

Meeting Minutes Transmittal

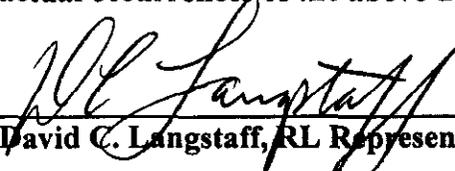
324 REC/HLV
 Project Managers' Meeting
 Federal Building/Room 554
 Richland, Washington

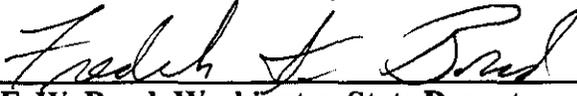
December 19, 2000
 2:30 p.m. to 3:30 p.m.

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The undersigned indicate by their signatures that these meetings minutes reflect the actual occurrences of the above dated Unit Managers Meeting.


 _____ Date: 2/8/01
 David C. Langstaff, RL Representative


 _____ Date: 2-7-01
 F. W. Bond, Washington State Department of Ecology


 _____ Date: 02/07/01
 D. E. Rasmussen, Contractor Representative, FH

Meeting Minutes are attached. The minutes are comprised of the following:

- Attachment 1 - Agenda
- Attachment 2 - Summary of Discussion and Commitments/Agreements
- Attachment 3 - Attendance List
- Attachment 4 - 324 Building B-Cell Activities Information 12/18/00
- Attachment 5 - 324 Building B-Cell Highlights (through 12/11/00) for 12/19/00 PMM
- Attachment 6 - 324 Building - Tri-Party Agreement Milestone M-89-02 Checklist
- Attachment 7 - 324 Building - Tri-Party Agreement Milestone M-89-02 Checklist Showing Status as of November 1, 2000
- Attachment 8 - Size Reduction of Non-Mixed Waste Equipment from 324 Building D-Cell (12/18/00)
- Attachment 9 - Issue Summary and Status (11/20/00) - High Dose Rates on Bottom of 324 Building Steel Waste Disposal Boxes (SWDBs) Containing B-Cell Mixed Waste

Attachment 1

**324 REC/HLV
Project Managers' Meeting
Federal Building/Room 554
Richland, Washington**

**December 19, 2000
2:30 – 3:30 p.m.**

AGENDA

1. Introduction(s)
2. Previous meeting minutes
3. B-Cell cleanout project status
 - a. M-89-02 Milestone recovery plan schedule and status
 - b. Recent progress/highlights
 - c. M-89-02 actions/performance standards checklist (11/29/00 workshop)
 - d. Future size reduction of non-mixed waste equipment from D-Cell
4. Action item review
 - a. Conduct M-89-02 checklist workshop meeting 11/29/00
 - b. Provide Ecology with updated issue/problem description for B-Cell mixed waste containers high bottom dose rates and potential impact on M-89-02 activities
 - c. Other action(s)
5. Other topics/discussions
 - a. Future 324 Building visits/workshops as appropriate
 - b. IAMIT meeting 11/14/00 included M-89-02
 - c. Other topics
6. Schedule next meeting

Attachment 2

324 REC/HLV Project Managers Meeting Federal Building, Room 554 Richland, Washington

**December 19, 2000
2:30 p.m. - 3:30 p.m.**

1. Introduction(s)

There were no new introductions.

2. Previous Meeting Minutes

The October 12, 2000, and November 9, 2000, Project Manager Meeting (PMM) minutes were approved.

3. B-Cell cleanout project status

a. M-89-02 Milestone recovery plan schedule and status

T. Erickson (FH) reported that FH is slightly ahead of schedule for meeting the revised schedule date of March 30, 2001. Repair of the 30-ton crane is ongoing, and it is expected to be operational before the planned January 7, 2001, date, which will allow the shipment campaign to begin earlier than scheduled. T. Erickson noted that in-cell work is the critical path, and it is on schedule.

The shipment issue regarding steel waste disposal box (SWDB) bottom hot spots dose rates less than 1000 millirem/hr (1R) has been resolved with the Central Waste Complex (CWC). Resolution of the issue regarding SWDBs with bottom hot spots dose rates greater than 1000 millirem/hr is still being actively pursued. The CWC has committed to complete an authorization basis revision and submit it to the U.S. Department of Energy, Richland Operations Office (RL) by January 19, 2001; RL has committed to approve the revision by January 24, 2001.

R. Bond (Ecology) inquired about an SWDB that was previously reported to have a high bottom dose rate. D. Rasmussen (FH) responded that the SWDB that was predicted to have bottom hot spots up to 17,000 millirem per hour is still on hold in B-Cell, and that the authorization basis change, when approved, will allow CWC to accept the SWDB. T. Erickson added that regardless of the authorization basis approval at CWC, the high dose rate SWDB will be loaded out of B-Cell to the 90-day area for staging.

b. Recent progress/highlights

Two handouts were distributed detailing the recent progress of B-Cell cleanout (Attachments 4 and 5). There have been five loadouts and four shipments of SWDBs. The new camera was installed in B-Cell, which provides superior viewing of the cell. The glass canister storage rack was removed last week.

c. M-89-02 actions/performance standards checklist (11/29/00 workshop)

D. Rasmussen (FH) distributed a revised checklist, which incorporates the Washington State Department of Ecology's (Ecology) comments from the November 29, 2000, workshop, and also provides a blank format based on discussion at the workshop. J. Perry (FH) referred to a question posed by T. Heggen-Masterson (Ecology) regarding the mechanism for documenting agreements. R. Bond responded that documenting agreements through the PMM minutes is acceptable. R. Bond also agreed to attaching the revised checklist to today's minutes, which would indicate Ecology's concurrence with the checklist (Attachment 6). The checklist showing milestone status as of November 2, 2000, was also provided (Attachment 7).

A status of the checklist will be provided at each PMM.

d. Future size reduction of non-mixed waste equipment from D-Cell

D. Rasmussen distributed a three-page handout describing future size-reduction plans for D-Cell (Attachment 8), and suggested scheduling a workshop to discuss the handout in an effort to resolve any issues or concerns before work commences in D-Cell. D. Langstaff (RL) provided a brief background of activities in D-Cell: 1) storage of a 55-gallon drum which had been used to collect oil-soak vermiculite; and 2) use of a processing skid, designed to process the high level vault mixed waste liquids. As a result of these two items, limited RCRA closure activities are required by the 324 REC Closure Plan (DOE/RL-96-73, Revision 1).

A workshop was scheduled for January 10, 2001, to focus on D-Cell work scope relative to the 324 REC Closure Plan. A videotape of B-Cell, taken with the new camera, will also be provided.

4. Action Item Review

a. Schedule M-89-02 checklist workshop meeting 11-29-00

A workshop was held November 29, 2000.

b. Provide weekly updated issue/problem description for B-Cell mixed waste containers high bottom dose rates and potential impact on M-89-02 activities

This item was provided in a November 22, 2000, e-mail to Ecology. D. Rasmussen provided copies of the e-mail (Attachment 9).

c. Other actions

There were no new actions to discuss.

5. Other topics/discussion

a. Future 324 Building visits/workshops as appropriate

A workshop was scheduled for January 10, 2001, to discuss planned D-Cell work scope.

b. IAMIT meeting 11/14/00 included M-89-02

D. Rasmussen reported that the appropriate documentation was provided at the IAMIT meeting.

c. Other topics

D. Langstaff initiated a discussion regarding two items of correspondence, which were discussed during the 11/29/00 workshop meeting: 1) a transmittal letter from RL to Ecology providing the M-89-02 revised schedule; and 2) providing Ecology with detailed supporting documentation explaining the basis for the schedule revision. RL plans to transmit the revised schedule to Ecology by the next PMM (January 11, 2001), and provide the supporting documentation during the January 11, 2001 PMM.

R. Bond stated that Ecology has sent a letter to RL stating that the M-89-02 milestone was missed, and that Ecology would like to see a revised schedule by January 5, 2001. However, R. Bond stated that receipt of the revised schedule by the January 11, 2001, PMM date is acceptable.

D. Langstaff proposed addressing guidelines for correspondence between Ecology and RL. RL will take the initiative to present guidelines information at the next PMM.

6. Schedule Next Meeting

The next meeting was scheduled for January 11, 2001, at 1:00 p.m. at the Federal Building in Richland, Washington.

Attachment 3

Attendance List

Meeting Title: 324 Building REC/HLV Project Managers Meeting (PMM)

Date: December 19, 2000

Original included in hard copy.

