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MWMP - Hanford

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Department of Energy
Richland Operations Office
P.O. Box 550
Richland, Washington 99352

File Name B Plant
Integrated
RCRA ____ CERCLA ____
WQ ____ AQ ____
Administrative ____
EFSEC ____ N-Reactor ____
Milestones ____
Cross reference ____

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Mr. Michael Wilson, Manager
Nuclear Waste Program
State of Washington
Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

Dear Mr. Wilson:

RESPONSE TO FEBRUARY 28, 1996 COMPLIANCE ASSESSMENT OF THE B PLANT COMPLEX BY THE WASHINGTON STATE DEPARTMENT OF ECOLOGY (ECOLOGY) IN SUPPORT OF B PLANT TRANSITION NEGOTIATIONS

This letter provides response to the findings and recommendations identified in Ecology letter Bob Wilson to Messrs. Rick X. Gonzalez, RL, and Steve D. Godfrey, WHC, "B Plant Compliance Assessment," dated April 24, 1996.

The results of your compliance assessment identified five findings which are summarized as follows:

1. Assessment of existing tank system integrity - WAC 173-303-400 (40 CFR 265.191)

   Not all B Plant tank systems storing or treating liquid dangerous waste have complete tank integrity assessments.

2. Identifying solid waste - WAC 173-303-016
   Designation of dangerous waste - WAC 173-303-070

   Many tanks have unknown contents and volumes.

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3. Spills and discharges into the environment - WAC 173-303-145

   Action has not been adequately taken to determine the extent of contamination and ultimate impact to human health and the environment resulting from a spill from the 221-B facility in 1990.

4. Interim status requirements - WAC 173-303-400

   Requirements for inspections, labeling, secondary containment, and leak detection are not being met within the 221-B canyon.

5. Personnel training - WAC 173-303-330

   The written training plan did not include the name, job title, and job description of each employee filling a dangerous waste management position.

Based on discussions held with the Ecology Project Manager for the B Area Project (Laura Russell) and agreements reached during B Plant transition negotiations under the Tri-Party Agreement, the actions set forth in the enclosure to this letter will be taken to resolve the findings identified by the Ecology assessment.

If you have any questions regarding the resolutions described in this letter, please contact Richard X. Gonzalez at (509) 373-9922.

Sincerely,

for James E. Rasmussen, Director
Environmental Assurance, Permits,
and Policy Division

TPD:RXG

Enclosures

cc w/encls:
L. E. Russell, Ecology
R. W. Wilson, Ecology

cc w/o encls:
S. D. Godfrey, WHC
R. E. Heineman, WHC
S. E. Killoy, WHC
J. C. Midgett, WHC

Actions to be Taken by RL to Resolve Findings of Compliance Assessment

1. Assessment of existing tank system integrity - WAC 173-303-400 (40 CFR 265.191)

   Tank 10-1 and tank 9-1, cited specifically as not having been assessed for system integrity, were identified in February 1996, as dangerous waste tanks when the B Plant low-level liquid waste stream was re-designated. While not assessed for tank system integrity, liquid levels for tank 10-1 and tank 9-1 have been continuously monitored, and the data from the monitoring is reviewed as part of daily plant surveillance. As discussed with Ecology's B Plant Transition Team, tanks 10-1 and 9-1 are scheduled to be removed from service and isolated by September 30, 1998. Therefore, RL will continue tank liquid level monitoring and will perform daily surveillance of the tank liquid levels for 10-1 and 9-1. Liquid level monitoring and daily surveillances for B Plant tank systems actively managing dangerous waste will be maintained, where capabilities exist, until the waste sources are eliminated and the tanks deactivated. For tanks that cannot be inspected (i.e., tank level monitoring, daily surveillance of tank level data) a complete inventory of the tank number(s), tanks(s) contents and major risks will be maintained, as well as the respective reasons why the inspection requirements cannot be met (Attachment 1 to this enclosure). Additionally, the cell 10 sump liquid level monitoring will be maintained, daily surveillance of the sump levels conducted, and appropriate action taken when indications of liquid in the sump are detected. This action will occur until tank 10-1 is deactivated.

   Based on discussions with the Ecology Project Manager and because of the planned deactivation of B Plant, no visual inspections, integrity tests, or secondary containment upgrades will be performed for B Plant tank systems unless the tanks are operated beyond September 30, 1998. Ground water monitoring issues are discussed below and provide response to Ecology's recommendation that ground water monitoring and/or subsurface geophysical monitoring be considered as alternatives to integrity assessment.

