

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

1. SUBPROJECT TITLE/PARTICIPANT PGDP Burial Grounds/Bechtel Jacobs Company		2. DATE 10/1/02	3. IDENTIFICATION NUMBER DE-AC05-98OR22700
4. WBS ELEMENT CODE 04.01.01.12		5. WBS ELEMENT TITLE Burial Grounds Removal Action	
6. INDEX LINE NO. N/A	7. REVISION NO. AND AUTHORIZATION Rev 1		8. DATE 01/23/03
9. APPROVED CHANGES N/A			
10. SYSTEM DESIGN DESCRIPTION N/A		11. BUDGET AND REPORTING NUMBER N/A	
12. ELEMENT TASK DESCRIPTION			
<p>WBS GRAPHIC</p> <p>See attached WBS.</p> <p>INTRODUCTION</p> <p>The Burial Grounds Removal Action described in this document is herein referred to as the “subproject.”</p> <p>This subproject addresses the Burial Grounds Operable Unit (BGOU) and includes the following Waste Area Groupings (WAGs) and Solid Waste Management Units (SWMUs):</p> <ul style="list-style-type: none"> ? WAG 3 (SWMUs 4, 5, and 6) ? SWMU 145 (areas outside S and T landfills; abandoned North/South ditch within SWMU 145) ? WAG 22 (SWMUs 2, 3, 7, and 30). <p>Although the Site Management Plan currently includes SWMUs 12, 13, 14, 15, and 16 (i.e., the scrap yards) in the BGOU, there is no conclusive evidence that there are burial grounds in these SWMUs. Therefore, the scrap yard SWMUs are not included in this subproject.</p> <p>This subproject also addresses 16 existing roll-off bins of waste generated during the investigation of WAGs 3, 8, 22, 28, and the Groundwater Data Gaps. This investigation-derived waste is herein referred to as the Mega-WAG IDW.</p> <p>The subproject scope, in general, is as follows:</p> <ul style="list-style-type: none"> ? Design and construct an integrated BGOU groundwater monitoring system; include existing monitoring wells in the system to the maximum appropriate extent. Also include chemical oxidation technology in the system to enhance monitoring. ? Conduct six quarterly sampling events from the integrated BGOU groundwater monitoring system; analyze the samples and interpret the results. ? Operate and maintain chemical oxidation units in the integrated BGOU groundwater monitoring system. ? Using existing data, prepare an EE/CA and Action Memorandum for an OU-wide non-time-critical removal action; assume that the selected remedy is to install a soil cover over the BGOU SWMUs without adequate cover. ? For those SWMUs without adequate cover, design and install a nominal two-foot earthen cover for each; assume that the cover will include approximately 18 inches of compacted soil overlain by approximately 6 inches of topsoil that will be seeded to sustain vegetation. ? Store and maintain the Mega-WAG IDW; prepare data packages and other required documentation to 			

