U. S. DEPARTMENT OF ENERGY
WORK BREAKDOWN STRUCTURE DICTIONARY
PART II - ELEMENT DEFINITION

1. PROJECT TITLE/PARTICIPANT	2. DATE	3. IDENTIFICATION NUMBER
Environmental Management/Bechtel Jacobs Company LLC	10/01/02	DE-AC05-98OR22700

4. WBS ELEMENT CODE	5. WBS ELEMENT TITLE
04.01.01.22	PAD Surface Water North South Diversion Ditch

6. INDEX LINE NO.	7. REVISION NO. AND AUTHORIZATION	8. DATE
N/A	Rev 4	08/21/03

9. APPROVED CHANGES
N/A

10. SYSTEM DESIGN DESCRIPTION	11. BUDGET AND REPORTING NUMBER
N/A	N/A

12. ELEMENT TASK DESCRIPTION

WBS GRAPHIC

See attached.

INTRODUCTION

The objective of this subproject is to perform a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Remedial Action (RA) on the North-South Diversion Ditch (NSDD). This action will include development of CERCLA decision documents for the NSDD RA followed by hardpiping modifications, construction of a surge basin and the excavation of contaminated soils and sediments in accordance with the NSDD decision documents, disposition of the excavated material and associated wastes, and restoration of the excavated areas with clean soils and rip-rap to their previous topographic conditions.

The Paducah Gaseous Diffusion Plant (PGDP) is located in McCracken County in western Kentucky, about 6.5 km (4 miles) south of the Ohio River and approximately 16 km (10 miles) west of the city of Paducah. The NSDD originates within the north-central portion of PGDP and discharges into Little Bayou Creek to the north of the plant. The NSDD is located on property owned by the Department of Energy (DOE). However, only approximately 25% of the ditch is inside the secured (i.e., fenced) area. A public road (i.e., Ogden Landing Road) crosses the NSDD in the area outside the PGDP security fence.

Historically, the NSDD received wastewater from the C-400 Building, coal pile runoff, and storm-water. The primary functions at the C-400 facility included cleaning, metal plating, metal recovery, radioactive materials stabilization and recovery, uranium trioxide production, diffusion process equipment testing, and uranium tetrafluoride pulverization. Sources of storm-water runoff to the ditch include a steam plant (C-600), gaseous diffusion process buildings (C-335 and C-337), a cooling tower (C-635), and electrical switchyards (C-535 and C-537). As a consequence, the soil and sediment in the ditch have become contaminated with radionuclides, metals, and PCBs.

The portion of the NSDD located inside the security fence (Section 1 and Section 2) will be excavated along its entire length and restored with clean backfill (i.e., Sections 1 and 2). Existing culverts at the security fence will be plugged to prevent future discharges from the plant through the NSDD. A surge basin will be constructed in this section of the NSDD to contain stormwater runoff. Excavation of the portion of the NSDD located outside the security fence (Sections 3, 4, and 5) are also addressed in the Surface Water Removal Phase I subproject (04.01.01.19).

LOGIC RELATIONSHIPS

Survellience and maintenance (S&M) activities will be performed under a separate WBS following completion of the remedial action. S&M includes maintaining the NSDD (i.e. repair erosion) in Sections 1 and 2 and vegetation control (i.e., mowing). Any long-term land use controls inside or outside the PGDP security fence will be addressed as part of a final Record of Decision (ROD) or other CERCLA decision document and are not

currently included in this WBS.

SCOPE DESCRIPTION

Release Sites and Facilities

Actions to be completed

Raims No.	SWMU No.	Description
2037	59	N-S Diversion Ditch

Past Accomplishments

- Completed D0/R1, D1, and D2 ROD and D1 Land Use Controls Implementation Plan (LUCIP) for Phase I and Phase II (i.e., Sections 1 and 2).
- Completed draft D2 and D2 Removal Notification for Phase I (i.e., hardpiping modifications and construction of surge basin) Removal Action.
- Completed draft D2 and D2 Action Memorandum (AM) for Phase I Removal Action.
- Developed an analysis of co-contamination and performed H&S pre-characterization of project areas.
- Awarded subcontract to perform hardpiping modification activities.
- Issued the hardpiping Remedial Action Work Plan (RAWP) (D0, D1 and D2), and Removal Action Work Plan (D2).
- Awarded subcontract to perform infrastructure support activities.
- Implemented infrastructure support task order subcontract (i.e., laydown area inside the fence).
- Awarded subcontract to perform the construction of a surge basin.
- Issued the RAWP (D0).
- Developed and issued a request for proposal (RFP) for subcontractor to perform the remediation of Section 1and Section 2, if necessary.
- Issued RAWP Appendices (i.e. subcontractor plans) for the surge basin.