2. Identifying solid waste - WAC 173-303-016
   Designation of dangerous waste - WAC 173-303-070

   B Plant is currently undergoing efforts to identify, characterize, and manage liquid waste being stored at levels above "minimum tank heels" in canyon tanks that have been considered inactive since completion of the B Plant cesium and strontium recovery mission in 1985.

   As part of discussions held with Ecology regarding B Plant Transition, RL and WHC proposed guidelines for tank management. The guidelines included assumptions influencing vessel disposition, and a table of vessel categories and recommendations for management of tanks found to contain inventories above "minimum tank heel." Ecology concurred with these guidelines

in Attachment 2 to this enclosure. Since that time, RL and WHC have proceeded to identify tanks not monitored since 1985, that may contain residual inventories in accordance with the approved guidelines. A tank contents and inventory matrix has been prepared to identify all tanks and vessels at the plant, their historical use, and their current status. This matrix has been shared with Ecology to support transition negotiations and development of the change package and "Agreement in Principle" that has been prepared by RL and Ecology.

All waste identified during these efforts will be designated and managed according to all applicable requirements. Complete waste inventories, including waste descriptions, and associated hazards will be included in appropriate transition documents. Additionally, all tanks identified during this effort as having managed dangerous waste after the date of mixed waste regulation in 1987, will be added to the B Plant Part A Permit Application. The revision is scheduled to be completed prior to formal approval of the B Plant Transition Negotiations Milestone package.

RL and WHC have identified all known waste sites, including miscellaneous underground tanks, in the B Plant Complex area, and have included the waste sites that are included in the B Plant transition project scope in the "B Plant Transition Project Management Plan." RL and B Plant Transition Project staff are working with other site programs (e.g., TWRS, etc.) to identify ownership of those waste sites not part of the B Plant Transition Project workscope so that they may be properly managed.

3. Spills and discharges into the environment - WAC 173-303-145

The Ecology assessment notes a 1990 spill of between 85,000 and 230,000 gallons of radioactive steam condensate that leaked to the soil underneath the canyon through a construction joint between cells 38, and 39 in the B Plant canyon, and a corollary note that the B Plant low-level waste stream is designated as a dangerous waste for corrosivity, toxicity, and listed constituents, and consists of steam condensate.

A clarification should be made that the steam condensate released in 1990 was generated through using steam in a steam heater for the vessel ventilation system, and as the heater is designed (i.e., shell and tube heat exchanger), the steam does not come into contact with waste being managed in B Plant. The radioactive contamination in the condensate was picked up through contact with radioactive contamination in the expansion joint through which it traveled.

RL agrees that soil contamination and ground water impacts from historical operations on the Hanford Site, including B Plant operations, should be evaluated to support effective cleanup and remediation.

Discussions with the Ecology Project Manager and other Ecology representatives have been initiated and are ongoing regarding current ground water monitoring capabilities around B Plant and the associated area. RL commits to continue to discuss soil and ground water monitoring with Ecology regarding appropriate levels of monitoring and investigation needed to protect human health and the environment.

The B Plant Pre-Closure Work Plan that will be developed for B Plant Transition will reflect any agreements reached between Ecology and RL regarding ground water monitoring and/or subsurface geophysical monitoring around B Plant. The Pre-Closure Work Plan is scheduled for submittal to Ecology for approval according to the proposed modified TPA milestone M-20-21A by March 1999.

4. Interim status requirements - WAC 173-303-400

All tanks currently under the interim status requirements in WAC 173-303-400 are located in high radiation areas at B Plant (e.g., B Plant canyon). Therefore, canyon access points are controlled. Cells containing dangerous waste tanks are remote access only and therefore, no labeling will be performed. B Plant will continue daily surveillance of level monitoring of tank systems until they are emptied and inactive. Tank inspection requirements will not be enforced on tanks that are emptied and inactive. B Plant tank management strategies are presented in Attachment 2 to this enclosure.

In accordance with Attachment 1, RL and WHC will identify tank numbers and respective reasons why requirements cannot be met for all active dangerous waste tanks (i.e., inspection and labeling requirements), and will maintain a complete inventory of major risks and waste inventories, including waste descriptions and associated hazards. This information will be included as supplemental information to the tank matrix being prepared, and will be provided to Ecology as the tank matrix is finalized. The Inspection Plan for B Plant and it's implementing procedure will clearly reflect all tanks requiring inspection.

