          |  |  |  |
|                                    | D1 Remedial Investigation Report<br>C-315 Slab              |                            |          | 2 <sup>nd</sup> Quarter 2049                             |          |  |  |  |
|                                    | D1 Feasibility Study C-315 Slab                             |                            |          | 4th Quarter 2049   |          |  |  |  |
|                                    | D1 Proposed Plan C-315 Slab                                 |                            |          | 2 <sup>nd</sup> Quarter 2050                             |          |  |  |  |
|                                    | D1 ROD C-315 Slab   |                            |          | 4 <sup>th</sup> Quarter 2050                             |          |  |  |  |
|                                    | D1 Remedial Design Work Plan<br>C-315 Slab                  |                            |          | 2 <sup>nd</sup> Quarter 2051                             |          |  |  |  |
|                                    | D1 Remedial Design Report<br>C-315 Slab                     |                            |          | 3 <sup>rd</sup> Quarter 2051                             |          |  |  |  |
|                                    | D1 Remedial Action Work Plan<br>C-315 Slab                  |                            |          | 3 <sup>rd</sup> Quarter 2051                             |          |  |  |  |
|                                    | D1 Remedial Action Completion Report C-315<br>Slab          |                            |          | 4 <sup>th</sup> Quarter 2052                             |          |  |  |  |
| C-333/C-333-A<br>Slab              | D1 Remedial Investigation Work Plan C-333/<br>C-333-A Slab  |                            |          | 3 <sup>rd</sup> Quarter 2050                             |          |  |  |  |
|                                    | D1 Remedial Investigation Report<br>C-333/C-333-A Slab      |                            |          | 2 <sup>nd</sup> Quarter 2051                             |          |  |  |  |
|                                    | D1 Feasibility Study C-333/C-333-A Slab                     |                            |          | 4 <sup>th</sup> Quarter 2051                             |          |  |  |  |
|                                    | D1 Proposed Plan C-333/C-333-A Slab                         |                            |          | 2 <sup>nd</sup> Quarter 2052                             |          |  |  |  |
|                                    | D1 ROD C-333/C-333-A Slab                                   |                            |          | 4 <sup>th</sup> Quarter 2052                             |          |  |  |  |
|                                    | D1 Remedial Design Work Plan<br>C-333/C-333-A Slab          |                            |          | 2 <sup>nd</sup> Quarter 2053                             |          |  |  |  |
|                                    | D1 Remedial Design Report C-333/<br>C-333-A Slab            |                            |          | 3 <sup>rd</sup> Quarter 2053                             |          |  |  |  |
|                                    | D1 Remedial Action Work Plan<br>C-333/C-333-A Slab          |                            |          | 3 <sup>rd</sup> Quarter 2053                             |          |  |  |  |
|                                    | D1 Remedial Action Completion Report C-333/<br>C-333-A Slab |                            |          | 1st Quarter 2055   |          |  |  |  |