Name	Company	Phone Number
DAVID C. LANGSTAFF	DOE /RL	376-5580
David W. Templeton	DOE/RL FTD	272-2966
NED KROHN	FH-324 BLDG-	373-1538
TIMOTHY L ERICKSON	FH-324 PROJECT	373-0295
Matthew Barnett	FH-RCP	373-2928
David E. Rasmussen	FH-RCP-324/327	376-3288
Rick Bond	Ecology	736-3007
GEOB GIBBO	FH/TGA	373-3285
Jon Perry	FH-RCP	376-4991
Alvin A. Williams	DOE/RL RCA	372-0586

Attachment 3

Attendance List

Meeting Title: 324 Building REC/HLV Project Managers Meeting (PMM)

Date: December 19, 2000

Original included in hard copy.

Name	Company	Phone Number
David C. Langstaff	DOE-RL	376-5580
David W. Templeton	DOE-RL FTD	373-2966
Ned Krohn	FH 324 Bldg	373-1538
Timothy L. Erickson	FH 324 Project	373-0295
J. Matthew Barnett	FH RCP	373-2928
David E. Rasmussen	FH RC 324/327	376-3288
Rick Bond	Ecology	736-3007
Rob Piippo	FH TPA	373-3285
Jon Perry	FH RCP	376-4791
Gloria A. Williams	DOE-RL RCA	372-0586

Attachment 4

324 Building B-Cell Activities Information 12/18/00

324 Building Deactivation Project - B-Cell Path Forward Information 12/18/00

Activities performed last week December 11-17, 2000:

Mixed waste (MW) Activities

- Steel Waste Disposal Box (SWDB) Container MW Shipments to 200 Area
 - No SWDB shipments planned for last week
 - Based on RL review of EP-0063 exception request, actions are in progress to amend CWC authorization basis documentation consistent with acceptance of SDWBs with bottom hot spots exceeding 1000 millirem/hr
- SWDB Loadouts and staging of SWDBs for shipment
 - Loadout of RGC-324-00-117 (formerly referred to as RGC-9) remained on hold due to predicted/calculated SWDB bottom hot spots exceeding 1000 millirem/hr
- Filling/Loading MW items into Rectangular Grout Containers (RGCs) within B-Cell
 - Completed loading of MW items into RGC-324-00-104

Non-Mixed Waste (non-MW) Activities

- Loaded items into GC-160, including glass logs from GC-88
- Size reduced shuttle box

Key Support Activities

- Continued 30-ton crane repair and preventive maintenance activities
- Worked to develop saw for cutting 6-inch diameter steel-filled pipe
- Replaced left hand side manipulator fingers
- Finalized method for removing Glass Canister Storage Rack (GCSR), successfully removed GCSR, and reinstalled west window work tray

Activities scheduled for this week (December 18-24, 2000)

Mixed Waste (MW) Activities

- Steel Waste Disposal Box (SWDB) container MW Shipments to 200 Area
 - No SWDB shipments scheduled for this week
- SWDB Loadouts and staging of SWDBs for shipment
 - 5th SWDB (RGC-324-00-101) remains staged in 90-day area during 30-ton crane repair/preventive maintenance outage
- Filling/Loading of mixed waste (MW) items into RGCs within B-Cell
 - Continue RGC loading as applicable

Non-Mixed Waste (non-MW) Activities

- Examine/rinse/clean GC-118 to prepare for GC loading
- Cut top section from GC-88, size reduce, and place into GC-118
- Size reduce Glass Canister Storage Rack (after Thermo Shield at west window of B-Cell is replaced)
- Rinse, dose profile, and move filled GCs to A-Cell for staging

Key Support Activities

- Continue 30-ton crane maintenance/repair activities
- Complete fabrication of saw for cutting 6-inch diameter steel-filled pipe
- Deploy hammer drill and begin size reducing grout in bottom of GC-88

Schedule

-Continued to perform schedule assessments to determine potential efficiencies

Attachment 5

324 Building B-Cell Highlights (through 12/11/00) for 12/19/00 PMM

Mixed waste (MW) Activities

- **Steel Waste Disposal Box (SWDB) Container MW Shipments to 200 Area**
 - Performed loadout and shipment for the 4th SWDB (RGC-324-00-123) of 14 planned SWDB shipments. Note - the pre-acceptance dose screening performed on the 4th SWDB showed bottom hot spots up to 800 millirem/hr, which enabled SWDB acceptance and shipment to CWC, since SWDB bottom hot spots were below 1000 millirem/hr
 - RL continued rigorous review of EP-0063 exception request to allow Central Waste Complex (CWC) acceptance of SDWBs with bottom hot spots exceeding 1000 millirem/hr

- **SWDB Loadouts and staging of SWDBs for shipment**
 - Completed revisions to procedure A-47 for SWDB loadout
 - *Rinsed and loaded RGC-324-00-101 into its Rectangular Overpack Disposal Container (RODC) to prepare it for pre-loadout dose screening*
 - Performed pre-loadout RODC bottom dose screening for RGC-324-00-101
 - Performed 5th loadout (RGC-324-00-101) and staged SWDB in 90-day area
 - Loadout of RGC-324-00-117 (formerly referred to as RGC-9) remained on hold due to predicted/calculated SWDB bottom hot spots up to 17,000 millirem/hr

- **Filling/Loading MW items into Rectangular Grout Containers (RGCs) within B-Cell**
 - Transferred additional pre-shielded RGCs into B-Cell for MW loading
 - Removed NUCFIL filters from engineered containers (ECs) in wagon wheel rack
 - Transferred contents of two ECs directly into RGC-324-00-102
 - Loaded five ECs from wagon wheel into RGC-324-00-102
 - Loaded one of two condenser equipment items into RGC-324-00-104

Non-Mixed Waste (non-MW) Activities

- Completed revisions to procedure K-5 for moving empty RGCs to A-Cell
- Moved two clean/empty RGCs into to A-Cell to save containers
- Moved clean camera and RGC lids into A-Cell to save
- Deployed saw, cut hollow steel pipe into three size-reduced pieces
- Performed schedule assessment for integration of non-MW and MW work

Key Support Activities

- Completed detailed reviews of procedures supporting SWDB activities
- Completed chiseling of grout and vacuuming west rail of 30-ton crane, and worked on splice plates
- Continued 30-ton crane repair and preventive maintenance activities
- Performed 3-ton crane wire rope inspection and returned to service
- Conducted two airlock entries to adjust lower limit for 3-ton crane wire rope, first adjustment was unsuccessful, second adjustment was successful
- Replaced B-Cell camera with new camera
- Videotaped Glass Canister Storage Rack (with new camera) to determine physical attachment details
- Moved used camera with lights into airlock for repair
- Replaced B-Cell LH-West manipulator
- Continued training of additional Hot Cell Technicians on operation of Dispersible Removal System (DRS) robotic arm (to be used for vacuuming dispersibles)
- Continued development of alternative design (backup) for vacuuming

Schedule

- Notified Ecology on 11/08/00 (RL letter) that the project will not meet the M-89-02 due date of 11/30/00
- Provided draft M-89-02 mixed waste recovery plan schedule to Ecology at 11/14/00 IAMIT meeting
- Provided updated M-89-02 recovery plan schedule for mixed waste and non-mixed waste to Ecology at 11/29/00 workshop meeting
- Project status delays were due to SWDB hot spot acceptance issue, related SWDB safety basis documentation issues, and 30-ton crane repair/maintenance complications
- Provided SWDB issue status update to Ecology 11/22/00
- Continued schedule assessment to determine any potential improvements and to support upcoming meeting(s) and discussions with Ecology

Action/Requirement/Conditions	Status (Complete (X) In Progress (P))	Status Statement	% Complete	Estimated Completion Date	Actual Completion Date	Documentation Completed
2) Second Distinct Action for M-89-02 (reference 1):						
<p>The second distinct action required under interim milestone M-89-02 requires the removal of excess equipment from the REC B-Cell</p> <p>Table attached to RL letter 00-FTD-006 provides all equipment currently within the REC B-Cell and defines "Excess" versus "Required" equipment</p> <p>Performance Standard for Second Distinct Action:</p> <ul style="list-style-type: none"> Removal and containerization of all equipment (excluding Spent Nuclear Fuel) from B-Cell not required for the implementation of further closure actions and/or deactivation endpoints as established in the Closure Plan and the 324/327 Buildings integrated Project Management Plan (PMP), HNF-1289 Excess equipment is defined in the attachment (pages 4-6) to RL letter 00-FTD-006, which provides the listing of B-Cell and a determination of its disposition status per M-89-02 						

324 BUILDING – TRI-PARTY AGREEMENT MILESTONE M-89-02 CHECKLIST – NOVEMBER 1, 2000

The Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) Milestone M-89-02 is defined in Tri-Party Agreement Change Number M-89-98-03 (Reference 1 below) as “Complete removal of 324 Building REC B-Cell MW and Equipment”. The M-89-98-03 change indicates that containerized mixed-waste (MW) will be managed in compliance with Chapter 173.303 WAC (Washington Administrative Code, Dangerous Waste Regulations), thereby reducing risks to human health and the environment. It also indicates that any remaining residues will be managed through the final closure process.