RL agrees with Ecology's position in Attachment to the letter regarding secondary containment and leak detections system upgrades. Therefore, because B Plant is in transition to shut down, no upgrades to secondary containment or leak detection systems will be performed. Continuous tank level monitoring will be maintained for active B Plant dangerous waste tanks, and daily surveillance of the tank levels will be performed until the tanks are emptied and inactive.

5. Personnel training - WAC 173-303-330

RL agrees with the Ecology position that a compliant written training plan must be maintained. In order to minimize costs and administrative burden, WHC will maintain up-to-date records for personnel trained to perform dangerous waste management duties, and will formally update lists in the training plan of plant personnel performing dangerous waste management duties on a quarterly basis. The updates will include the employee's name, job title, and job description.

This resolution in no way lessens the responsibility of RL and WHC to ensure that those employees conducting dangerous waste management activities have necessary training to conduct the work safely, and in a manner that protects human health and the environment.

Attachment 1

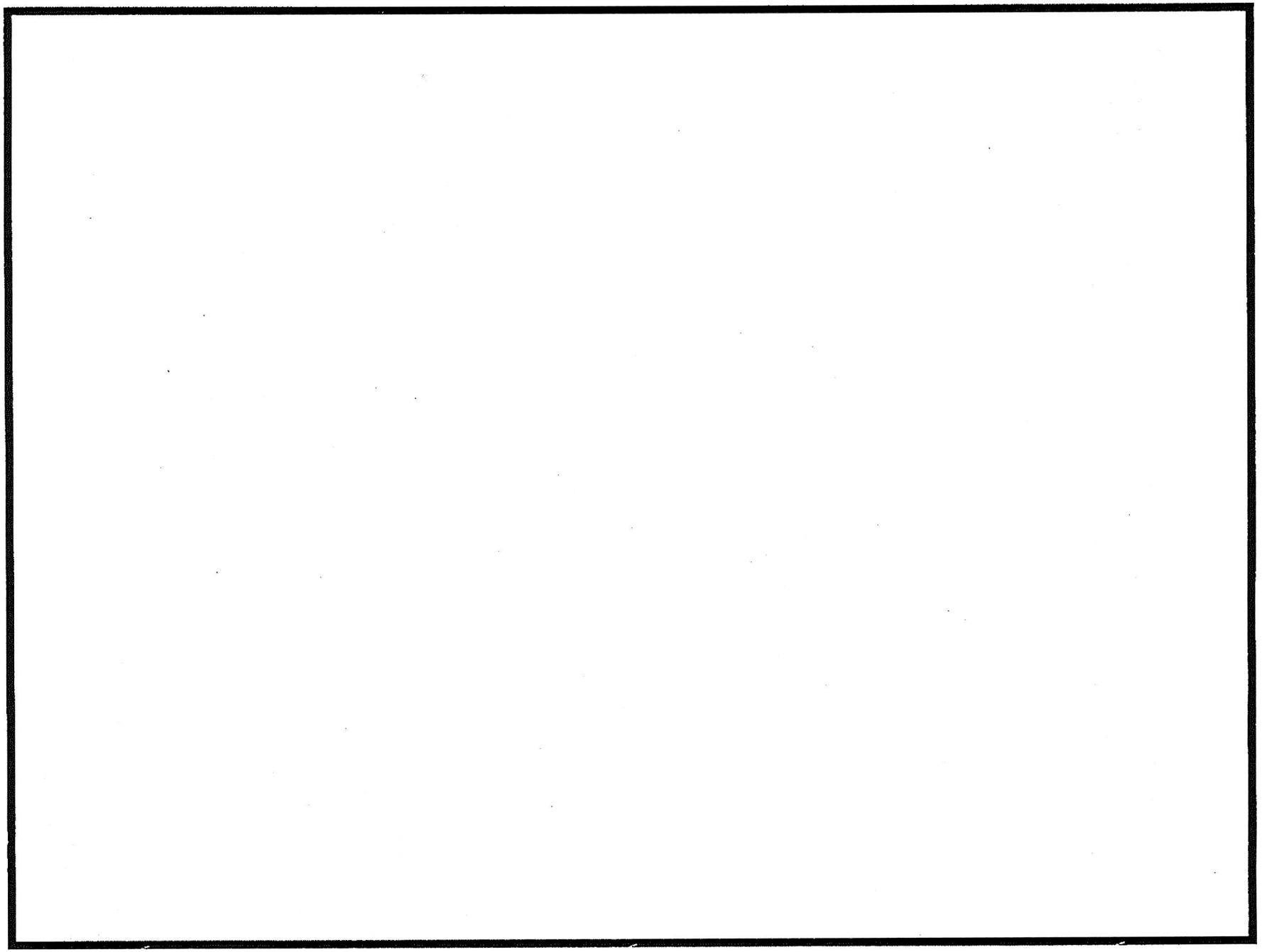
Tank Management and Interim Status Compliance Strategies

