

Letter of Intent between the Department of Energy and the Commonwealth of Kentucky

Purpose

This Letter of Intent documents the commitment by the Commonwealth of Kentucky and the U.S. Department of Energy (DOE) to promote accelerated cleanup at the Paducah Gaseous Diffusion Plant (PGDP), develop integrated planning and funding requests, meet commitments under the Paducah Federal Facility Agreement (FFA), and settle all identified outstanding enforcement and compliance issues through an Agreed Order(s).

- The parties agree to accelerate risk reduction and complete cleanup in accordance with agreed upon scope and enforceable deadlines for completion of operable units. This approach establishes a bias for action and continuous improvement, recognizes and describes post completion activities and commitments until the final closure of the Plant, and settles all identified outstanding enforcement and compliance issues.
- This Letter of Intent is intended to be an integrated agreement between the parties addressing major issues at the PGDP under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the FFA, the Resource Conservation and Recovery Act (RCRA), and other federal and state environmental laws and regulations.

Understanding

The following statements document the commitments and agreements between the parties:

1. The parties share a desire to move forward and fundamentally transform the project. The parties share a vision to accomplish the agreed-upon scope by a mutually acceptable date, with a goal to achieve accelerated completion. Additionally, accelerated cleanup will be accomplished in a manner that is safe, protective of human health and the environment, and compliant with applicable Kentucky and Federal environmental laws.
2. DOE and its contractors bear the greatest responsibility to transform their business practices to accelerate cleanup. DOE and its contractors agree to take all necessary steps to accelerate risk reduction and to apply as large a percentage as possible of the Paducah site's budget to accelerated cleanup as a continuing and ongoing process.

3. The parties will be accountable for meeting their commitments. To this end, the parties agree that accelerated cleanup and meeting commitments are made more attainable with sufficient, stable, and predictable funding, good regulatory relationships, broad stakeholder support, and best management practices.
4. The parties agree to consider “risk reduction” as an important factor in setting priorities and cleanup strategies, and acknowledge a preference for cleanup strategies that reduce site-wide long-term stewardship requirements and costs, recognizing there are other factors that need to be considered including balancing risk to workers, the public, and the environment. In this regard, the parties agree to aggressively evaluate and implement where appropriate the targets of opportunity for accelerated risk reduction, including implementing a streamlined and focused decision process, as well as actions identified by the Top-to-Bottom Review. This includes the use of onsite disposal to maximize the use of resources available for cleanup.
5. The parties agree to focus resources on the following Operable Unit Strategic Initiatives, based on the assumptions described in Attachment 1 to this Letter of Intent:
 - D & D Operable Unit Strategic Initiative; completion date, 2017
 - Groundwater Operable Unit Strategic Initiative; completion date, 2010
 - Burial Grounds Operable Unit Strategic Initiative; completion date, 2019
 - Surface Water Operable Unit Strategic Initiative; completion date, 2017
 - Soils Operable Unit Strategic Initiative; completion date, 2015
6. The parties will enter into an Agreed Order(s) to settle all outstanding enforcement and compliance issues at the PGDP. The Agreed Order(s) will address outstanding compliance issues associated with F-listed waste, DOE Material Storage Areas (DMSAs), management of DUF6, and various other unresolved compliance issues at the site. The parties have set forth their agreement on the scope of the Agreed Order(s) and specific provisions that will be incorporated into such Order(s), in Attachment 2 to this Letter of Intent (hereinafter Attachment 2). The parties will execute the final Agreed Order(s) settling all outstanding enforcement and compliance issues at the site, by September 15, 2003.
7. The parties recognize the value of the U-landfill to ongoing DOE operations, including its value as a disposal facility for cleanup wastes meeting the landfill’s waste acceptance criteria (WAC) and derived from response/corrective actions undertaken pursuant to state and federal authorities. The parties will expedite final action on the pending permit modification requests to use the U-landfill to dispose of cleanup wastes, scrap metal, and other materials meeting the U-landfill permit requirements and WAC.