The checklist provided consists of a list of the actions and conditions described in the DOE RL letter number 00-FTD-006, “Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) Interim Milestone M-89-02, Complete Removal of 324 Building REC B-Cell MW and Equipment, November 30, 2000” (Reference 2 below). The RL letter was submitted to Ecology on December 08, 1999. The RL letter provided an Attachment and a Table to provide greater definition for the performance standards to be met by interim milestone M-89-02. Ecology concurred with RL letter 00-FTD-006 in a response letter (same subject) to RL, dated February 28, 2000 (Reference 3 below). Detailed B-Cell equipment information regarding useable deactivation equipment was provided in a one-page information handout at the May 18, 2000, Project Manager Meeting (Reference 4 below). Ecology provided clarifications regarding the interim milestone M-89-02 in a one-page handout at the August 9, 2000, Project Managers’ Meeting (Reference 5, Attachment 6, Ecology handout regarding use of 90-day MW accumulation area and clarifications regarding M-89-02 milestone performance standard).

Note: The non-shaded areas in the checklist table will be used to provide status information for activities/measures.

References:

- 1) TPA Change Number M-89-98-03, for Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement, TPA), regarding Milestone M-89-02, November 1998
- 2) DOE RL Letter No. 00-FTD-006, “Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) Interim Milestone M-89-02, Complete Removal of 324 Building REC B-Cell MW and Equipment, November 30, 2000”, dated December 08, 1999
- 3) Ecology letter dated February 28, 2000, same subject as reference (2)
- 4) 324 REC/HLV Project Managers’ Meeting, May 18, 2000, Meeting Minutes, Attachment 4, List of Usable Deactivation Equipment, 324 Building, M-89-02, Detailed B-Cell Equipment Information 5/18/00
- 5) 324 REC/HLV Project Managers’ Meeting, August 9, 2000, Meeting Minutes

324 BUILDING B-CELL MILESTONE M-89-02 WASTE SUMMARY

Steps	(1) Dispersibles		(2) Excess Equipment		(3) Debris	
	MW	Non-MW	MW	Non-MW	MW	Non-MW
Collect waste	X	-	-	-	X	X
Containerize	X	-	X	X	X	X
Remove/Stage	X	-	X	X	X	X
Ship containers	X	-	X	X	X	X

324 BUILDING TRI-PARTY AGREEMENT INTERIM MILESTONE M-89-02 CHECKLIST – NOVEMBER 1, 2000

Action/Requirement/Conditions	Status (Complete (X) In Progress (P))	Status Statement	% Complete	Estimated Completion Date	Actual Completion Date	Documentation Completed
<p>1) First Distinct Action for M-89-02 (reference 1): Mixed waste (MW) must be containerized, removed from B-Cell and placed in a condition that is compliant with Chapter 173.303 of the WAC</p> <p>Performance standard for First Distinct Action:</p> <ul style="list-style-type: none"> • Removal of MW from the REC B-Cell requires the collection and containerization of dispersible material from the B-Cell • Collection will not include destructive and/or chemical methods (i.e., spalling or decontamination washes) so that a determination of liner integrity (closure activity required post M-89-02) can be made prior to liner decontamination • The dispersible material will be containerized in a compliant (with receipt facility acceptance criteria) container system • Containerized dispersible material will be removed from REC B-Cell and may be moved to an interim storage area 						
<p>Activity(s)/Measure(s): 1a Perform collection and containerization of dispersibles through retrieval with a pneumatic clamshell from the B-Cell floor (reference 1)</p>						
<p>1b Following clamshelling (1a above), collect dispersibles by performing a filtered vacuum of the B-Cell floor (reference 1) (NOTE: Invite Ecology to observe vacuuming and documentation.)</p>						

Action/Requirement/Conditions	Status (Complete (X) In Progress (P))	Status Statement	% Complete	Estimated Completion Date	Actual Completion Date	Documentation Completed
<ul style="list-style-type: none"> • Useable deactivation equipment (continued) <ul style="list-style-type: none"> • Fixed and portable lights (needed for viewing the cell) • Jib crane (accompanies 3-ton crane) and auxiliary hooks for 10-ton and 3-ton cranes (needed for fuel pin consolidation and size reduction of fuel storage equipment) • Torches and cables (needed for size reduction of fuel storage equipment) • Clamshells (needed for removal of size reduced fuel storage equipment as well as cleanout of pipe trench and D-Cell) • Dispersibles Removal System (DRS) attachments (needed for cleanout of D-Cell particulate material) • Vacuum system and hoses (needed for cleanout of D-Cell and pipe trench material) • Extension cords and cables (needed for operating installed equipment including electrostatic precipitators, portable lights, cameras, and DRS system) • Labounty shear (needed for size reduction of fuel storage rack) • Rinsing equipment (needed to support future deactivation packaging and loadout of low-level waste and transuranic waste materials and equipment into 3-82B grout containers) • Grouting equipment (needed for grouting future low-level; waste 3-82B grout containers) 						

Action/Requirement/Conditions	Status (Complete (X) In Progress (P))	Status Statement	% Complete	Estimated Completion Date	Actual Completion Date	Documentation Completed
3) Third Distinct Action (reference 1):						
Removal of debris from B-Cell Performance Standard for Third Distinct Action: <ul style="list-style-type: none"> • Miscellaneous debris (i.e., tools, metal scrap, manipulator boots) located on B-Cell floor will be removed from B-Cell and packaged for removal • Packaged debris will be removed from the REC B-Cell 						
Activity(s)/Measure(s):						
3a Collect debris from B-Cell (reference 1)						
3b Rinse and package debris consistent with the size-reduced equipment removed from B-Cell (reference 1)						
Activity(s)/Measure(s) (continued):						
3b.1 Containerize non-MW debris using cylindrical Grout Containers (GCs) (reference 5):						
3b.2 Containerize MW debris using Rectangular Grout Containers (RGCs) (reference 5):						
3c Remove containerized debris from B-Cell (reference 1)						

Action/Requirement/Conditions	Status (Complete (X) In Progress (P))	Status Statement	% Complete	Estimated Completion Date	Actual Completion Date	Documentation Completed
Activity(s)/Measure(s): 2a Containerize following "Excess" equipment from B-Cell (reference 1):						
2a.1 Rack 2A and remaining portions of previously size reduced racks						
2a.2 2,265-kilogram steel block						
2a.3 Sump trench cover screen (east end of B-Cell floor)						
2a.4 Waste containers (with contents requiring transfer into other containers) i.e., grout containers (non-MW), engineered containers (MW), and rectangular grout containers (RGC) (MW). These include GC-88, GC-115, GC-120, RGC-0, and engineered containers in wagon wheel.						
2a.5 Storage rack (wagon wheel holding engineered containers) used for Special-Case Waste and MW.						
Activity(s)/Measure(s) (continued) 2b Remove containerized excess equipment designated as MW (in RGCs) from B-Cell (reference 1).						
2c Ship containerized excess equipment designated as MW (in RGCs/SWDBs) to 200 Area by 11/30/00 (reference 5) ² .						
2d Remove containerized excess equipment designated as non-MW (in grout containers) from B-Cell (to be staged in A-Cell) by 11/30/00 (reference 5) ³ .						

² Reference 5, Attachment 6, indicates that all collected mixed waste must be removed from the 324 Building B-Cell and placed in compliant, long-term storage in the 200 Area prior to the deadline established by M-89-02 (November 30, 2000).

³ Reference 5, Attachment 6, indicates that the non-mixed waste (grout containers) removed from B-Cell (and stored/staged in A-Cell) will be moved to compliant, long-term storage in the 200 Area. Reference 5 indicates that the deadline for this activity will appear as a DOE (RL) milestone for the next fiscal

Action/Requirement/Conditions	Status (Complete (X) In Progress (P))	Status Statement	% Complete	Estimated Completion Date	Actual Completion Date	Documentation Completed
2e Ship excess equipment designated as non-MW (in grout containers) to 200 Area storage by 7/31/01 (reference 5) ³						

year (2001) and will occur within eight months after the completion date required by Tri-Party Agreement Milestone M-89-02 (i.e., within eight months after November 30, 2000).