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support appropriate disposal of the Mega-WAG IDW.		
LOGIC RELATIONSHIPS		
<ul style="list-style-type: none"> ? DMSAs and Scrap Metal located on BGOU SWMUs 6 and 7 must be removed under a separate WBS prior to initiating any necessary BGOU soil cover installation at these locations. Additionally, the shallow (approximately 1 foot) soil horizon beneath these DMSAs and Scrap Metal storage areas will be removed under a separate WBS. The BGOU removal action cannot be completed until DMSAs, Scrap Metal, and associated soil is removed. ? The Scrap Metal removal subproject will use SWMU 4, one of the burial grounds addressed in this subproject, as a staging area. The BGOU removal action cannot be completed until the Scrap Metal project vacates SWMU 4. ? Six quarterly events of collection and analysis of samples from the integrated BGOU groundwater monitoring system are part of this subproject. It is assumed that performing long-term groundwater monitoring after six sampling events and eventual monitoring well abandonment will be part of the scope of the Long Term S&M WBS. Eighteen months of operation and maintenance of the chemical oxidation units will occur as a part of this subproject. It is assumed that performing long-term (after 18 months) operations and maintenance of the chemical oxidation units and their eventual abandonment will be part of the scope of the Long Term S&M WBS. It is assumed that post-construction soil cover inspections and maintenance of soil cover integrity will also be performed under the Long Term S&M WBS. ? Groundwater releases from the BGOU, if detected through the integrated BGOU groundwater monitoring system, will be addressed as necessary under the scope of a separate WBS. ? Use of chemical oxidation technology will be part of the integrated BGOU groundwater monitoring system. Installation of a full-scale chemical oxidation system at the BGOU will be initiated after assumed successful completion of the chemical oxidation treatability study under the GWOU WBS. 		
SCOPE DESCRIPTION		
Assessments to be completed:		
<p>The groundwater up-gradient and down-gradient of the burial grounds will be monitored to determine the level of contaminant contribution, if any, to the existing groundwater contaminant plumes. An integrated BGOU groundwater monitoring system will be developed to help ensure meaningful data are collected.</p> <ul style="list-style-type: none"> ? SWMU 2, C-749 Uranium Burial Ground (RAIMS #2021) ? SWMU 3, C-404 Low-Level Radioactive Waste Burial Ground (RAIMS #2692) ? SWMU 4, C-747 Contaminated Burial Ground (RAIMS #2058) ? SWMU 5, C-746-F Classified Burial Ground (RAIMS #2059) ? SWMU 6, C-747-B Burial Ground (RAIMS #2060) ? SWMU 7, C-747-A Burial Ground (RAIMS #2523) ? SWMU 30, C-747-A Burn Area (RAIMS #2524) ? SWMU 145, Residential/Inert Landfill Borrow Area (RAIMS #2015) 		
Actions to be completed:		
<p>The eight sites listed below will require adequate soil cover to protect industrial workers who access the area. The protective cover will have the additional effect of reducing the infiltration of precipitation into the waste cells. The condition of current cover will be evaluated on a site-by-site basis and a determination will be made about where, and how much, new cover is needed. This evaluation will occur during the development of two documents that will be prepared under this subproject. First, a preliminary evaluation will occur during the development of a groundwater monitoring system planning document. Later, a more detailed evaluation and</p>		

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determination of about where, and how much, new cover is needed will occur as part of an EE/CA. Applying additional cover on these sites will be documented as a removal action pursuant to CERCLA provisions.		
<ul style="list-style-type: none"> ? SWMU 2, C-749 Uranium Burial Ground (RAIMS #2021) ? SWMU 3, C-404 Low-Level Radioactive Waste Burial Ground (RAIMS #2692) ? SWMU 4, C-747 Contaminated Burial Ground (RAIMS #2058) ? SWMU 5, C-746-F Classified Burial Ground (RAIMS #2059) ? SWMU 6, C-747-B Burial Ground (RAIMS #2060) ? SWMU 7, C-747-A Burial Ground (RAIMS #2523) ? SWMU 30, C-747-A Burn Area (RAIMS #2524) ? SWMU 145, Residential/Inert Landfill Borrow Area (RAIMS #2015) 		
Past and Future Accomplishments:		
Past Accomplishments		
<ul style="list-style-type: none"> ? SWMUs 2, 3, 4, 5, 6, 7, and 30 have been characterized under a RCRA Facility Investigation and subsequent Remedial Investigation Report; additionally, a Feasibility Study has been performed for SWMUs 2 and 3. ? The Data Gaps field investigation also characterized groundwater conditions down-gradient of SWMUs 4, 7, and 30. 		
Future Accomplishments		
<ul style="list-style-type: none"> ? Perform technical M&I activities. ? Prepare D0, D1, and D2 Work Plan for the integrated BGOU groundwater monitoring system. ? Install new wells as needed for the integrated BGOU groundwater monitoring system. ? Install the chemical oxidation units. ? Collect and analyze quarterly samples from the BGOU groundwater monitoring system (six quarters). ? Operate and maintain the chemical oxidation units (eighteen months). ? Prepare a D0, D1, and D2 Technical Memorandum reporting the results and observations from the integrated BGOU groundwater monitoring system. ? Prepare D0 and D1 Removal Notification. ? Prepare D0, D1, and D2 EE/CA based on existing data. ? Facilitate Public Comment period/participation process. ? Prepare D0, D1, and D2 Action Memo. ? Prepare D0, D1, and D2 Removal Action Work Plan for installing burial ground covers. ? Install soil cover at specified BGOU locations. ? Prepare D0, D1, and D2 Removal Action Report. ? Store and maintain Mega-WAG IDW. ? Prepare appropriate documentation and then transport Mega-WAG IDW for appropriate disposal. 		
Scope:		
04.01.12.01 Technical Management and Integration		
<p>Technical Management and Integration (M&I) activities include the technical, subcontract, and subproject management necessary to ensure that all activities in the WBS elements are completed on schedule, within budget, and without safety or environmental incident. Technical M&I includes the Project Manager, Task Manager, Task Lead, Project Controls, and other personnel who will perform programmatic activities, and subproject scheduling and estimating. Additional Bechtel Jacobs Company (BJC) M&I support will be carried</p>		