8. The parties agree that the universe of waste that may be accepted at the U-landfill will be determined by the U-landfill permit, as modified, and applicable laws and regulations, and will not be limited to the original information included in DOE's Notice of Intent to Apply, dated December 31, 1992.
9. The parties recognize that CERCLA Section 121(e)(1) may be used to expedite fieldwork and minimize procedural delay in implementing CERCLA response actions. The parties agree to seek and evaluate opportunities for use of CERCLA Section 121(e)(1). The parties agree that the substantive provisions that would be included in the permit (or permit modification) to support any given response action will be incorporated into the appropriate decision document for such response action.
10. By September 15, 2003, the Agreed Order(s) referenced in paragraph 6 will provide that the sampling and analysis protocol for conducting all environmental sampling at the site will be in accordance with USEPA's sampling and analysis protocol set forth in SW-846.
11. By September 15, 2003, the Agreed Order(s) referenced in paragraph 6 will contain Kentucky approved site-wide procedures and health-based levels for "contained-in" determinations with respect to all environmental media at the site. Those levels and procedures shall be consistent with the levels and procedures referenced in Attachment 2, under the heading "F-listed Waste-Specific Requirements." The parties agree that requirements for characterization and sampling to support "contained-in" determinations will be approved by Kentucky on a project specific basis.
12. The parties recognize that the agreement and cooperation of the USEPA is necessary to implement the approaches described in this Letter of Intent involving response actions under the FFA. The parties agree to seek USEPA's agreement and cooperation with respect to implementing all of these approaches, and modifying the FFA as necessary. If USEPA disagrees with one or more provisions of this Letter of Intent involving response actions under the FFA, any such provision(s) shall be considered null and void; however, the parties agree to carry out all other understandings and agreements set forth in any other provisions of this Letter of Intent.
13. By entering into this Letter of Intent and upon entry of an Agreed Order(s), the parties agree that DOE is in the process of correcting all alleged violations of laws, rules, or regulations

pertaining to environmental protection to the satisfaction of the Commonwealth of Kentucky within the meaning of KRS 224.40-330(3).

14. The parties will continue to meet regularly to ensure progress, solve problems, identify new initiatives, and to expedite and elevate issues so as to avoid undue delay. The parties also agree that the authority to make policy decisions and commitments resides with Senior Management.
15. DOE agrees that upon signature of the Letter of Intent, and upon entry of an Agreed Order(s), it will inform the appropriate budget committees of Congress in writing that the PGDP should be considered eligible for additional funding identified by Congress as contingent upon an Accelerated Cleanup Agreement.
16. Unless the parties agree otherwise in writing, this Letter of Intent will expire on October 1, 2003.

We the undersigned are committed to work together, to seek additional opportunities to accelerate and improve cleanup, and to find practical solutions that overcome barriers to success.

Paul E. Patton
Governor
Commonwealth of Kentucky



Jessie Hill Roberson
Assistant Secretary for
Environmental Management
U.S. Department of Energy



Attachments

**TO LETTER OF INTENT BETWEEN THE DEPARTMENT OF ENERGY AND THE
COMMONWEALTH OF KENTUCKY**

OPERABLE UNIT STRATEGIC INITIATIVES

D&D Operable Unit

The scope of this project includes D&D of the C-410 and C-340 Facilities as well as the other 15 inactive DOE facilities, assuming the use of CERCLA removal actions implemented in accordance with the Federal Facility Agreement. The D&D strategy includes implementation of a phased approach, sequenced as follows: 1) stabilization, removal, and disposition of the infrastructure at C-410 (e.g., process piping, equipment, stored material); 2) stabilization, removal, and disposition of the infrastructure at C-340; 3) demolition and disposition of the C-410 and C-340 structures to grade/building slab; and 4) D&D of the remaining 15 inactive DOE facilities will be scheduled as needed to balance resources. This strategy is intended to take advantage of maintaining a trained work-force during infrastructure removal as well as maximize opportunities for achieving cost-efficiencies and economies of scale through coordination of structure demolition at C-410 and C-340. The goal of this strategy is to accelerate this project, assuming a combination of both on- and off-site disposal options are available. The building slabs and any potential underlying contamination will be investigated and remediated as necessary as part of final D&D of the operating Gaseous Diffusion Plant once it ceases operation.