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|                               |   |                 | netable and | Planning Dates with<br>Long-Term Targets<br>for Decision |          |
|-------------------------------|---|-----------------|-------------|--|----------|
| Subproject                    | Deliverable   | FY 2018-FY 2020 | Out-Year    | Documents <sup>2</sup>                                   | Comments |
| C-331 Slab                    | D1 Remedial Investigation Work Plan C-331 Slab                              |                 |             | 1st Quarter 2051   |          |
|                               | D1 Remedial Investigation Report C-331 Slab                                 |                 |             | 1st Quarter 2052   |          |
|                               | D1 Feasibility Study C-331 Slab   |                 |             | 3 <sup>rd</sup> Quarter 2052                             |          |
|                               | D1 Proposed Plan C-331 Slab   |                 |             | 1st Quarter 2053   |          |
|                               | D1 ROD C-331 Slab   |                 |             | 3 <sup>rd</sup> Quarter 2053                             |          |
|                               | D1 Remedial Design Work Plan<br>C-331 Slab                                  |                 |             | 1 <sup>st</sup> Quarter 2054                             |          |
|                               | D1 Remedial Design Report C-331 Slab  |                 |             | 2 <sup>nd</sup> Quarter 2054                             |          |
|                               | D1 Remedial Action Work Plan<br>C-331 Slab                                  |                 |             | 2 <sup>nd</sup> Quarter 2054                             |          |
|                               | D1 Remedial Action Completion Report C-331<br>Slab                          |                 |             | 3 <sup>rd</sup> Quarter 2055                             |          |
| GA 9, GA 12,<br>GA 13, GA 15, | D1 Remedial Investigation Work Plan GA 9, GA 12, GA 13, GA 15, GA 17 Slabs  |                 |             | 1st Quarter 2044   |          |
| GA 17 Slabs                   | D1 Remedial Investigation Report<br>GA 9, GA 12, GA 13, GA 15, GA 17 Slabs  |                 |             | 3 <sup>rd</sup> Quarter 2045                             |          |
|                               | D1 Feasibility Study GA 9, GA 12, GA 13, GA 15, GA 17 Slabs                 |                 |             | 1st Quarter 2046   |          |
|                               | D1 Proposed Plan GA 9, GA 12, GA 13, GA 15,<br>GA 17 Slabs                  |                 |             | 3 <sup>rd</sup> Quarter 2046                             |          |
|                               | D1 ROD GA 9, GA 12, GA 13, GA 15, GA 17<br>Slabs                            |                 |             | 1st Quarter 2047   |          |
|                               | D1 Remedial Design Work Plan<br>GA 9, GA 12, GA 13, GA 15, GA 17 Slabs      |                 |             | 3 <sup>rd</sup> Quarter 2047                             |          |
|                               | D1 Remedial Design Report GA 9, GA 12, GA 13, GA 15, GA 17 Slabs            |                 |             | 4 <sup>th</sup> Quarter 2047                             |          |
|                               | D1 Remedial Action Work Plan GA 9, GA 12, GA 13, GA 15, GA 17 Slabs         |                 |             | 4 <sup>th</sup> Quarter 2047                             |          |
|                               | D1 Remedial Action Completion Report GA 9, GA 12, GA 13, GA 15, GA 17 Slabs |                 |             | 1st Quarter 2050   |          |