(as extracted from Draft TPA Ageeement in Principle for B Plant)

Management of B Plant Vessels during Facility Transition
-- Assumptions and Recommendations --

ASSUMPTIONS INFLUENCING VESSEL MANAGEMENT

- All parties will work together to accomplish B Plant transition in a timely and cost-effective manner.
- Protection of human health and the environment must be provided.
- ALARA principles will be followed; unnecessary exposure of workers to radiological, chemical, and other industrial hazards will be minimized whenever possible.
- Vessel management discussions should be limited to vessels that are part of B Plant transition.
- The purpose of vessel flushing is to reduce risk of release to the environment.



ASSUMPTIONS INFLUENCING VESSEL MANAGEMENT

(Cont.)

- Based on PUREX precedence, flushing and sampling will not be required on any tank that is not on/will not be added to the Part A.

- Vessel flushing will not eliminate the need to address listed waste issues during the surveillance and maintenance phase and at the time of final closure of the plant.

- B Plant vessels were used in a precipitation/dissolution process. Flushing with water solutions will have only limited impact on removal of precipitates currently in vessels.

ASSUMPTIONS INFLUENCING VESSEL MANAGEMENT

(Cont.)

- Process equipment (e.g., silver reactor, failed concentrator) that has been removed from service (i.e., removed from process location) will be handled as contaminated debris within the permitted containment building.

- Waste generation during vessel management activities will be minimized to the extent possible.

B PLANT VESSEL CATEGORIES AND RL RECOMMENDATIONS FOR VESSEL MANAGEMENT DURING TRANSITION

Vessel category based on location & contents	Summary of vessel status	RCRA permitting status	Risk[1] if take no action	Risk after flushing and sampling; Cost of flushing/sampling	RL recommendation; Basis for recommendation
A. Chemical feed tanks outside canyon proper; emptied (dry or min heel) by 04/02/96	Most have been flushed.	Not applicable	Low	Low; Cost = time and money; potential chemical exposure to workers	Flush at discretion of plant to eliminate hazard based on PUREX precedence. Use process knowledge to document any remaining hazard.
B. Chemical feed tanks outside canyon proper; will not be empty by 04/02/96	Most have been flushed; remaining solution may be flush solution. Any remaining chemical feed may be recyclable.	Not on Part A	Low to moderate before emptying, depending on contents; low after emptying.	Low Cost = time and money; potential chemical exposure to workers	Empty as soon as possible. Exclude active tanks with usable/recyclable material from further discussion at this time. Document past flushing actions. For any tank that has already been flushed to the point that heels do not designate, no further flushing is necessary based on PUREX precedence. Do NOT add such tanks to Part A. For any tanks containing heels that designate as dangerous waste (1) add tank to Part A, (2) flush, and (3) sample as appropriate only if process knowledge is not sufficient to properly designate. Document any hazard remaining after flushing.

Vessel category based on location & contents	Summary of vessel status	RCRA permitting status	Risk[1] if take no action	Risk after flushing and sampling; Cost of flushing/sampling	RL recommendation; Basis for recommendation
C. Canyon process vessels; emptied (dry or minimum heel) prior to 8/87	Most have been flushed.	Not applicable	Low	Low Cost = time and money; potentially significant chemical and radiological exposure to workers	Document past flushing actions. No further flushing is necessary based on PUREX precedence. Use process knowledge to document any remaining hazard.
D. Canyon process vessels that processed listed/mixed waste; emptied (dry or minimum heel) after 8/87 and remained empty	Most have been flushed.	On Part A or need to be added to Part A	Low	Low Cost = time and money; potentially significant chemical and radiological exposure to workers	Ensure inclusion on Part A. Document past flushing actions. Further flushing would not reduce risk but would carry significant costs; therefore, no additional flushing is recommended. Use process knowledge to document any remaining hazard.
E. Canyon process vessels that processed listed/mixed waste; contain liquid over minimum heel	Most have been flushed.	On Part A or need to be added to Part A	Moderate before emptying; low after emptying.	Low Cost = time and money; potentially significant chemical and radiological exposure to workers	Ensure inclusion on Part A. Empty as soon as possible. Sample in vessel or in LLW system, for constituents identified in WAP, prior to transferring solution to TF. Document past flushing actions. Further flushing would not reduce risk but would carry significant costs; therefore, no additional flushing is recommended. Use sample results to document any remaining hazards.