Groundwater Operable Unit

The scope of the groundwater operable unit is the identification, investigation, evaluation of risk and remedial alternatives, and selection and implementation of actions necessary to achieve protection of human health from exposure to groundwater contamination. The strategy includes a phased approach consisting of the following steps: 1) prevent human exposure, 2) reduce, control, or minimize groundwater source areas contributing to off-site contamination; and 3) evaluate and select long-term solutions for the off-site dissolved phase groundwater plumes for protection of human health and the environment. Early actions have already been implemented to prevent exposure and reduce further off-site migration of contaminant plumes including implementation of the water policy and construction and on-going operation of the northwest and northeast groundwater treatment systems. The current focus of the strategy has shifted to actions necessary to reduce, control, or minimize source areas with emphasis on accelerated early action at the C-400 area – the largest DNAPL source contributing to off-site contamination. The schedule for the C-400 early action is defined by the April 15 SMP Dispute Agreement, which requires submittal of a Proposed Plan (D1) to the regulators by January 30, 2004. Concurrent with the C-400 early action, additional investigation will be conducted to identify and evaluate the source area(s) contributing to the southwest plume, which has a sampling and analysis plan scheduled for submittal on October 30, 2003. The short-term goal is to accelerate completion of early actions at the major DNAPL sources areas [i.e., C-400, Southwest Plume Source(s)] contributing to off-site contamination by 2010, assuming successful deployment of the 6-Phase treatment technology. Subsequently, any remaining ground water contaminant sources and long-term solutions for off-

site dissolved phase ground water plumes will be evaluated and remedies implemented, as necessary, to complete actions under this Operable Unit.

Burial Grounds Operable Unit

The scope of this project includes a remedial investigation, baseline risk assessment, evaluation of remedial alternatives/feasibility study, remedy selection, and implementation of actions as necessary for protection of human health and the environment, for the following burial grounds: 1) C-749 (SWMU 2); 2) C-404 (SWMU 3); 3) C-747 (SWMU 4); C-746-F (SWMU 5); C-747-B (SWMU 6); C-747-A (SWMUs 7&30); and, SWMU 145, which includes both the residential/inert borrow area and old north-south ditch disposal trench. The strategy for this project includes a phased approach with the initial phase focused on: 1) acceleration of investigation and actions at burial grounds with potential sources that pose a current off-site groundwater risk; and, 2) implementation of mitigating actions necessary for protection of plant workers during the continued operation of the Gaseous Diffusion Plant. Investigation, risk evaluation, and potential implementation of removal/remedial actions for groundwater contamination located in the vicinity of the C-747 Burial Ground (SWMU4) is being proposed for acceleration by inclusion of that scope into the Southwest Plume/Sources Project, which has a sampling and analysis plan (D1) due by October 30, 2003. The proposed schedule for initiating the investigation for the remaining burial grounds is defined by the April 15 SMP Dispute Agreement, which requires submittal of a remedial investigation work plan (D1) to the regulators by June 30, 2005. The actual scope of the action and schedule for implementation/completion associated with the remaining burial grounds will be defined upon completion of the remedial investigation/feasibility study and documented in the record of decision and remedial action work plan. The goal of the proposed strategy is to accelerate completion of this project, based upon DOE's assumption of in-situ covers supplemented by a groundwater performance monitoring system. The second phase of the strategy, which will be implemented as part of D&D of the operating Gaseous Diffusion Plant, will include evaluation of the long-term effectiveness of the existing remedies, supplemented by additional actions as necessary to achieve protectiveness consistent with the future end-state objectives associated with post-plant shutdown conditions.