Action/Requirement/Conditions	Status (Complete (X) In Progress (P))	Status Statement	% Complete	Estimated Completion Date	Actual Completion Date	Documentation Completed
2f Following "Required" equipment to remain in B-Cell to support closure activities (reference 1): <ul style="list-style-type: none"> • Cell penetration plugs • West window work tray • 10-ton crane (overhead crane) • 3-ton crane (overhead crane) • Two temporary fuel storage racks⁴ • Fuel pin storage container (gattling gun)⁴, west wall • Fuel thimbles⁴, west side of B-Cell in fuel storage racks • Installed electrostatic precipitators and HEPA (particulate) filters, north wall • Installed manipulators • Empty grout containers, lids, engineered containers, RGCs • Useable deactivation equipment including following (references 1 and 4): <ul style="list-style-type: none"> • Fire protection hoses and nozzles (needed for fire protection) • Installed and functioning camera systems, including pan/tilt heads, mounts, etc. (needed for size reduction of fuel storage equipment, as well as cleanout of pipe trench and D-Cell) (Continued on next page)						

⁴ SNF currently stored within B-Cell will remain in B-Cell pending availability of the 200 Area Interim Storage Area (ISA). This is a delay in the removal of the fuel out of B-Cell. The former schedule had an interim movement of this fuel out of B-Cell and into A-Cell pending availability of the ISA. The project will benefit by eliminating this interim move within the facility and result in an earlier shipment of SNF out of the 324 Building, and allow for an overall better sequencing of closure activities within the 324 Building.

Action/Requirement/Conditions	Status (Complete (X) In Progress (P))	Status Statement	% Complete	Estimated Completion Date	Actual Completion Date	Documentation Completed
<ul style="list-style-type: none"> • Useable deactivation equipment (continued) <ul style="list-style-type: none"> • Fixed and portable lights (needed for viewing the cell) • Jib crane (accompanies 3-ton crane) and auxiliary hooks for 10-ton and 3-ton cranes (needed for fuel pin consolidation and size reduction of fuel storage equipment) • Torches and cables (needed for size reduction of fuel storage equipment) • Clamshells (needed for removal of size reduced fuel storage equipment as well as cleanout of pipe trench and D-Cell) • Dispersibles Removal System (DRS) attachments (needed for cleanout of D-Cell particulate material) • Vacuum system and hoses (needed for cleanout of D-Cell and pipe trench material) • Extension cords and cables (needed for operating installed equipment including electrostatic precipitators, portable lights, cameras, and DRS system) • Labounty shear (needed for size reduction of fuel storage rack) • Rinsing equipment (needed to support future deactivation packaging and loadout of low-level waste and transuranic waste materials and equipment into 3-82B grout containers) • Grouting equipment (needed for grouting future low-level; waste 3-82B grout containers) 						

Action/Requirement/Conditions	Status (Complete (X) In Progress (P))	Status Statement	% Complete	Estimated Completion Date	Actual Completion Date	Documentation Completed
3) Third Distinct Action (reference 1):						
Removal of debris from B-Cell Performance Standard for Third Distinct Action: <ul style="list-style-type: none"> • Miscellaneous debris (i.e., tools, metal scrap, manipulator boots) located on B-Cell floor will be removed from B-Cell and packaged for removal • Packaged debris will be removed from the REC B-Cell 						
Activity(s)/Measure(s):						
3a Collect debris from B-Cell (reference 1)						
3b Rinse and package debris consistent with the size-reduced equipment removed from B-Cell (reference 1)						
Activity(s)/Measure(s) (continued):						
3b.1 Containerize non-MW debris using cylindrical Grout Containers (GCs) (reference 5):						
3b.2 Containerize MW debris using Rectangular Grout Containers (RGCs) (reference 5):						
3c Remove containerized debris from B-Cell (reference 1)						

Action/Requirement/Conditions	Status (Complete (X) In Progress (P))	Status Statement	% Complete	Estimated Completion Date	Actual Completion Date	Documentation Completed
Activity(s)/Measure(s) (continued): 3c.1 Remove containerized non-MW debris (GCs) from B-Cell (to be staged in A-Cell) by 11/30/00 (reference 5) ⁵						
3c.2 Remove containerized MW debris (RGCs) from B-Cell by 11/30/00 (reference 5)						
3d Ship containerized debris to 200 Area compliant storage (reference 1)						
3d.1 Ship containerized non-MW debris (GCs in liner assembly/3-82 B cask) to 200 area compliant storage by 7/31/01 (reference 5) ⁵ . Approximately five of the GCs will be categorized as low-level waste and are expected to therefore require grouting (in B-Cell) prior to shipment.						
3d.2 Ship containerized MW debris (RGCs in Rectangular Overpack Disposal Container / Steel Waste Disposal Box, SWDB) to 200 Area compliant storage by 11/30/00 (reference 5) ⁶						

⁵ Reference 5, Attachment 6, indicates that the non-mixed waste (grout containers) removed from B-Cell (and stored/staged in A-Cell) will be moved to compliant, long-term storage in the 200 Area. It also indicates that the deadline for this activity will appear as a DOE milestone for the next fiscal year (2001) and will occur within eight months after the completion date required by Tri-Party Agreement Milestone M-89-02 (i.e., within eight months of November 30, 2000).

⁶ Reference 5, Attachment 6, indicates that all collected mixed waste must be removed from the 324 Building B-Cell and placed in compliant, long-term storage in the 200 Area prior to the deadline established by M-89-02 (November 30, 2000).

Attachment 7

324 Building – Tri-Party Agreement Milestone M-89-02 Checklist – November 1, 2000

Action/Requirement/Conditions	Status (Complete (X) In Progress (P))	Status Statement	% Complete	Estimated Completion Date	Actual Completion Date	Documentation Completed
2) Second Distinct Action for M-89-02 (reference 1):						
<p>The second distinct action required under interim milestone M-89-02 requires the removal of excess equipment from the REC B-Cell</p> <p>Table attached to RL letter 00-FTD-006 provides all equipment currently within the REC B-Cell and defines "Excess" versus "Required" equipment</p> <p>Performance Standard for Second Distinct Action:</p> <ul style="list-style-type: none"> Removal and containerization of all equipment (excluding Spent Nuclear Fuel) from B-Cell not required for the implementation of further closure actions and/or deactivation endpoints as established in the Closure Plan and the 324/327 Buildings integrated Project Management Plan (PMP), HNF-1289 Excess equipment is defined in the attachment (pages 4-6) to RL letter 00-FTD-006, which provides the listing of B-Cell and a determination of its disposition status per M-89-02 						

324 BUILDING B-CELL MILESTONE M-89-02 WASTE SUMMARY

Steps	(1) Dispersibles		(2) Excess Equipment		(3) Debris	
	MW	Non-MW	MW	Non-MW	MW	Non-MW
Collect waste	X	-	-	-	X	X
Containerize	X	-	X	X	X	X
Remove/Stage	X	-	X	X	X	X
Ship containers	X	-	X	X	X	X

324 BUILDING TRI-PARTY AGREEMENT INTERIM MILESTONE M-89-02 CHECKLIST – NOVEMBER 1, 2000

Action/Requirement/Conditions	Status (Complete (X) In Progress (P))	Status Statement	% Complete	Estimated Completion Date	Actual Completion Date	Documentation Completed
<p>1) First Distinct Action for M-89-02 (reference 1): Mixed waste (MW) must be containerized, removed from B-Cell and placed in a condition that is compliant with Chapter 173.303 of the WAC</p> <p>Performance standard for First Distinct Action:</p> <ul style="list-style-type: none"> • Removal of MW from the REC B-Cell requires the collection and containerization of dispersible material from the B-Cell • Collection will not include destructive and/or chemical methods (i.e., spalling or decontamination washes) so that a determination of liner integrity (closure activity required post M-89-02) can be made prior to liner decontamination • The dispersible material will be containerized in a compliant (with receipt facility acceptance criteria) container system • Containerized dispersible material will be removed from REC B-Cell and may be moved to an interim storage area 						
<p>Activity(s)/Measure(s): 1a Perform collection and containerization of dispersibles through retrieval with a pneumatic clamshell from the B-Cell floor (reference 1)</p>	P	Clamshelling of open areas has been performed. Remaining clamshelling will require clearing the cell, and then scraping/clamshelling the floor. Clamshelling will be statused using systematic grid approach.	30%			

Action/Requirement/Conditions	Status (Complete (X) In Progress (P))	Status Statement	% Complete	Estimated Completion Date	Actual Completion Date	Documentation Completed
1b Following clamshelling (1a above), collect dispersibles by performing a filtered vacuum of the B-Cell floor (reference 1) (NOTE: Invite Ecology to observe vacuuming and documentation.)		Cold testing of vacuuming equipment has been performed outside of B-Cell. Vacuuming will be statused based on systematic grid approach.				
1c Transfer dispersibles collected by these methods into containers for interim storage (reference 5, Section 5.6, directly loading MW dispersibles into rectangular grout containers))	P	An estimated nine (9) RGCs will contain primarily dispersibles Transfer of dispersibles into RGCs has been completed for RGC-5, RGC-8, and RGC-9. These RGCs contain some MW debris and MW equipment, but will be tracked as dispersibles RGCs on this checklist. Dispersibles contained in engineered containers (EC) located in the B-Cell wagon wheel storage rack have not yet been transferred into an RGC.	33%			