Vessel category based on location & contents	Summary of vessel status	RCRA permitting status	Risk[1] if take no action	Risk after flushing and sampling; Cost of flushing/sampling	RL recommendation; Basis for recommendation
F. Other process vessels outside canyon building	Under evaluation.	Not on Part A	Under evaluation.	Low Cost = time and money; potentially significant chemical and radiological exposure to workers	Evaluate applicability of permitting, flushing, and sampling requirements based on vessel status. Use process knowledge or sample results (as appropriate) to document any remaining hazards.

[1] "Risk" indicates risk of potential release of dangerous waste (liquids) that could impact human health or the environment. Risk is identified in relative terms of Low, Moderate, or High. It is assumed that the risk of release from any empty tank is low.

Interim Status Compliance Issues

INTERIM STATUS COMPLIANCE ISSUES[3]

Interim status requirement	Issue	Proposed compliance measure during B Plant transition phase	Proposed compliance measure during B Plant S&M phase[2]
Daily visual inspection of aboveground tank systems WAC 173-303-640(6)(b) 40 CFR 265.195	B Plant does not perform daily visual inspections of above ground portions of dangerous waste tank systems in the canyon.	Continue daily surveillance of level monitoring of tank systems until they are emptied and inactive. Tank inspection requirements will not be enforced on tanks that are emptied and inactive.[4]	Tank inspection requirements will not be enforced on tanks that are emptied and inactive. Surveillance and maintenance will be in accordance with the S&M Plan.[4]
Annual integrity test of tank systems without compliant secondary containment WAC 173-303-640(4)(i) 40 CFR 265.193(i)	B Plant does not perform annual integrity tests of dangerous waste tank systems in the canyon that do not have compliant secondary containment, except as required by TPA milestone M-32.	No integrity tests or leak tests will be performed. Alternative compliance methods, approved by Ecology, will be developed and implemented during transition.	No integrity tests or leak tests will be performed. Surveillance and maintenance will be in accordance with the S&M Plan.
Secondary containment and leak detection WAC 173-303-640(4) 40 CFR 265.193	Leak detection and secondary containment for dangerous waste tank systems in the B Plant canyon do not meet all applicable requirements.	No upgrades to secondary containment or leak detection systems will be performed. Alternative compliance methods, approved by Ecology, will be developed and implemented during transition.	No upgrades to secondary containment or leak detection systems will be performed. Surveillance and maintenance will be in accordance with the S&M Plan.
Major risk labelling of tank systems WAC 173-303-400(3)(a)(iii) WAC 173-303-640(5)(d)	Dangerous waste tank systems in the B Plant canyon are not marked with major risk labels.	The canyon is a high radiation area; therefore, canyon access points are controlled. Cells containing dangerous waste tanks are remote access only. No labelling will be performed.[4]	Cells containing tanks are remote access only. No crane access will occur during S&M because the canyon crane will be unavailable. No labelling will be performed.[4]