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out under the individual WBS elements.		
Prepare Baseline Change Proposal documentation to make necessary corrections to the FY baseline when scope, schedule or cost changes are determined necessary.		
Specific activities include:		
<ul style="list-style-type: none"> ? Maintain contact and open communications with the appropriate DOE Project Manager on subproject activities. ? Participate in biweekly technical information and monthly Project Status Review meetings to provide DOE with subproject status summaries. ? Respond and supply information to DOE for Lessons Learned, surveillance and audits, Core Team support, Citizen Advisory Board support, and other DOE reporting mechanisms. ? Maintain monthly subproject estimates and estimates at completion. 		
04.01.01.12.02 Integrated BGOU Groundwater Monitoring System		
Install new groundwater monitoring wells to supplement existing wells to create an integrated BGOU groundwater monitoring system. Sample and analyze groundwater quarterly during an 18-month period (6 quarterly events). Install, operate and maintain chemical oxidation units (18 months). Appropriately characterize and dispose of all IDW generated during the installation of the integrated BGOU groundwater monitoring system, and all subsequent sampling.		
The installation and maintenance of an integrated BGOU groundwater monitoring system is not considered to be a removal action; therefore, CERCLA-based removal action documentation will not be prepared. However, the activity will be appropriately documented and regulatory review/concurrence will be sought. Pre-installation documentation will include a comprehensive Work Plan. The scoping portion of the Work Plan will consider existing burial ground data and, based upon that data, propose locations and configurations for new monitoring wells and chemical oxidation units, as well as integrated utilization of existing monitoring wells. The Work Plan will also include design, installation, sampling, and O&M requirements. Additionally, an interpretive Technical Memorandum will be prepared to document results/conclusions from the integrated BGOU groundwater monitoring program. D0, D1, and D2 versions of all documents will be prepared. A response to comment (RTC) table for reviewer comments will be prepared on all D0 and D1 documents. Formal comment resolution meetings will be held to direct revision of all D0 and D1 documents.		
04.01.01.12.03 Installation of BGOU Cover		
Perform installation of a nominal two-foot cover at BGOU release sites where it is needed to be protective of industrial workers and/or to retard infiltration of precipitation into underlying waste cells. Cover will include approximately 18 inches of compacted soil (hydraulic conductivity less than 1×10^{-5} cm/sec) overlain by approximately 6 inches of topsoil that will be seeded to sustain vegetation.		
Pursuant to the provisions of CERCLA and the FFA, prepare removal action documents, establish and populate an Administrative Record, and facilitate public participation in the removal action process. Prepare and submit D0 and D1 Removal Notifications. Prepare D0, D1, and D2 EE/CA documents based on existing data only. Prepare D0, D1, and D2 versions of an Action Memorandum, Removal Action Work Plan, and Removal Action Report for the BGOU soil cover. Prepare response to comment (RTC) tables for reviewer comments on the D0 and D1 documents. Hold formal comment resolution meetings to direct revision of the D0 and D1 documents.		
04.01.01.12.04 Mega-WAG IDW		