Action/Requirement/Conditions	Status (Complete (X) In Progress (P))	Status Statement	% Complete	Estimated Completion Date	Actual Completion Date	Documentation Completed
<ul style="list-style-type: none"> • Useable deactivation equipment (continued) <ul style="list-style-type: none"> • Fixed and portable lights (needed for viewing the cell) • Jib crane (accompanies 3-ton crane) and auxiliary hooks for 10-ton and 3-ton cranes (needed for fuel pin consolidation and size reduction of fuel storage equipment) • Torches and cables (needed for size reduction of fuel storage equipment) • Clamshells (needed for removal of size reduced fuel storage equipment as well as cleanout of pipe trench and D-Cell) • Dispersibles Removal System (DRS) attachments (needed for cleanout of D-Cell particulate material) • Vacuum system and hoses (needed for cleanout of D-Cell and pipe trench material) • Extension cords and cables (needed for operating installed equipment including electrostatic precipitators, portable lights, cameras, and DRS system) • Labounty shear (needed for size reduction of fuel storage rack) • Rinsing equipment (needed to support future deactivation packaging and loadout of low-level waste and transuranic waste materials and equipment into 3-82B grout containers) • Grouting equipment (needed for grouting future low-level; waste 3-82B grout containers) 						

Action/Requirement/Conditions	Status (Complete (X) In Progress (P))	Status Statement	% Complete	Estimated Completion Date	Actual Completion Date	Documentation Completed
2) Second Distinct Action for M-89-02 (reference 1):						
<p>The second distinct action required under interim milestone M-89-02 requires the removal of excess equipment from the REC B-Cell</p> <p>Table attached to RL letter 00-FTD-006 provides all equipment currently within the REC B-Cell and defines "Excess" versus "Required" equipment</p> <p>Performance Standard for Second Distinct Action:</p> <ul style="list-style-type: none"> Removal and containerization of all equipment (excluding Spent Nuclear Fuel) from B-Cell not required for the implementation of further closure actions and/or deactivation endpoints as established in the Closure Plan and the 324/327 Buildings integrated Project Management Plan (PMP), HNF-1289 Excess equipment is defined in the attachment (pages 4-6) to RL letter 00-FTD-006, which provides the listing of B-Cell and a determination of its disposition status per M-89-02 						

Action/Requirement/Conditions	Status (Complete (X) In Progress (P))	Status Statement	% Complete	Estimated Completion Date	Actual Completion Date	Documentation Completed
Activity(s)/Measure(s): 2a Containerize following "Excess" equipment from B-Cell (reference 1):						
2a.1 Rack 2A and remaining portions of previously size reduced racks	P	The last process rack, 2A, was size reduced in April 2000 and the last remnants (contained within non-MW grout containers) were relocated to A-Cell in June 2000. There is still one RGC in B-Cell with portions of rack components.	90%			
2a.2 2,265-kilogram steel block		This item is also called the 5,000 lb block, and it is scheduled to be deconned to contact handled levels and placed into a 5x5x9 box.				
2a.3 Sump trench cover screen (east end of B-Cell floor)						
2a.4 Waste containers (with contents requiring transfer into other containers) i.e., grout containers (non-MW), engineered containers (MW), and rectangular grout containers (RGC) (MW). These include GC-88, GC-115, GC-120, RGC-0, and engineered containers in wagon wheel.	P	Disposition of contents of GC-115 and GC-120 has been completed. GC-88, RGC-0, and the engineered containers (ECs) in the wagon wheel storage rack are not complete. The first set of ECs in the wagon wheel storage rack have been previously packaged into RGC-8 and RGC-5. However, the wagon wheel storage rack now contains ECs with recently collected dispersibles.	40%			
2a.5 Storage rack (wagon wheel holding engineered containers) used for Special-Case Waste and MW.						

Action/Requirement/Conditions	Status (Complete (X) In Progress (P))	Status Statement	% Complete	Estimated Completion Date	Actual Completion Date	Documentation Completed
Activity(s)/Measure(s) (continued) 2b Remove containerized excess equipment designated as MW (in RGCs) from B-Cell (reference 1).	P	The lead shield plugs have been removed from B-Cell. Two containers (RGC-4 and RGC-6) of the five RGCs planned to contain excess MW equipment have been removed from B-Cell.	40%			
2c Ship containerized excess equipment designated as MW (in RGCs/SWDBs) to 200 Area by 11/30/00 (reference 5) ² .	P	Two containers (RGC-4 and RGC-6) of five SWDBs which are expected to contain excess MW equipment have been shipped to the 200 Area.	40%			
2d Remove containerized excess equipment designated as non-MW (in grout containers) from B-Cell (to be staged in A-Cell) by 11/30/00 (reference 5) ³ .	P	Thirty-two of 40 expected total grout containers filled with non-MW excess equipment have been removed from B-Cell.	80%			
2e Ship excess equipment designated as non-MW (in grout containers) to 200 Area storage by 7/31/01 (reference 5) ³	P	Seventeen of 40 total grout containers filled with excess equipment have been shipped to 200 Area storage.	42%			

² Reference 5, Attachment 6, indicates that all collected mixed waste must be removed from the 324 Building B-Cell and placed in compliant, long-term storage in the 200 Area prior to the deadline established by M-89-02 (November 30, 2000).

³ Reference 5, Attachment 6, indicates that the non-mixed waste (grout containers) removed from B-Cell (and stored/staged in A-Cell) will be moved to compliant, long-term storage in the 200 Area. Reference 5 indicates that the deadline for this activity will appear as a DOE (RL) milestone for the next fiscal year (2001) and will occur within eight months after the completion date required by Tri-Party Agreement Milestone M-89-02 (i.e., within eight months after November 30, 2000).

Action/Requirement/Conditions	Status (Complete (X) In Progress (P))	Status Statement	% Complete	Estimated Completion Date	Actual Completion Date	Documentation Completed
2f Following "Required" equipment to remain in B-Cell to support closure activities (reference 1): <ul style="list-style-type: none"> • Cell penetration plugs • West window work tray • 10-ton crane (overhead crane) • 3-ton crane (overhead crane) • Two temporary fuel storage racks⁴ • Fuel pin storage container (gattling gun)⁴, west wall • Fuel thimbles⁴, west side of B-Cell in fuel storage racks • Installed electrostatic precipitators and HEPA (particulate) filters, north wall • Installed manipulators • Empty grout containers, lids, engineered containers, RGCs • Useable deactivation equipment including following (references 1 and 4): <ul style="list-style-type: none"> • Fire protection hoses and nozzles (needed for fire protection) • Installed and functioning camera systems, including pan/tilt heads, mounts, etc. (needed for size reduction of fuel storage equipment, as well as cleanout of pipe trench and D-Cell) (Continued on next page)						

⁴ SNF currently stored within B-Cell will remain in B-Cell pending availability of the 200 Area Interim Storage Area (ISA). This is a delay in the removal of the fuel out of B-Cell. The former schedule had an interim movement of this fuel out of B-Cell and into A-Cell pending availability of the ISA. The project will benefit by eliminating this interim move within the facility and result in an earlier shipment of SNF out of the 324 Building, and allow for an overall better sequencing of closure activities within the 324 Building.