| Soils and Slabs Operable Unit (11) |  |                 |          |  |          |  |  |
|------------------------------------|--|-----------------|----------|--|----------|--|--|
|                                    |  |                 |          | Planning Dates with<br>Long-Term Targets<br>for Decision     |          |  |  |
| Subproject                         | Deliverable                                      | FY 2018-FY 2020 | Out-Year | Documents <sup>2</sup>                                       | Comments |  |  |
| GA 10, GA 11                       | D1 Remedial Investigation Work Plan GA 10, GA    |                 |          | 4 <sup>th</sup> Quarter 2049                                 |          |  |  |
| Slabs                              | 11 Slabs   |                 |          |  |          |  |  |
|                                    | D1 Remedial Investigation Report                 |                 |          | 2 <sup>nd</sup> Quarter 2051                                 |          |  |  |
|                                    | GA 10, GA 11 Slabs                               |                 |          |  |          |  |  |
|                                    | D1 Feasibility Study GA 10, GA 11 Slabs          |                 |          | 4 <sup>th</sup> Quarter 2051                                 |          |  |  |
|                                    | D1 Proposed Plan GA 10, GA 11 Slabs              |                 |          | 2 <sup>nd</sup> Quarter 2052                                 |          |  |  |
|                                    | D1 ROD GA 10, GA 11 Slabs                        |                 |          | 4th Quarter 2052   |          |  |  |
|                                    | D1 Remedial Design Work Plan                     |                 |          | 2 <sup>nd</sup> Quarter 2053                                 |          |  |  |
|                                    | GA 10, GA 11 Slabs                               |                 |          |  |          |  |  |
|                                    | D1 Remedial Design Report                        |                 |          | 3 <sup>rd</sup> Quarter 2053                                 |          |  |  |
|                                    | GA 10, GA 11 Slabs                               |                 |          |  |          |  |  |
|                                    | D1 Remedial Action Work Plan                     |                 |          | 3 <sup>rd</sup> Quarter 2053                                 |          |  |  |
|                                    | GA 10, GA 11 Slabs                               |                 |          | ut a solution  |          |  |  |
|                                    | D1 Remedial Action Completion Report GA 10,      |                 |          | 4 <sup>th</sup> Quarter 2054                                 |          |  |  |
|                                    | GA 11 Slabs                                      |                 |          | uh a ann   |          |  |  |
| GA 5 Slabs                         | D1 Remedial Investigation Work Plan              |                 |          | 4 <sup>th</sup> Quarter 2041                                 |          |  |  |
|                                    | GA 5 Slabs                                       |                 |          | 2nd 0  |          |  |  |
|                                    | D1 Remedial Investigation Report                 |                 |          | 2 <sup>nd</sup> Quarter 2043                                 |          |  |  |
|                                    | GA 5 Slabs                                       |                 |          | 4th O  |          |  |  |
|                                    | D1 Feasibility Study GA 5 Slabs                  |                 |          | 4 <sup>th</sup> Quarter 2043<br>2 <sup>nd</sup> Quarter 2044 |          |  |  |
|                                    | D1 Proposed Plan GA 5 Slabs<br>D1 ROD GA 5 Slabs |                 |          | 4 <sup>th</sup> Quarter 2044                                 |          |  |  |
|                                    |  |                 |          | `  |          |  |  |
|                                    | D1 Remedial Design Work Plan GA 5 Slabs          |                 |          | 1 <sup>st</sup> Quarter 2045                                 |          |  |  |
|                                    | D1 Remedial Design Report GA 5 Slabs             |                 |          | 2 <sup>rd</sup> Quarter 2045                                 |          |  |  |
|                                    | D1 Remedial Action Work Plan GA 5 Slabs          |                 |          | 3 <sup>rd</sup> Quarter 2045                                 |          |  |  |
|                                    | D1 Remedial Action Completion Report GA 5        |                 |          | 4 <sup>th</sup> Quarter 2046                                 |          |  |  |
|                                    | Slabs  |                 |          |  |          |  |  |