Future Accomplishments

- Complete D2 LUCIP for Phase I and Phase II (i.e., Sections 1 and 2).
- Complete implementation of Phase I Remedial Action for the NSDD (i.e., hardpiping modifications and surge basin construction.
- Award subcontract to perform the remediation of Sections 1 and Section 2, if necessary, of the NSDD Phase II Remedial Action.
- Issue Remedial Action Work Plan (D0, D1, and D2) for the remediation of Section 1 and Section 2, if necessary, of the NSDD Phase II Remedial Action.
- Complete Phase II Remedial Action. Complete remediation of Section 1. Complete remediation of Section 2, if necessary.
- Sample and stockpile Sections 1 and 2 generated waste. Disposition of the waste will begin after additional characterization is performed in accordance with formal dispute resolution with respect to the RD/RAWP for the NSDD Detention Basin.
- Develop a Post-Construction Report for hardpiping modifications and construction of surge basin and a Final Remedial Action Report for Sections 1 and 2 of the NSDD.
- Complete Sections 1 and 2 waste disposal activities.
- Complete all waste disposal activities.

Scope Summary

04.01.01.22.01 Technical Management and Integration

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Technical Management and Integration activities include the technical, subcontract, and project management necessary to ensure that all activities in the WBS elements are completed on schedule, within budget, and without safety or environmental incident. Technical management and integration includes the project manager, deputy project manager, lead engineer, subcontractor technical representative, project controls, and other Bechtel Jacobs Company LLC (BJC) personnel who will perform project management, subcontractor oversight, environmental safety and health support, and project scheduling and estimating. Other BJC management and integration support will be carried in the individual WBS elements.

Baseline Change Proposal (BCP) documentation will be prepared as appropriate to make corrections to the FY 03 baseline when scope, schedule, or cost changes are determined necessary.

All work will be performed utilizing BJC's Integrated Safety Management System (ISMS).

Specific activities include:

- Maintain contact and open communications with the appropriate DOE Project Manager on the subproject activities;
- Participate in biweekly technical information and monthly Project Status Review meetings to provide DOE with project status summaries;
- Respond and supply information to DOE for Lessons Learned, surveillance and audits, Site-Specific Advisory Board support, and other DOE reporting mechanisms;
- Maintain the monthly subproject estimates and estimates at completion.

04.01.02.22.05 N/S Ditch Remedial Action Implementation

The D2 ROD is written for the Phase I and II Remedial Action of the NSDD from the C-400 Building north to the security fence. The documentation is written to address hardpiping modifications, construction of a surge basin and excavation of contaminated soil/sediment within Sections 1 and 2 of the NSDD and restoration to original grade.

Following the development and approval of the RAWP, the hardpiping task order subcontractor will implement the Phase I NSDD Remedial Action. The hardpiping task order subcontractor will mobilize to complete Phase I Remedial Action hardpiping modifications, which include rerouting steel pipes from the C-400-L, C-616-L, and Outfall 001 Lift Stations to a new discharge area at the C-616-C inlet control structure.

After the completion and approval of the RAWP, the subcontractor for the construction of the surge basin will mobilize to complete the Phase I Remedial Action.

Following the issuance of the RFP, a subcontract will be awarded through competitive bid to implement the Phase II Remedial Action (i.e., the remediation of Sections 1 and Section 2, if necessary, of the NSDD). Phase II includes excavation of soil/sediment within the noted sections of the NSDD, and restoration to original grade will appropriate sedimentation controls and waste management activities. An RAWP (D0 and D2) will be completed. After approval of the RAWP, the subcontractor will complete the Phase II NSDD Remedial Action with the remediation of Section 1 and Section 2, as necessary. Following completion of the field activities, the subcontractor will demobilize from the site. A Post-Construction Report for hardpiping modifications and construction of surge basin and the Final Remedial Action Report will be developed.