Action/Requirement/Conditions	Status (Complete (X) In Progress (P))	Status Statement	% Complete	Estimated Completion Date	Actual Completion Date	Documentation Completed
<ul style="list-style-type: none"> • Useable deactivation equipment (continued) <ul style="list-style-type: none"> • Fixed and portable lights (needed for viewing the cell) • Jib crane (accompanies 3-ton crane) and auxiliary hooks for 10-ton and 3-ton cranes (needed for fuel pin consolidation and size reduction of fuel storage equipment) • Torches and cables (needed for size reduction of fuel storage equipment) • Clamshells (needed for removal of size reduced fuel storage equipment as well as cleanout of pipe trench and D-Cell) • Dispersibles Removal System (DRS) attachments (needed for cleanout of D-Cell particulate material) • Vacuum system and hoses (needed for cleanout of D-Cell and pipe trench material) • Extension cords and cables (needed for operating installed equipment including electrostatic precipitators, portable lights, cameras, and DRS system) • Labounty shear (needed for size reduction of fuel storage rack) • Rinsing equipment (needed to support future deactivation packaging and loadout of low-level waste and transuranic waste materials and equipment into 3-82B grout containers) • Grouting equipment (needed for grouting future low-level; waste 3-82B grout containers) 						

Action/Requirement/Conditions	Status (Complete (X) In Progress (P))	Status Statement	% Complete	Estimated Completion Date	Actual Completion Date	Documentation Completed
3) Third Distinct Action (reference 1):						
<p>Removal of debris from B-Cell</p> <p>Performance Standard for Third Distinct Action:</p> <ul style="list-style-type: none"> • Miscellaneous debris (i.e., tools, metal scrap, manipulator boots) located on B-Cell floor will be removed from B-Cell and packaged for removal • Packaged debris will be removed from the REC B-Cell 						
<p>Activity(s)/Measure(s):</p> <p>3a Collect debris from B-Cell (reference 1)</p>	P	<p>Debris is collected using clamshelling method. Clamshelling has been performed in open areas. Remaining clamshelling will be stasured using systematic grid approach.</p>	30%			
3b Rinse and package debris consistent with the size-reduced equipment removed from B-Cell (reference 1)						

Action/Requirement/Conditions	Status (Complete (X) In Progress (P))	Status Statement	% Complete	Estimated Completion Date	Actual Completion Date	Documentation Completed
<p>Activity(s)/Measure(s) (continued): 3b.1 Containerize non-MW debris using cylindrical Grout Containers (GCs) (reference 5):</p>	P	<p>Containerization of non-MW debris into cylindrical grout containers (GC) is essentially completed. Remaining clamshelling of B-Cell debris is expected to yield entirely MW debris, based on virtually all non-MW debris already having been recovered and containerized. MW debris is containerized within RGCs (addressed in Section 3.b.2 below).</p>	90%			
<p>3b.2 Containerize MW debris using Rectangular Grout Containers (RGCs) (reference 5):</p>	P	<p>Containerization of MW debris (by clamshelling, Section 3a) is approximately 30% complete. The upcoming effort to scrape the B-Cell floor and clamshell dispersibles into RGCs (Section 1a) will effectively containerize remaining MW debris. The MW debris is being containerized into the RGCs addressed in Section 1a (MW dispersibles) and Section 2b (MW excess equipment) for packaging efficiency reasons.</p>	30%			
<p>3c Remove containerized debris from B-Cell (reference 1)</p>						

Action/Requirement/Conditions	Status (Complete (X) In Progress (P))	Status Statement	% Complete	Estimated Completion Date	Actual Completion Date	Documentation Completed
Activity(s)/Measure(s) (continued): 3c.1 Remove containerized non-MW debris (GCs) from B-Cell (to be staged in A-Cell) by 11/30/00 (reference 5) ⁵	P	Non-MW debris has been containerized into the same GCs addressed in Section 2d (non-MW excess equipment) for packaging efficiency reasons. Thirty-two (32) of the forty (40) expected non-MW GCs have been removed from B-Cell.	80%			
3c.2 Remove containerized MW debris (RGCs) from B-Cell by 11/30/00 (reference 5)	P	One MW container (RGC-8) of the expected nine dispersibles RGCs (Section 1.d.1) has been removed from B-Cell.	11%			
3d Ship containerized debris to 200 Area compliant storage (reference 1)						
3d.1 Ship containerized non-MW debris (GCs in liner assembly/3-82 B cask) to 200 area compliant storage by 7/31/01 (reference 5) ⁵ . Approximately five of the GCs will be categorized as low-level waste and are expected to therefore require grouting (in B-Cell) prior to shipment.	P	Seventeen (17) of the expected forty (40) non-MW GCs (Section 2e) have been shipped to 200 Area storage.	42%			
3d.2 Ship containerized MW debris (RGCs in Rectangular Overpack Disposal Container / Steel Waste Disposal Box, SWDB) to 200 Area compliant storage by 11/30/00 (reference 5) ⁶	P	One MW container (RGC-8) of the expected nine dispersibles RGCs (Section 1.d.2) has been shipped to CWC.	11%			

⁵ Reference 5, Attachment 6, indicates that the non-mixed waste (grout containers) removed from B-Cell (and stored/staged in A-Cell) will be moved to compliant, long-term storage in the 200 Area. It also indicates that the deadline for this activity will appear as a DOE milestone for the next fiscal year (2001) and will occur within eight months after the completion date required by Tri-Party Agreement Milestone M-89-02 (i.e., within eight months of November 30, 2000).

⁶ Reference 5, Attachment 6, indicates that all collected mixed waste must be removed from the 324 Building B-Cell and placed in compliant, long-term storage in the 200 Area prior to the deadline established by M-89-02 (November 30, 2000).

Attachment 8

Size Reduction of Non-Mixed Waste Equipment from 324 Building D-Cell (12/18/00)

Size Reduction of Non-Mixed Waste Equipment from 324 Building D-Cell (12/18/00)

Introduction/Purpose:

The purpose of this document is to provide clarification information regarding plans for the removal and size reduction of non-mixed waste from the 324 Building D-Cell. This work is being planned consistent with requirements/conditions as described in the 324 Building Radiochemical Engineering Cells, High-Level Vault, Low-Level Vault, and Associated Areas Closure Plan, DOE/RL-96-73, Revision 1 (referred to hereafter as the 324 Closure Plan). The intent of this clarification information is to provide supplemental information regarding the methodology and constraints within which this work will be accomplished, so as to ensure that Ecology does not have any issues or concerns with the planned activities. The D-Cell equipment removal and size reduction activities are being planned in such a manner that they will not cause any interference whatsoever with the TPA milestone M-89-02 activities currently in progress in the 324 Building B-Cell. The removal and size reduction of the non-mixed waste equipment from D-Cell is one of the planned 324 Closure Plan activities that will follow the B-Cell M-89-02 activities. The 324 Closure Plan describes activities for B-Cell and D-Cell, as well as other cells and applicable areas. As described below, some large items (non-mixed waste) from D-Cell will eventually need to undergo size reduction to enable final packaging into cylindrical Grout Containers (GCs) in B-Cell. This will take place after the M-89-02 milestone B-Cell non-mixed waste equipment packaging is completed. Some preparations activities may take place within D-Cell, as long as those activities do not interfere with the B-Cell M-89-02 activities. A workshop meeting with Ecology is recommended to facilitate the process of reviewing this information and addressing any potential questions or concerns.

D-Cell Information:

As described in the 324 Closure Plan (section 2.3.1.4), D-Cell is located adjacent to and south of the Radiochemical Engineering Cells (REC) airlock. D-Cell is located directly above C-Cell. Normal access to D-Cell is through a swinging shield door located in the airlock on the south wall.

Mini-Grout Containers (GCs) Description

Mini-GCs will have to be used to for packaging and handling/transfer of the non-MW equipment items removed from and exiting D Cell. Mini-GCs are designed such that three mini-GCs can be vertically stacked within a regular GC within B-Cell to provide the normal GC for non-MW packaging and eventual loadout from the REC. Mini-GCs are approximately 40 inches in diameter (as opposed to 48 inches for a regular GC) and are approximately 16 inches in height. Spacers and/or other waste can be packaged within the GCs to prevent movement of the mini-GCs during subsequent handling/transport of the packaged GC.

Although normal sized empty GCs (referred to hereafter as GCs) could be placed into D-Cell from the airlock, the GCs cannot be loaded out of D Cell due to size and door constraints. The D-Cell door (between the airlock and D Cell) is not large enough to support the required rigging for adequate movement with the available crane. Moving an empty GC into D-Cell could be performed using a short choker, although it would be difficult due to the tight fit through the doorway. After a GC is loaded, the short choker could not be used, because it would exceed the lifting capacity of the crane and rigging equipment. In addition, although a spreader bar may be

able to be used for this purpose, it would be very difficult to make the required rigging connections, since the top of the spreader bar and the doorway are not easily visible. Therefore, the mini-GCs are the only viable alternative for waste loading/packaging/handling within D-Cell.