Surface Water Operable Unit

The scope of this project includes investigation, baseline risk assessment, evaluation of cleanup alternatives, remedy selection, and implementation of removal/remedial actions as necessary. The strategy includes a phased approach consisting of the following steps: 1) Prevent human exposure; 2) Prevent or minimize further off-site migration; 3) Reduce, control, or minimize surface water sources contributing to off-site contamination; and 4) Evaluate and select long-term solutions for off-site surface water contamination to protect human health and the environment. Off-site surface water areas have already undergone initial characterization as part of the CERCLA Administrative Consent Order and DOE's on-going environmental monitoring program. In addition, a series of early actions associated with the strategic objectives to prevent exposure, prevent/minimize further off-site migration, and reduce/control or minimize source releases have either been completed or are currently underway. Early actions include controls to prevent access to contaminated areas of Big and Little Bayou Creeks; fish advisories; actions to reduce off-site migration, including re-routing surface water discharges and installation of storm water basins at North South Diversion Ditch (NSDD) and Outfall Ditch 001; previous PCB hot spot removals associated with Waste Area Group 23, Outfall Ditch 011, and the C-333-A and C-

337-A vaporizers; removal of drum mountain; as well as on-going actions to remove approximately 54,000 tons of scrap metal and excavation/removal of source material associated with the NSDD (Sections 1 & 2). In conjunction with these early actions, additional investigation will be conducted as part of the Surface Water Phase I Assessment to identify hot spot areas associated with the internal plant ditches, outfalls, and Sections 3, 4, and 5 of the NSDD that may warrant early action, as well as an evaluation of whether additional sediment controls are necessary. In accordance with the April 15, 2003 SMP Dispute Agreement, a sampling and analysis plan (D1) is due to the regulators on April 30, 2004. The goal of this strategy is to accelerate completion of any necessary actions associated with the internal ditches, storm sewers (not affecting plant operations), Outfalls, and Big and Little Bayou Creeks.

Soils Operable Unit

The scope of this project includes investigation, baseline risk assessment, evaluation of cleanup alternatives, remedy selection, and implementation of removal/remedial actions as necessary. The strategy includes a phased approach consisting of two initial removal actions implemented during plant operations and a final remedial action implemented as part of the final D&D of the Gaseous Diffusion Plant once it ceases operation. The first early removal action will be implemented immediately following completion of the scrap metal project and outside DMSAs, addressing the potentially contaminated underlying surface soils. The second removal action will focus on the identification and mitigation of additional soil hot spots associated with radionuclide and PCB contamination from the remaining plant areas that are accessible and not impacted by plant operations. The objective of these initial removal actions is to ensure protection of plant workers within industrial areas during the continued operation of the Gaseous Diffusion Plant. The goal of this strategy is to accelerate this project, assuming a target cleanup level of 10^{-4} risk for interim and removal actions conducted within industrial areas inside the security fence. The final remedial action will be implemented as part of the final D&D of the Gaseous Diffusion Plant once it ceases operation, focusing on achieving protectiveness of human health and the environment consistent with the future end-state objectives associated with post-plant shutdown conditions, as well as other contaminants of concern and areas that were not readily accessible during plant operations.

Comprehensive Site Operable Unit

The site cleanup strategy consists of a two-phased approach, including a series of actions implemented during plant operations and a second series of actions implemented after the plant ceases operations. The primary objective of the first phase, which includes actions associated with the five operable units, is intended to prevent both on-site and off-site human exposure, actions necessary to ensure safe environmental conditions for industrial workers during on-going plant operations, and actions that provide the greatest opportunity for risk reduction. The second phase of site cleanup will be implemented when the Plant ceases operation and will include D&D of the operating Gaseous Diffusion Plant, as well as other actions necessary for achieving protectiveness of human health and the environment consistent with the future end-state objectives associated with post-plant shutdown conditions. Six months prior to plant shutdown, the parties will initiate negotiations to reach agreement on enforceable completion dates for the second phase of site cleanup.

ATTACHMENT 2
TO LETTER OF INTENT BETWEEN THE DEPARTMENT OF ENERGY AND THE
COMMONWEALTH OF KENTUCKY

SETTLEMENT PROVISIONS FOR AN AGREED ORDER(S)
RESOLVING ALL OUTSTANDING COMPLIANCE ISSUES AT THE SITE

Closure and post-closure activities for units where F-listed hazardous waste is or may be discovered (U, S, T, landfills, DMSAs, and other areas where the approximately 5,100 containers are stored) and for all DMSAs where hazardous waste is or may be discovered.

-Closure and post-closure only required for units where hazardous waste discovered and which has been stored in excess of the time frames established in the KAR; and closure/post-closure only required where contained-in levels (see below) exceeded.

