TECHNICAL ASSISTANCE REQUEST
COLUMBUS CLOSURE PROJECT
CCP 03-04-1

INDEPENDENT REVIEW OF THE REMOVAL OF
RADIOACTIVE HOT CELL STRUCTURES IN BUILDING JN-1

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:

In building JN-1, the High Energy Cell (HEC), the High Level Cell (HLC) and the Low Level Cell (LLC) are the three hot cells which are scheduled for decontamination, fixation of contaminates, demolition, removal and disposal of the debris. Building JN-1 is part of the Battelle Columbus Laboratories Decomissioning Project (BCLDP). JN-1 is on the Battelle West Jefferson site which is located near a residential area and is currently used as an industrial site concurrently with the cleanup activities.

The current BCLDP baseline identifies the use of a water recycled diamond wire cutting process to remove the massive hot cell walls in the JN-1 Hot Cell Facility. This methodology was selected to minimize the generation of TRU level waste, minimize the volume of LLW to be shipped, minimize exposure of contaminated surfaces, and minimize the radiological containment required for the cell's removal. Based on the high levels of dose and contamination anticipated at the time Baseline Revision 3 was prepared, the diamond wire saw was concluded to be the fastest, safest and lowest cost approach.

Recent progress in the gross decontamination of the High Energy Cell (HEC) has exceeded expectations in that the contamination and dose levels are much lower than anticipated and may become sufficiently low to enable other hot cell removal technologies to be more cost effective and quicker than diamond wire sawing. Gross decontamination of the High Level Cell (HLC) and the Low Level Cell (LLC) has already have been successfully completed. Also, low level waste disposal costs have changed since the baseline cost estimates were completed. It may be feasible to remove all of these JN-1 hot cells more aggressively than was planned in the baseline.

This Technical Assistance (TA) Team will be requested to independently review the baseline approach to removal of the High Energy Cell, the High Level Cell and the Low Level Cell. The Team will develop alternative approaches to remove the hot cells and evaluate these approaches based on BCLDP project objectives including Life Cycle Cost. It will recommend optimum methods for the overall approach including the decontamination, fixation of contaminates, demolition, removal and disposal of the hot cell structures in building JN-1.

SECTION 3 -- SCOPE:
The BCLDP has developed a plan for removal of the hot cells in building JN-1, based on the previously projected high levels of contamination. The Team will independently develop, evaluate and recommend any currently available technologies or different technical approaches to improve the proposed approach. The alternatives proposed should offer improvements over the cost, schedule and/or risk resulting from improvements compared to the baseline methodology.

The Team will be provided with background information concerning the problems being addressed, and will be made aware of the proposed technical solutions for those problems prior to the site visit. 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 baseline estimates for removal of the HEC, the HLC and the LLC. The Team will tour building JN-1 with the contractor and have any questions answered before addressing the study objectives.

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 the requested TA can be accomplished by May 2003. Preparation of the technical specification(s) for subcontracted demolition of the JN-1 Building are starting now. A decision on how to dismantle the hot cells and whether it should be performed by the site prime contractor or a subcontractor separately or in concert with the building demolition must be made by this summer.

SECTION 5 -- BENEFITS:
The overall benefits from the TA Team assistance will be to improve the BCLDP plan by evaluating existing conditions and assumptions and, if possible, identifying better technologies and processes to determine the optimum approach for removal of the hot cells in building JN-1, which is on the critical path of the BCLDP closure. Specific problem areas to be addressed by the TA Team are:

a. Review the previous radiological data and evaluate how that data was used in establishing the current baseline approach and preparing the current baseline estimates. Review the current radiological data.
b. Assess the potential for generating TRU waste and techniques which may employed to avoid generating TRU waste, based on the current radiological data.
c. Based on current conditions, evaluate alternative approaches for removal of the HEC, LLC and HLC using a Life Cycle Cost approach. Recommend improved methods for removal of the HEC, HLC, and LLC. Explain the significant reasons for selection of the recommendations including cost, schedule and risk impacts.

The cost estimate to complete this TA is about $50,000, and it is anticipated that a cost avoidance of approximately $200,000 or more should result from TA recommendations in the areas listed above.

SECTION 6 -- DELIVERABLES:
Any recommended alternatives will be developed to the extent possible and presented to DOE and Contractor management as a draft final report prior to leaving the site. 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 removal of JN-1 hot cells. The consultation may range from phone calls to site visits either individually or as part of a team.