D-Cell Equipment Size-Reduction

It is highly desirable to move the structural components (non-mixed waste) of the D-Cell treatment equipment to B-Cell for size reduction. These structural components (e.g., I-beams, gridway, etc.) are relatively large/substantial and are welded together, and will not be able to be size-reduced using a saw within D-Cell. Therefore, a plasma torch will have to be used. D-Cell is not configured to support use of a plasma torch for size reduction. There are various reasons (as described below) why using the plasma torch in D-Cell is not feasible based on the current capabilities/conditions within D-Cell:

1. **Ventilation Issues:** Smoke generated by a plasma torch would pass through the dust stops and begin loading the A-frame filters beneath the airlock. It is unknown how quickly or how frequently these filters would load to the differential pressure limits/constraints specified in the 324 Building Safety Analysis Report (SAR), thereby causing operations to be discontinued and the filters to be changed prior to resuming work. Changeout of the A-frame filters would entail lifting cover blocks within the Cask Handling Area (CHA) airlock, and replacing the filter(s). Such an increase in facility A-frame filter replacement activities would negatively impact CHA activities and 324 Building REC closure activities, and would consume valuable resources. It would also significantly increase radiological exposure to personnel. Additional planning activities would be required to perform such filter replacements. Even one A-frame filter replacement represents a significant activity, and multiple replacements would be likely. It may be possible to redesign the current filtration system to use in-cell filters to remove/filter smoke from plasma torch operations, before it reached the A-frame filters. However, such an effort would require a study by the engineering group, followed by a design, specification, procurement, testing, and installation prior to a plasma torch being used. This cannot be performed in a short timeframe, and also carries a lot of performance risks, and therefore is undesirable.
2. **Rinsing Issues:** Some potential water rinsing may be necessary and appropriate to remove loose non-mixed waste debris/material from equipment items. Water is not normally allowed into D-Cell for two reasons. First, water would be expected to seep down through the D-Cell floor (removable block) into C-Cell, causing alpha contamination to enter C-Cell. Second, water could potentially come into contact with containerized spent nuclear fuel (SNF) located within D-Cell, causing potential degradation.
3. **Electrical power capabilities within D-Cell** may not be sufficient to supply a plasma torch. Engineering effort, in terms of calculations and potential modifications would most likely be required to pursue such a possibility. Modifications that involve installing new equipment or capabilities within D-Cell are not consistent with the overall concept of D-Cell cleanout and closure as planned and intended in the 324 Closure Plan.
4. It is not known whether adequate electrical power receptacles are available within D-Cell to support installation of a plasma torch capability for equipment size reduction operations.

5. It is not known how effective the shielding of the windows would be. Currently, some shielding is available in the laydown yard, which may be able to be installed to protect the windows from being hit with molten slag during torch use. However, the condition of the shielding and how effective it would be is not known. The integrity of the windows is extremely important, especially with the future D-Cell closure activities work to be performed in D cell.

Conclusion:

For the above reasons, the planned sequencing is to use existing capabilities within the B-Cell for size reduction of large non-mixed waste equipment items from D-Cell. The B-Cell has the utilities/capabilities as required to support these activities. The resultant waste management activities are consistent with the 324 Closure Plan requirements and the intent of planned REC closure activities described in the 324 Closure Plan. The non-MW equipment items from D-Cell will be managed in the same manner as non-MW items removed from B-Cell during M-89-02 activities, and will not introduce any mixed waste to B-Cell.

Attachment 9

**Issue Summary and Status (11/20/00) – High Dose Rates on Bottom of 324 Building Steel
Waste Disposal Boxes (SWDBs) Containing B-Cell Mixed Waste**

Issue Summary and Status (11/20/00) - High Dose Rates on Bottom of 324 Building Steel Waste Disposal Boxes (SWDBs) Containing B-Cell Mixed Waste

1. Current Status

Loadout and shipment of mixed waste from the 324 Building B-Cell (in support of Tri-Party Agreement interim milestone M-89-02) has experienced some delays due to the subject SWDB high dose rate waste acceptance problem. Shipping activities are still on hold (as of 11/20/00) pending resolution of the subject SWDB high dose rate waste acceptance problem. RL approval of an exception to the Waste Acceptance Requirements at the 200 Area Central Waste Complex (CWC) is necessary for acceptance at the CWC TSD.

The SWDB bottom hot spot condition represents a problem when the SWDB is lifted off the ground. The SWDB side and top surfaces have more shielding than the bottom (as described in the section 4 below), and therefore do not have the same problem as the SWDB bottom surface. The hot spots are observed to form a rectangle outlining the bottom of the RGC in the SWDB. The innermost container in the SWDB, i.e., the Rectangular Grout Container (RGC), holds the waste. Except for the first SWDB shipment, all subsequent RGCs have had supplemental lead shielding placed on the bottom of the RGC (inside the RGC) before using the RGC to package and contain B-Cell mixed waste.

2. Project Schedule Summary

The schedule for SWDB loadouts and shipments has experienced some delays due to the SWDB high dose rate waste acceptance problem. The M-89-02 milestone mixed waste removal and shipping activities will not be able to be completed by the M-89-02 milestone due date of 11/30/00. The 324 Facility is actively evaluating potential schedule implications and developing a recovery plan to complete the M-89-02 activities on an aggressive schedule. A draft schedule was provided to Ecology at the M-89-02 workshop meeting conducted on 11/08/00, and at the Inter-Agency Management Integration Team (IAMIT) meeting conducted with Ecology on 11/14/00. Resources are continuing to be aggressively applied to M-89-02 activities, with focus on completing the work safely and as soon as possible. Communications and interactions with the State of Washington Department of Ecology (Ecology) and the U.S. Department of Energy, Richland Operations Office (RL) will continue as M-89-02 activities are performed and completed.

Review of the subject SWDB high dose rate waste acceptance issue determined that the most reasonable path forward that will minimize resultant impacts to activities supporting the M-89-02 milestone is for the 200 Area Central Waste Complex (CWC) to grant an exception (with RL approval) to allow receipt and storage of the higher dose SWDBs at the 200 Area. No changes are required to the CWC TSD permit for mixed waste storage.

Resolution of the subject problem is being actively pursued in order to minimize any schedule impacts in completing M-89-02 activities (and to minimize project costs). The 324 Facility is actively supporting the path forward activities. A

meeting was held with CWC on 10-17-00, and follow-up meetings were conducted with CWC/FH/RL on 10/19/00 and 10/23/00 to clarify the expected path forward for the remaining mixed waste containers to be prepared and loaded into the SWDB container system.

3. SWDB High Dose Rate Problem Description

While loading out mixed waste from the 324 Building B-Cell, the bottom of the SWDBs were determined to have localized areas (hot spots) exhibiting higher than expected dose rate readings. These high dose rate readings have caused delays in the waste acceptance process and the loadout and shipping activities for the SWDB containers. The first three SWDBs were able to be accepted for storage at the 200 Area Central Waste Complex (CWC), based on dose rate mapping grid measurements performed extensively on all surfaces and the relatively low magnitude of the hot spots observed (less than the CWC hot spot acceptance criteria of 1000 millirem/hr).

The SWDB side and top surfaces have more shielding than the bottom (as described in the section 4 below), and therefore do not have the same problem as the SWDB bottom surface. The SWDB bottom hot spot condition represents a problem when the SWDB is lifted off the ground. Measurements on the first three SWDBs shipped and the calculations for the worst case scenario show that an SWDB sitting in place will meet the 200 Area CWC acceptance criteria of exhibiting a dose rate less than 200 millirem/hr on contact (and less than 100 millirem/hr at 30 cm). If necessary, steel plate shielding may be placed below an SWDB in its CWC storage location. (Dose rate information is addressed in Section 5 below.) Feedback from CWC indicates that the measured and projected SWDB dose rate conditions for the worst case SWDB are within the CWC safety authorization basis envelope and meet the CWC mixed waste storage (TSD) permit requirements/conditions.

The magnitude of the calculated SWDB bottom hot spots for container RGC-9 and the worst case scenario SWDB are significantly higher than those observed for the first three SWDBs shipped to CWC. The estimated hot spots for RGC-9 (17,000 millirem/hr, as described below) exceed the value that would allow CWC acceptance using the criteria (hot spots less than 1000 millirem/hr on contact) used for the first three SWDBs shipped to CWC. The SWDB bottom hot spots measured on the first three SWDBs were all below 1000 millirem/hr.

Supplemental pre-loadout dose rate measurements were performed on the rectangular grout container RGC-9 placed in a Rectangular Overpack Disposal Container (RODC), but not loaded into an SWDB. This set of measurements was performed to provide a preview of potential hot spot problems. Measurements on RGC-9 (in the RODC) were performed in the 324 Building Radiochemical Engineering Cells (REC) airlock, and the container was returned to B-Cell while being evaluated. Analysis of the RGC-9/RODC measurements resulted in a calculated bottom surface hot spot value of approximately 17,000 millirem/hr. Container RGC-9 has not been loaded out into an SWDB due to the unexpected high SWDB bottom hot spots calculated for RGC-9.

Based on the design of the SWDB packaging system, some of the remaining SWDBs are expected to exhibit hot spots of similar magnitude to those calculated for RGC-9. The 324 Facility also performed a worst case scenario analysis for the B-Cell mixed waste stream and determined the maximum SWDB bottom hot spot dose rate likely to be encountered is approximately 40,000 millirem/hr. These analyses have been used as the basis for discussions with the waste acceptance organization at the CWC. Feedback from CWC indicates that the magnitude of the calculated RGC-9 bottom hot spots and the calculated worst case scenario SWDBs (approximately 40,000 millirem/hr) expected to be encountered during the SWDB loadout campaign will require RL approval of an exception request to the HNF-EP-0063 waste acceptance criteria. If dose rates are higher than currently projected, external shielding may be placed below the SWDB bottom surface at CWC.