Additional waste characterization will be performed in accordance with formal dispute resolution with respect to RD/RAWP for the NSDD Detention Basin. Waste characterization will consist of radiological screening and TCE screening of all disposal bags and randomly selecting 5% of the disposal bags to sample and analyze in a laboratory for TCLP metals, TCE, COC radionuclides and PAHs. PCB test kits will be used in lieu of laboratory

analysis.

Section 1 and 2 waste disposal activities, including shipping waste that does not meet the acceptance criteria for the U-Landfill, will be completed.

All waste disposal activities, including shipping waste that does not meet the acceptance criteria for the U-Landfill, will be completed.

Safety and Health Work Performance

It is the core value of Bechtel Jacobs Company LLC (BJC) that the safety and health of every worker, the public at large, and our environment are the most important assets we are entrusted to protect. To accomplish this, an ISMS, based on DOE's ISMS, has been implemented. ISMS incorporates five core functions and is based on seven guiding principles. The objective of ISMS is to systematically integrate safety and environmental protection into the planning and execution of all work activities. The term safety encompasses nuclear safety, industrial safety, industrial hygiene, occupational health, health physics, and environmental protection. ISMS requirements flow-down to BJC subcontractors. The five core functions are: (1) define the scope of work, (2) analyze hazards, (3) develop and implement hazard controls, (4) perform work within controls, and (5) provide feedback and continuous improvement. The seven guiding principles are (1) line management responsibility for safety, (2) clear roles and responsibilities, (3) competence commensurate with responsibility, (4) balanced priorities, (5) identification of safety standards and requirements, (6) hazard controls tailored to work being performed, and (7) operations authorization.In performing the analysis of alternatives against the CERCLA nine criteria, consideration is given to the principles of ISMS. Specifically, in the analysis of "implementability" and "short-term impact", a trade-off assessment is performed to balance the risk to workers compared to the overall benefit of the project. This assessment follows the five core functions of ISMS to assure that the scope of work and the specific steps to carry out the project have been defined in sufficient detail to analyze the associated hazards, the effectiveness of the controls, and the actual risks to the workers.

Before the implementation of Phase II begins, several activities must be completed that demonstrate that all involved in the project have completed rigorous health and safety reviews and that all potential hazards of doing the work have been identified. The routine activities in RA are conducted in accordance with standard operating procedures, activity hazard analyses, and Integrated Safety Management plans. Phase II subcontractors non-routine work will require a readiness assessment as necessary to ensure complete health, safety, and environmental reviews prior to work start. This assessment is conducted by people experienced in similar kinds of work, with the right to examine all aspects of a project about to commence, and requires the project team to provide documented evidence that any applicable requirements of the job have been met.

REQUIREMENTS/DRIVERS

BJC Contract DE-AC05-98OR22700, December 18, 1997
ISMS Description, BJC/OR-87, Revision 2
PGDP RCRA/HSWA Permit Number KY8-890-008-982
PGDP Site Management Plan, FY 01 Annual Revision, November 2000
Integrated Safety Management System Description, BJC-GM-1400, Revision 2, October 2001
Integrated Safety Management System Supplement, BJC-GM-1401, Revision 0, December 2000

As applicable, indicate other regulatory-related requirements.
CERCLA: **Yes** RCRA: **Yes** DNFSB: **No** DOE Orders: **Yes** AEA: **No** UMTRCA: **No** State: **Yes** Other: **No**

WASTE VOLUMES

Please see attached waste performance metrics, as applicable.

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The waste quantities supporting the method of accomplishment and basis of estimate are consistent with data reported on the Waste Performance Metrics Form.

PROJECT SCHEDULE

Please see attached project summary schedule, and Milestone Status Summary Report.

EXECUTION YEAR BASELINE

Please see attached Budgeted Cost of Work Scheduled Plan.

BASELINE BY YEAR

Please see attached baseline by year report.