-Inside units. Agreed Order will defer closure/post-closure directly to response actions to be selected and implemented under the FFA.

-Outside units. Agreed Order will establish an option for DOE to (1) conduct final closure in the near term (1 x 10⁻⁶); HI 1) or (2) conduct partial closure (1 x 10⁻⁴); HI 3), excluding groundwater and subsurface soils, and defer final closure/post-closure and groundwater and subsurface soils directly to response actions to be selected under the FFA.

-For all units. Corrective action for groundwater will not be required for any unit under the Agreed Order, unless substantial evidence affirmatively establishes that a COC in groundwater is a result of a release of hazardous waste or hazardous constituents from that unit. Corrective action for groundwater so linked to a unit will be deferred to response actions to be selected and implemented under the FFA. The Agreed Order will clarify the standard for "clean closure" for units where there is no substantial evidence establishing a release to groundwater. Such standard will not require cleanup to non-detect/background levels. Part B permits and post-closure permits will not be required in accordance with CERCLA 121(e)(1).

-For all units deferred to the FFA. Closure, post-closure, and groundwater protection standards will be considered, and selected (or waived) as appropriate, as ARARs in accordance with CERCLA and FFA processes and standards. Units will be treated as SWMUs under the FFA. The CERCLA requirements, including the CERCLA nine criteria for selecting remedial actions (as well as ARARs), will guide selection of a response action for the units. Schedules for selecting and implementing a response action for all units will be established by FFA procedures.

-The Parties agree that the groundwater remediation decision process will consider Alternative Contaminant Levels, alternative points of compliance, natural attenuation, cost-effectiveness (as required by CERCLA) and technical practicability. Kentucky agrees that entry of an Agreed Order(s) resolving hazardous waste violations will not preclude consideration of Alternative Contaminant Levels, alternative points of compliance, natural attenuation, cost-effectiveness (as required by CERCLA) and technical practicability with respect to groundwater remediation decisions.

F-listed Waste-Specific Requirements

-A Characterization Plan for the estimated 5,100 containers that may contain listed hazardous waste will be submitted, approved, and implemented pursuant to the Agreed Order. DOE is in the process of completing its screening of existing container information to determine the exact number of containers that may contain listed hazardous waste and thus require characterization. The final number of containers will be determined by September 15, 2003, will be subject to approval by Kentucky, and will be identified in an appendix to the Agreed Order. Compliance activities under the Agreed Order will include completion of characterization by September 30, 2007, but will not include treatment/disposal of the estimated 5,100 containers. Management requirements applicable to

containers during characterization activities will be risk-based. Any hazardous waste discovered above established contained-in levels in any of the estimated 5,100 containers through implementing the Characterization Plan will be removed to available permitted storage within 10 days of a hazardous waste determination.

-The Agreed Order will contain a definitive determination that no listed wastes exceeding established contained-in levels were disposed in the U-landfill, and accordingly, no closure, post-closure, or groundwater corrective action or remediation is required for the landfill under Subtitle C with respect to potential disposal of listed waste in the landfill. (Note: This position is based on recent sampling results from the U-landfill. DOE provided the sampling results to the Cabinet by letter dated July 23, 2003.)

-As part of the negotiations for an Agreed Order, Kentucky will consider recently developed information indicating that listed waste was not disposed in the T-landfill. The Agreed Order will not address closure/post-closure of the T-landfill as a hazardous waste unit, unless there is credible analytical data or other substantial evidence affirmatively demonstrating that listed waste was actually disposed in the landfill. DOE proposes that the Kentucky Consortium for Energy and Environment, whose principal partner is the University of Kentucky, conduct sampling of the landfill to validate DOE's information.

-As part of negotiations for an Agreed Order, the parties will address any closure/post-closure requirements that might apply to the S-landfill.