|             | Soils and Slabs Operable Unit (11)              |   |          |  |          |  |  |  |
|-------------|---|---|----------|--|----------|--|--|--|
|             |   | Enforceable Timetable and<br>Deadlines <sup>1</sup> |          | Planning Dates with<br>Long-Term Targets<br>for Decision |          |  |  |  |
| Subproject  | Deliverable                                     | FY 2018-FY 2020                                     | Out-Year | Documents <sup>2</sup>                                   | Comments |  |  |  |
| GA 16 Slabs | D1 Remedial Investigation Work Plan GA 16 Slabs |   |          | 3 <sup>rd</sup> Quarter 2048                             |          |  |  |  |
|             | D1 Remedial Investigation Report                |   |          | 1st Quarter 2049   |          |  |  |  |
|             | GA 16 Slabs                                     |   |          |  |          |  |  |  |
|             | D1 Feasibility Study GA 16 Slabs                |   |          | 3 <sup>rd</sup> Quarter 2050                             |          |  |  |  |
|             | D1 Proposed Plan GA 16 Slabs                    |   |          | 1st Quarter 2051   |          |  |  |  |
|             | D1 ROD GA 16 Slabs                              |   |          | 3 <sup>rd</sup> Quarter 2051                             |          |  |  |  |
|             | D1 Remedial Design Work Plan                    |   |          | 1st Quarter 2052   |          |  |  |  |
|             | GA 16 Slabs                                     |   |          |  |          |  |  |  |
|             | D1 Remedial Design Report GA 16 Slabs           |   |          | 2 <sup>nd</sup> Quarter 2052                             |          |  |  |  |
|             | D1 Remedial Action Work Plan                    |   |          | 3 <sup>rd</sup> Quarter 2052                             |          |  |  |  |
|             | GA 16 Slabs                                     |   |          |  |          |  |  |  |
|             | D1 Remedial Action Completion Report GA 16      |   |          | 3 <sup>rd</sup> Quarter 2053                             |          |  |  |  |
|             | Slabs   |   |          |  |          |  |  |  |
| GA 2, GA 14 | D1 Remedial Investigation Work Plan GA 2, GA    |   |          | 1st Quarter 2041   |          |  |  |  |
| Slabs       | 14 Slabs  |   |          |  |          |  |  |  |
|             | D1 Remedial Investigation Report                |   |          | 3 <sup>rd</sup> Quarter 2042                             |          |  |  |  |
|             | GA 2, GA 14 Slabs                               |   |          |  |          |  |  |  |
|             | D1 Feasibility Study GA 2, GA 14 Slabs          |   |          | 1 <sup>st</sup> Quarter 2043                             |          |  |  |  |
|             | D1 Proposed Plan GA 2, GA 14 Slabs              |   |          | 2 <sup>nd</sup> Quarter 2043                             |          |  |  |  |
|             | D1 ROD GA 2, GA 14 Slabs                        |   |          | 4 <sup>th</sup> Quarter 2043                             |          |  |  |  |
|             | D1 Remedial Design Work Plan                    |   |          | 2 <sup>nd</sup> Quarter 2044                             |          |  |  |  |
|             | GA 2, GA 14 Slabs                               |   |          |  |          |  |  |  |
|             | D1 Remedial Design Report GA 2, GA 14 Slabs     |   |          | 3 <sup>rd</sup> Quarter 2044                             |          |  |  |  |
|             | D1 Remedial Action Work Plan GA 2, GA 14 Slabs  |   |          | 4 <sup>th</sup> Quarter 2044                             |          |  |  |  |
|             | D1 Remedial Action Completion Report GA 2, GA   |   |          | 1st Quarter 2046   |          |  |  |  |
|             | 14 Slabs  |   |          |  |          |  |  |  |

| Soils and Slabs Operable Unit (11) |  |  |  |  |          |  |  |
|------------------------------------|--|--|--|--|----------|--|--|
|                                    |  | Enforceable Timetable and Deadlines <sup>1</sup> |  | Planning Dates with<br>Long-Term Targets<br>for Decision |          |  |  |
| Subproject                         | Deliverable                                    | FY 2018–FY 2020 Out-Year                         |  | Documents <sup>2</sup>                                   | Comments |  |  |
| GA 1, GA 4                         | D1 Remedial Investigation Work Plan GA 1, GA 4 |  |  | 2 <sup>nd</sup> Quarter 2050                             |          |  |  |
| Slabs                              | Slabs  |  |  |  |          |  |  |
|                                    | D1 Remedial Investigation Report GA 1, GA 4    |  |  | 3 <sup>rd</sup> Quarter 2052                             |          |  |  |
|                                    | Slabs  |  |  |  |          |  |  |
|                                    | D1 Feasibility Study GA 1, GA 4 Slabs          |  |  | 1st Quarter 2053   |          |  |  |
|                                    | D1 Proposed Plan GA 1, GA 4 Slabs              |  |  | 3 <sup>rd</sup> Quarter 2053                             |          |  |  |
|                                    | D1 ROD GA 1, GA 4 Slabs                        |  |  | 1st Quarter 2054   |          |  |  |
|                                    | D1 Remedial Design Work Plan                   |  |  | 3 <sup>rd</sup> Quarter 2054                             |          |  |  |
|                                    | GA 1, GA 4 Slabs                               |  |  |  |          |  |  |
|                                    | D1 Remedial Design Report                      |  |  | 4th Quarter 2054   |          |  |  |
|                                    | GA 1, GA 4 Slabs                               |  |  |  |          |  |  |
|                                    | D1 Remedial Action Work Plan                   |  |  | 4th Quarter 2054   |          |  |  |
|                                    | GA 1, GA 4 Slabs                               |  |  |  |          |  |  |
|                                    | D1 Remedial Action Completion Report GA 1, GA  |  |  | 4th Quarter 2055   |          |  |  |
|                                    | 4 Slabs  |  |  |  |          |  |  |