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<p>Store and maintain Mega-WAG IDW until transport/disposal of the IDW at an appropriate location. Prepare data packages and other required documentation to support disposal of the Mega-WAG IDW.</p> <p>Safety and Health Work Performance</p> <p>It is the core value of Bechtel Jacobs Company that the safety and health of every worker and the public at large, and our environment, are the most important assets we are entrusted to protect. To accomplish this, an Integrated Safety Management System (ISMS), based on DOE's ISMS, has been implemented that 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 issues. ISMS requirements flow-down to Bechtel Jacobs Company 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 control tailored to work being performed, and (7) Operations authorization.</p> <p>In performing the analysis of alternatives against CERCLA evaluation 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 subproject. This assessment follows the five core functions of ISMS to assure that the scope of work and the specific steps to carry out the subproject have been defined in sufficient detail to analyze the associated hazards, the effectiveness of the controls, and the actual risks to the workers.</p> <p>Before the Burial Grounds removal action activities begin, several tasks must be completed that demonstrate that all involved in the subproject have completed rigorous health and safety reviews and that all potential hazards of doing the work have been identified. A readiness assessment, to ensure complete health, safety and environmental reviews, will be conducted prior to installation of monitoring wells, installation of chemical oxidation units, operation and maintenance of the chemical oxidation units, placement of BGOU soil cover, and shipment of waste. The readiness assessment will be conducted by staff experienced in similar kinds of work, with the right to examine all aspects of the task about to commence and to require that the subproject team provide documented evidence that any applicable requirements of the job have been met. During the implementation and operation phases of this subproject, all work will be performed under a Safety and Health Work Permit, and a Radiological Work Permit where applicable. Activity Hazard Reviews will be conducted to collect feedback from field workers. Waste handling and the collection of groundwater samples will be conducted in accordance with standard operating procedures, activity hazard analyses, and Integrated Safety Management plans.</p> <p>REQUIREMENTS/DRIVERS SCHEDULING ASSUMPTIONS</p> <p>Bechtel Jacobs Company LLC Contract DE-AC05-98OR22700, December 18, 1997. Site Management Plan, latest revision. Other regulatory-related requirements: CERCLA, RCRA, DOE Orders, State regulations. "Integrated Safety Management System Description," BJC-GM-1400, and "Integrated Safety Management System Supplement," BJC-GM-1401, latest revision of each document.</p> <p>WASTE VOLUMES</p> <p>Please see attached waste performance metrics, as applicable.</p>		

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<p>SUBPROJECT SCHEDULE</p> <p>The schedule for this subproject is based on the following major assumptions:</p> <ul style="list-style-type: none"> ? EPA and Kentucky regulators will adhere to agreed review and comment deadlines. ? Removal of Scrap Metal and DMSAs located in the BGOU SWMUs must be completed before installation of BGOU cover can be completed. "Removal of Scrap Metal and DMSAs" as used here also includes the removal of one foot of topsoil under the Scrap Metal and DMSAs. ? The field work associated with soil cover installation will last 90 days. ? The field work associated with installing the integrated BGOU groundwater monitoring system will last 150 days. ? Six quarterly sampling events will be conducted under this subproject. ? Eighteen months of chemical oxidation unit(s) operation will be conducted under this subproject. ? Activities related to the Mega-WAG IDW will begin in FY03 so that the IDW can be timely disposed of in the C-746-U landfill. ? Monthly precipitation will not exceed the 10-year average for that month by more than 50% during subproject field activities. ? Daily temperature lows will not fall below the record low more than twice for any 30-day period during subproject field activities. ? No security event will occur that increases existing PGDP security requirements. <p>Please reference attached Schedule for durations, start dates, and end dates for all major activities.</p> <p>EXECUTION BASELINE BY YEAR</p> <p>Please see attached Baseline by Year Report.</p>		

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