-Contained-in levels for groundwater destined for treatment and discharge at on-site KPDES permitted treatment units (e.g., groundwater resulting from well-purging, well development, and well sampling) and for solids will be established in the Agreed Order. The contained-in level for such groundwater will be a health-based level for TCE that is approved by Kentucky. The contained-in level for solids will be 39.2 ppm for TCE. These levels are consistent with levels currently being discussed with the Cabinet. Only waste exhibiting TCE in excess of the above referenced contained-in levels will trigger closure/post-closure requirements for the unit (excluding groundwater) containing such waste. A characterization protocol for solids, the above-referenced groundwater, media, and debris will be established and appended to the Agreed Order. The protocol will set forth general agreements on issues such as sampling frequency, the use of SW-846, and acceptable methods for applying contained-in levels to debris. Requirements for characterization and sampling to support "contained-in" determinations will be approved by Kentucky on a project specific basis.

DMSA-Specific Requirements

-Characterization Schedule for DMSAs. Priority A - September 30, 2004, Priority B- September 30, 2006, Priority C - September 30, 2009, C-400-05 - September 30, 2004.

-Permitted Storage. Any hazardous waste discovered in any of the DMSAs must be removed to available on-site permitted storage within 10 days of a hazardous waste determination.

Penalty

-Base Penalty amount will be \$1,000,000 to be paid in installments, plus \$200,000 for environmental projects.

-The stipulated penalty provisions of the Agreed Order will reflect a stipulated penalty of up to \$5,000 for the first week (or part thereof) and up to \$10,000 for each additional week (or part thereof). Stipulated penalties will be in lieu of statutory penalties. No stipulated penalties will be assessed for failure to pay stipulated penalties. The assessment of stipulated penalties will be subject to the consultation process of the Agreed Order. Stipulated penalties will not be payable until any appeals relevant to the assessment of the penalties have been completed.

Release

-Release will cover DOE for violations known to exist in the DOE Material Storage Areas and that have been or may be found in the DMSAs through the implementation of the Characterization Plan (exact language to be worked out in an Agreed Order). Release will include known violations associated with F-listed waste and those that have been or may be found through implementation of the F-listed waste Characterization Plan for the estimated 5,100 containers. DOE understands "release" to mean complete relief from further enforcement action by the Commonwealth, administrative (including permitting actions) and judicial, with respect to both the aforementioned alleged violations and the activities necessary to "come into compliance" (referred to in the Commonwealth's previous DMSA draft Agreed Order as "remedial measures"). The scope of the release will also include other identified alleged violations that are the subject of pending administrative complaints and any and all violations alleged in outstanding NOV's at the PGDP.

Miscellaneous Provisions

-Consultation. The consultation process in the Agreed Order will apply to any and all disputes that may arise under the Agreed Order. Final determinations arising from the consultation process will be subject to administrative and/or judicial review according to applicable law. A time frame for the state actions (e.g., final determinations) under the consultation process will be established. (DOE would like to explore with the state alternative and creative methods for expeditiously resolving technical disputes.)

-Extensions. The Agreed Order will require the approval of an extension request, when good cause exists for the requested extension. Denial of an extension request will be subject to the consultation process of the Agreed Order, and upon completion of the consultation process, administrative and/or judicial review. The Agreed Order will articulate what constitutes good cause.

-Force Majeure. Force Majeure provisions will allow for "consultation" for disagreements relating to implementation of the Force Majeure provisions and will not require notice of "anticipated" events which may cause a delay in compliance with the Agreed Order.

-Transfer. DOE's responsibility under the Agreed Order in event of a transfer of ownership and/or operation will be clarified, relevant to the scope of the Agreed Order, and consistent with limits on DOE's authority.

-Reservation. Agreed Order will not require DOE to acknowledge independent applicability of closure/post-closure/corrective action requirements under state law and the Agreed Order. The Commonwealth may reserve its arguments in this regard.

-Budget. Budget provisions will omit reference to E.O. 12088 and the pre-budget briefing/information requirements.

-Other provisions. Provisions of the Agreed Order will build on provisions of the Commonwealth's last F-listed waste proposal and agreements reached in F-listed waste negotiations. DOE assumes that the provisions of those previous proposals with which DOE has voiced its affirmative agreement will be incorporated into the Agreed Order. All other matters would need to be discussed and finally resolved.

Resolving Issues Associated with DUF6

-Resolution of this issue will be consistent with DUF6 agreements DOE has already entered into with Tennessee and Ohio, and will take into consideration site-specific circumstances and updated information and procedures.