The planned path forward for the subject SWDBs has been defined based on discussions and interactions with various FH and RL organizations/staff. The planned path forward will involve obtaining approval of a technical exception request (to HNF-EP-0063, *Hanford Site Solid Waste Acceptance Criteria*) by RL and the CWC. Initial indications are that this path forward is workable, since the subject high dose rate SWDBs will meet CWC mixed-waste storage (TSD) permit regulations and will meet CWC dose rate criteria when placed in their storage positions, and are expected to meet CWC safety basis requirements. Based on feedback from CWC, no changes to the CWC safety basis authorization are expected to be required. This path forward is the most efficient with respect to time and resources, compared with other potential options, such as reducing container payload, buying more containers, repackaging, or redesigning the SWDB containers.

Follow-up meetings/interactions have been conducted with FH and RL participants that will eventually participate in the formal documentation approval process for approving the exception request (to HNF-EP-0063) for the higher dose rate SWDBs. The 324 Building submitted an exception request to the CWC on 10/25/00. After careful review, the CWC then submitted a corresponding exception request to RL on 10/31/00. The exception request addresses allowing acceptance of SWDBs with bottom hot spot dose rates exceeding 1000 millirem/hr on contact. The exception request is undergoing rigorous review by the cognizant RL organizations. Approval by RL is expected during November.

Some SWDB activities, such as RODC preparation and SWDB loadout, have been authorized after appropriate communications and discussions with RL and Ecology. Loadout and staging of SWDB(s) has been authorized, which could result in staging SWDBs in the 324 Building 90-day mixed waste accumulation area prior to having CWC approval in place to receive specific SWDBs.

Meeting(s) and communications with RL and Ecology will continue as appropriate to accomplish the following:

- a) Ensure there are no issues/concerns with this approach
- b) Communicate information regarding the path forward and M-89-02 milestone activities status, and,
- c) Address any questions or concerns.

The subject SWDB dose rate issue has been discussed with Ecology/RL/FH at several meetings, including the following:

- a) 324 REC Project Managers Meeting on 10/12/00
- b) SWDB issue briefing meeting on 10/23/00
- c) M-89 milestone review meeting on 10/24/00
- d) M-89-02 workshop meeting on 11/08/00
- e) 324 REC Project Managers Meeting on 11/09/00, and,
- f) M-89-02 IAMIT meeting on 11/14/00.

4. Background Information Regarding SWDB Packaging System

The SWDB mixed waste containerization package consists of three nested steel containers, described as follows:

- a) An inner container (Rectangular Grout Container, RGC) that holds the waste. Except for the first SWDB shipment, all subsequent RGCs have supplemental lead shielding added to the bottom of the RGC (inside the RGC) before using the RGC to package and contain B-Cell mixed waste. The RGC is filled with waste within B-Cell. A steel plate (2-inch thick) is placed on top of the waste in the RGC to provide supplemental top shielding. (Note: the RGC does not have a lid.)
- b) The RGC is placed inside a Rectangular Overpack Disposal Container (RODC) within B-Cell. The RODC has a lid bolted in place.
- c) The RODC is then removed from B-Cell and placed inside a Steel Waste Disposal Box (SWDB) located in the 324 REC airlock. The SWDB is the container to be stored outside at the Hanford 200W Central Waste Complex (CWC). The SWDB has a lid bolted in place.

Note: For shipping/transport purposes, the SWDB is placed inside a shielded lower impact limiter container located on and secured to the transport vehicle. The impact limiter container has a lid secured in place.

As described below, the SWDBs will exhibit high bottom dose rate readings. These readings appear to follow a rectangular shape slightly wider than the outline of the RGC inside. This condition suggests gamma streaming is occurring out the bottom, between the lead inside the RGC and the 9-inch thick walls of the SWDB.

The SWDB was designed initially as a shielded container for transporting RODC containers to the 200 Area PUREX tunnels for storage. The SWDB bottom has only 4-inch thick shielding, versus 9-inch thick shielding on the SWDB sides and 7-inch thick shielding on the SWDB top. The SWDB was adapted for containerization of B-Cell mixed waste and storage at CWC.

Except for the first SWDB shipment, all subsequent RGCs have supplemental lead shielding added to the bottom of the RGC (inside the RGC) before using the RGC to package and contain B-Cell mixed waste. As mentioned above, a 2-inch thick steel plate is placed on top of the waste in the RGC to provide supplemental top shielding. The amount of supplemental lead (Pb) shielding used in an RGC

was maximized to the extent feasible (to increase shielding, but not exceed the overall SWDB weight loading limit).

Initially, CWC was planning for indoor SWDB storage. Planning was changed in mid-fiscal year 2000 to use outdoor storage, based on CWC storage considerations. The SWDBs will be placed on wooden 4x4's (to allow normal MW container inspections).

As indicated by the original approved waste profile, the dose rate on the bottom of these boxes (SWDBs) may exceed 200 millirem/hr at contact. When sited (in its storage location at CWC), a dose rate at the bottom edge of the box (SDWB) up to 1000 millirem/hr may be mitigated by the application of shielding at the expense of the generator. The CWC waste acceptance criteria regarding dose rate requirements were revised on 9/06/00 to not exceed 200 millirem/hr on contact and 100 millirem/hr at 30 cm at any point on an SWDB, including the bottom. The waste profile documentation for the 324 Building B-Cell mixed waste packages (SWDBs) had to be revised and approved to reflect this significant change in the waste acceptance criteria.

Modeling of the SWDB containerization system was based on best available "highest expected" dispersible dose and curie measurements. The source of the data was the B-Cell dispersible packaged in Engineered Containers (EC) that were dose profiled in mid-calendar year 2000. The curie content of the EC with the highest dose (EC #40) was used in the MICROSIELD™ modeling of SWDB performance.

Curie content of material in B-Cell is not uniform, based on the history of the cell. In the past, a jackhammer was used to break up a residual large piece of very high dose rate Federal Republic of Germany (FRG) glass inside a ceramic melter. Various-sized remnants of this FRG glass are likely distributed around the cell and can result in hot spots when packaged inside an RGC (and resultant SWDB).

5. SWDB Dose Rate Information

Dose rate measurements for SDWB shipment #1 (RGC-4) showed bottom hot spots up to approximately 880 millirem/hr on contact and a general SWDB surface (side and top surfaces, not counting the bottom surface) contact dose rate of approximately 2 millirem/hr. Since bottom hot spots were above the acceptance limit of 200 millirem/hr on contact, but below 1000 millirem/hr, CWC requested labeling on the side of the SWDB indicating the location of these hot spots.

Dose rate measurements for SWDB shipment #2 (RGC-6) showed bottom hot spots up to approximately 400 millirem/hr on contact and a general SWDB surface (side and top surfaces, not counting the bottom surface) contact dose rate of approximately 2 millirem/hr. Since bottom hot spots were above the acceptance limit of 200 millirem/hr on contact, but below 1000 millirem/hr, CWC requested labeling on the side of the SWDB indicating the location of these hot spots.

Dose rate measurements for SWDB shipment #3 (RGC-8) showed bottom hot spots up to approximately 760 millirem/hr on contact and a general SWDB surface (side and top surfaces, not counting the bottom surface) contact dose rate of approximately 20 millirem/hr. Since bottom hot spots were above the acceptance limit of 200 millirem/hr on contact, but below 1000 millirem/hr, CWC requested labeling on the side of the SWDB indicating the location of these hot spots

Pre-loadout dose rate measurements for SWDB shipment #4 were performed for RODC number 324-00-117 (containing RGC-9) to evaluate the potential for bottom surface hot spots. Calculations show that when eventually placed inside the SWDB, the calculated maximum SWDB bottom hot spot dose rate will be approximately 17,000 millirem/hr on contact. The dose rate calculations for RGC-9 indicated that the general SWDB surface (side and top surfaces, not counting the bottom surface) contact dose rate will be approximately on the order of 20 millirem/hr. Loadout of RGC-9 was placed on temporary hold due to the calculated SWDB bottom hot spots.

Pre-loadout dose rate measurements for SWDB shipment #5 were performed for RODC number 324-00-123 (containing RGC-5) and resulted in a calculated maximum SWDB bottom hot spot dose rate of approximately 5000 millirem/hr on contact for the eventual loaded SWDB. Dose rate calculations for RGC-5 indicated that the general SWDB surface (side and top surfaces, not counting the bottom surface) contact dose rate will be approximately on the order of 10 millirem/hr. Loadout of RGC-5 was placed on temporary hold due to the calculated SWDB bottom hot spots.

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