Lagoons Operable Unit (09)

The Lagoons OU consists of two subprojects to address two different types of lagoons utilized at the Paducah Site. Lagoons that were constructed to support gaseous diffusion processes are grouped together into one subproject, and lagoons constructed for the purpose of treating water drawn from the Ohio River to provide potable and sanitary water to the Paducah Site are grouped together under another subproject.

|                |                                      | Enforceable Timetable and<br>Deadlines <sup>1</sup> |          | Planning Dates with<br>Long-Term Targets<br>for Decision |          |
|----------------|--------------------------------------|---|----------|--|----------|
| Subproject     | Deliverable                          | FY 2018-FY 2020                                     | Out-Year | Documents <sup>2</sup>                                   | Comments |
| Process        | D1 Remedial Investigation Work Plan  |   |          | 4 <sup>th</sup> Quarter 2048                             |          |
| Lagoons        | D1 Remedial Investigation Report     |   |          | 2 <sup>nd</sup> Quarter 2050                             |          |
|                | D1 Feasibility Study                 |   |          | 4th Quarter 2050   |          |
|                | D1 Proposed Plan                     |   |          | 1st Quarter 2051   |          |
|                | D1 ROD                               |   |          | 3 <sup>rd</sup> Quarter 2051                             |          |
|                | D1 Remedial Design Work Plan         |   |          | 2 <sup>nd</sup> Quarter 2052                             |          |
|                | D1 Remedial Design Report            |   |          | 3 <sup>rd</sup> Quarter 2052                             |          |
|                | D1 Remedial Action Work Plan         |   |          | 3 <sup>rd</sup> Quarter 2052                             |          |
|                | D1 Remedial Action Completion Report |   |          | 3 <sup>nd</sup> Quarter 2053                             |          |
| Water          | D1 Remedial Investigation Work Plan  |   |          | 4th Quarter 2048   |          |
| Treatment      | D1 Remedial Investigation Report     |   |          | 2 <sup>nd</sup> Quarter 2050                             |          |
| System Lagoons | D1 Feasibility Study                 |   |          | 4th Quarter 2050   |          |
|                | D1 Proposed Plan                     |   |          | 2 <sup>nd</sup> Quarter 2051                             |          |
|                | D1 ROD                               |   |          | 4th Quarter 2051   |          |
|                | D1 Remedial Design Work Plan         |   |          | 2 <sup>nd</sup> Quarter 2052                             |          |
|                | D1 Remedial Design Report            |   |          | 3 <sup>rd</sup> Quarter 2052                             |          |
|                | D1 Remedial Action Work Plan         |   |          | 3 <sup>rd</sup> Quarter 2052                             |          |
|                | D1 Remedial Action Completion        |   |          | 3 <sup>rd</sup> Quarter 2053                             |          |

## Surface Water Operable Unit (03)

The Surface Water OU includes the internal plant ditches that discharge to Little Bayou Creek and Bayou Creek. The SWMUs within the OU contributed to surface water contamination throughout the system. The outfalls and creeks also are identified as SWMUs.

