

**TECHNICAL ASSISTANCE REQUEST
COLUMBUS CLOSURE PROJECT
CCP 03-01-1**

INDEPENDENT REVIEW OF LOADING AND UNLOADING THE RH-72B CASK

SECTION 1 -- APPROVALS FOR TECHNICAL ASSISTANCE

_____ Contractor Site Representative	_____ OST/HQ Program Manager
_____ DOE Site Manager	_____ OST/HQ Office Director
_____ DOE OH Manager	

SECTION 2 -- BACKGROUND AND PROBLEM DESCRIPTION:

The Battelle Columbus Laboratories Decommissioning Project (BCLDP) is removing residual radioactive contamination from Battelle facilities and grounds located at Battelle's site near West Jefferson, Ohio. Transuranic (TRU) waste resulting from decontaminating nuclear hot cells is to be shipped to the U.S. Department of Energy's Hanford facility. The majority of the TRU waste drums to be shipped from West Jefferson to Hanford will use the 10-160B cask because the 10-160B is capable of shipping up to 10 drums at a time. Successful shipment of TRU waste from West Jefferson to Hanford has begun in the 10-160B cask. However, a few of the TRU waste drums to be shipped are outside the limits approved for the 10-160B cask but are within the approved limits of the RH-72B cask. The RH-72B cask was specifically designed for transporting TRU waste to WIPP, but was not intended for inter-site shipments.

The RH-72B cask has never been evaluated for loading/unloading without highly specialized equipment. The initial approach to loading and unloading the RH-72B cask will be based on the experience to date with the 10-160B cask. Modifications to existing equipment and documentation will be incorporated to account for differences between the two casks in order to establish an initial approach for a "cold" Mock-up of the loading and unloading operations. The Mock-up will be used to develop the approach for a subsequent shipment of RH-TRU waste drums in the RH-72B cask from small quantity generator sites.

This Technical Assistance Team (TA) will be requested to focus on independently reviewing the loading and unloading operations for the RH-72B cask and recommending improvements needed to more effectively perform the work. The primary objective is to assure successful shipment of remote-handled (RH) TRU waste from Battelle's West Jefferson site to the Hanford site for interim storage until the TRU waste can be shipped to WIPP.

SECTION 3 -- SCOPE:

The purpose of the requested TA Team is to examine the initial approach and recommend improvements (e.g. procedures, hardware) needed to more effectively load and unload the RH-72B cask. The need for improvements will be driven by the Team's analysis.

Phase 1 is a “cold” Mock-up of loading an RH-72B cask with simulated TRU waste drums in building JN-1 at the West Jefferson site followed by unloading the cask at a designated location at the Hanford site. The mock-up will be performed using materials, equipment and procedures similar to those currently in place for loading and unloading the 10-160B cask. During Phase 1 the TA Team will observe the loading and unloading operations and provide the site with its lessons learned and recommendations for improvements. These recommendations will be reviewed and implemented by the site, as appropriate, prior to phase 2.

Phase 2 is a shipment of actual RH-TRU waste from the West Jefferson site to the Hanford site utilizing the improved materials, equipment and procedures. For Phase 2 the TA Team will again observe operations and provide the site with its lessons learned and recommendations for improvements applicable to subsequent RH-72B shipments. In addition to meeting BCLDP’s shipment needs, this is expected to provide excellent experience applicable to other RH-72B users.

The Team will be provided with background information concerning the situation being addressed, and will be made aware of any proposed resolutions of issues, prior to visits to the West Jefferson and Hanford sites. Upon arrival, the Team will be given the scope of the study and the expectations of management. The contractor will provide a briefing on the current plans for loading and unloading. The Team will observe the loading and unloading and have any questions answered before addressing the study objectives.

The Team will be expected to independently develop and recommend technical approaches to improve the present BCLDP approach. In addition to reduction in risk, the alternatives proposed should offer improvements over the cost and schedule for the present methodology.

SECTION 4 -- SCHEDULING REQUIREMENTS:

Consistent with the present site D&D schedule for JN-1 and the sequence of work, it will be helpful if Phase 1 (Mockup) of the requested TA can be accomplished by June 2003. The first shipment of TRU waste to Hanford in a 10-160B cask was conducted in December 2002 and the second shipment was in February 2003. The first TRU waste shipment in a RH-72B cask is planned for August 2003.

SECTION 5 -- BENEFITS:

The primary benefits from the TA Team assistance will be to improve the BCLDP approach, if possible, by identifying improvements such as those applicable to materials, equipment and procedures for loading and unloading the RH-72B cask. Specific areas to be addressed by the TA Team include:

- a. Review the necessary materials, equipment and documentation directly related to loading and unloading Mock-up and TRU waste drums into / out of the RH-72B cask. Determine any additional needs.
- b. Observe the Mock-up (Phase 1) and TRU waste drums (Phase 2) loading and unloading operations. Recommend improvements to be implemented for subsequent loading and unloading of TRU waste drums.

The cost estimate to complete this TA is about \$100,000, and it is anticipated that a cost avoidance of approximately \$500,000 or more should result from TA recommendations in the areas listed above.

SECTION 6 -- DELIVERABLES:

Any recommended alternatives are to be developed to the extent possible and presented to DOE and Contractor management as a draft final report prior to leaving the sites. It is anticipated that after completion of the final report, some portion of the team will be made available for consultation during the course of implementing any improvements. The consultation may range from phone calls to site visits either individually or as part of a team. Team members should be available to assist with subsequent RH-TRU shipments from other small quantity sites.