|               |                                      | Enforceable Timetable and<br>Deadlines <sup>1</sup> |           | Planning Dates with<br>Long-Term Targets<br>for Decision |          |
|---------------|--------------------------------------|---|-----------|--|----------|
| Subproject    | Deliverable                          | FY 2018-FY 2020                                     | Out-Year  | Documents <sup>2</sup>                                   | Comments |
| Remedial      | D1 Remedial Investigation Report     |   |           | 3 <sup>rd</sup> Quarter 2054                             |          |
| Action        | D1 Feasibility Study Report          |   |           | 1st Quarter 2055   |          |
| (Little Bayou | D1 Proposed Plan                     |   |           | 3 <sup>rd</sup> Quarter 2055                             |          |
| and Bayou     | D1 ROD                               |   |           | 1st Quarter 2056   |          |
| Creek         | D1 Remedial Design Work Plan         |   |           | 3 <sup>rd</sup> Quarter 2056                             |          |
| Watersheds)   | D1 Remedial Design Report            |   |           | 2 <sup>nd</sup> Quarter 2057                             |          |
|               | D1 Remedial Action Work Plan         |   |           | 2 <sup>nd</sup> Quarter 2057                             |          |
| <u>SWOU</u>   | D1 Remedial Action Completion Report |   | 9/30/2058 | 4 <sup>th</sup> Quarter 2058                             |          |

## Comprehensive Site Operable Unit (12)

The CSOU evaluates the final actions taken at the site. It includes a sitewide baseline human health and ecological risk assessment to evaluate residual risks and ensure all actions taken to date, when considered collectively, are protective of human health and the environment from a sitewide perspective and implements any additional actions necessary to achieve final cleanup under the FFA.

| any additional actions necessary to achieve final cleanup under the 11 A. |                                       |  |          |  |          |  |
|---|---------------------------------------|--|----------|--|----------|--|
|   |                                       | Enforceable Timetable and Deadlines <sup>1</sup> |          | Planning Dates with<br>Long-Term Targets |          |  |
|   |                                       |  |          | for Decision                             |          |  |
| Subproject  | Deliverable                           | FY 2018-FY 2020                                  | Out-Year | Documents <sup>2</sup>                   | Comments |  |
| N/A   | D1 Remedial Investigation Work Plan   |  |          | 1st Quarter 2062                         |          |  |
|   | D1 Remedial Investigation/Feasibility |  |          | 3 <sup>rd</sup> Quarter 2062             |          |  |
|   | Study Report                          |  |          |  |          |  |
|   | D1 Proposed Plan                      |  |          | 1st Quarter 2063                         |          |  |
|   | D1 ROD                                |  |          | 3 <sup>rd</sup> Quarter 2063             |          |  |

| Other FFA Planning Dates |                     |                 |  |                        |  |  |
|--------------------------|---------------------|-----------------|--|------------------------|--|--|
|                          |                     |                 | Enforceable Timetable and Deadlines <sup>1</sup> |                        |  |  |
| Subproject               | Deliverable         | FY 2018-FY 2020 | Out-Year   | Documents <sup>2</sup> | Comments                                     |  |
| NA                       | D1 Five-Year Review |                 |  | 7/31/18                | This is a statutorily required document that |  |
|                          |                     |                 |  |                        | must be approved by 6/4/19.                  |  |

Enforceable Timetables and Deadlines are based on the planning scope assumptions contained in Appendix 3 and funding levels. Approval of the assumptions does not constitute decision making for the response actions described in this table.

BGOU = Burial Grounds Operable Unit D&D = decontamination and decommissioning

EPA = U.S. Environmental Protection Agency FFA = Federal Facility Agreement

GA = geographical area

GWOU = Groundwater Operable Unit

FY = fiscal year

 $egin{aligned} NA &= not \ applicable \ OU &= operable \ unit \ RI &= remedial \ investigation \end{aligned}$ 

ROD = record of decision

SWOU = Surface Water Operable Unit

SWMU = solid waste management unit

TBD = to be determined

<sup>2</sup> Not enforceable dates. These planning dates are internal DOE dates used for planning purposes only. The parties further agree that the U.S. Department of Energy can adjust the planning dates as part of the annual Site Management Plan update without having to submit an official request or justify "good cause" in accordance with Section XXIX of the FFA.

<sup>&</sup>lt;sup>3</sup> Assumes that final approval is received on the D2 document.