Interim status requirement	Issue	Proposed compliance measure during B Plant transition phase	Proposed compliance measure during B Plant S&M phase[2]
Major risk labelling of containers WAC 173-303-630(3)	The containers stored in Cell 4 container storage are not marked with major risk labels.	Proper labeling will be marked on the drums at the time of disposal. However, high radiation in the drums causes the labels to deteriorate and fall off. Drum inventories will be maintained. A major risk label has also been located on the key cover block over the cell. Canyon access points are controlled because the canyon is a high radiation area. Cell 4 container storage is remote access only.	Cell 4 is remote access only. No crane access will occur during S&M because the canyon crane will be unavailable.
Weekly inspections of containers WAC 173-303-320(2) WAC 173-303-630(6)	Weekly inspections of containers in the Cell 4 container storage area are not performed.	Conduct visual inspections of the containers in storage when new drums are placed into Cell 4, or conduct inspections at least annually in accordance with the TSD inspection plan.	No visual inspections of the cell 4 container storage area will be performed during S&M. The canyon crane will be unavailable during S&M and would be required to access the cell. Surveillance and maintenance will be in accordance with the S&M Plan.
Inspection and surveillance of tank systems WAC 173-303-320 WAC 173-303-400 WAC 173-303-640	No inspection or surveillance is performed on empty and inactive interim status dangerous waste tank systems in the canyon.	Inspections or surveillance will not be performed on tank systems that are empty and inactive.[4]	Tank inspection requirements will not be enforced on tanks that are empty and inactive. Surveillance and maintenance will be in accordance with the S&M Plan.[4]

[2] The S&M Plan requirements pertaining to TSD units will be finalized during the transition phase as part of the Preclosure Work Plan. These requirements will be agreed to by RL, Ecology, WHC, and Bechtel in accordance with TPA Amendment 6, Section 8.0.

[3] These requirements are applicable to permitted or soon to be permitted tanks in the 221-B canyon, 221-BB, and 221-BF facilities.

[4] RL/WHC will identify tank/vessel numbers and respective reasons why requirements cannot be met. For tanks/vessels which cannot be inspected and/or labeled, RL/WHC will maintain a complete inventory of major risks. The Inspection Plan for B Plant and its implementing procedure(s) will clearly reflect all tanks/vessels requiring inspection. Complete waste inventories, including waste descriptions, associated hazards, and end-point criteria, will be included in appropriate transition documents.

Attachment 2

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
1315 W. 4th Avenue • Kennewick, Washington 99336-6018 • (509) 735-7581

March 7, 1996

Mr. Rick Gonzalez
U.S. Department of Energy
P.O. Box 555
Richland, WA 99352

Mr. Steve Godfrey
Westinghouse Hanford Company
P.O. Box 1970
Richland, WA 99352

Dear Messrs. Gonzalez and Godfrey:

Re: B-Plant Transition Activities

During the B-Plant Transition technical review meeting on February 29, 1996, the U.S. Department of Energy (USDOE) and Westinghouse Hanford Company (WHC) staff asked the Washington State Department of Ecology (Ecology) to respond to four issues presented thus far by USDOE and WHC relating to B-Plant transition: Containerized Cell 4 Waste, Listed Waste, Tank Management, and Compliance Assessment. This letter provides Ecology's response.

Containerized Cell 4 Waste: USDOE/WHC has proposed leaving highly radioactive and mixed waste containers in Cell 4 until the facility disposition phase. (Reference: February 22, 1996, meeting handout.)

Ecology concurs with USDOE/WHC's proposal provided (1) waste/container inventories are complete and accurate, and (2) complete waste descriptions, associated hazards, and end-point criteria are described within the B-Plant end-point criteria document, surveillance and maintenance plan, and pre-closure workplan. Cell 4 has interim status for storing such waste, as identified in the B-Plant Complex Part A, dated November 22, 1995, and can continue to accept waste from the Waste Encapsulation Storage Facility. Milestones will be needed for submittal of the end-point criteria document, surveillance and maintenance plan, and pre-closure workplan.

Listed Waste: On November 22, 1995, USDOE/WHC modified the B-Plant Complex Part A, Form 3, to include listed waste codes that apply to B-Plant waste. USDOE/WHC has proposed

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an approach for managing B-Plant Canyon Waste Streams to meet regulatory requirements for listed waste classification/designation. (Reference: February 8, 1996, meeting handout.)

Ecology concurs with USDOE/WHC's approach for managing liquid waste, organic solvent waste, solid waste, and contaminated equipment, as it relates to listed waste classification/designation. No further permitting action is required at this time with regard to listed waste.

USDOE/WHC's presentation on managing the organic solvent waste included plans for removing the waste to a compliant storage outside the B-Plant Canyon. (Milestone M-32-07-T05 requires disposition of the waste to an offsite disposal facility or compliant interim storage by June 1996.) Ecology is concerned with long-term plans for interim storage outside the B-Plant Canyon when active treatment, storage, and/or disposal (TSD) management is not in B-Plant's future. Ecology requests USDOE/WHC present options for managing this waste elsewhere at Hanford, e.g., at a location where radioactive liquid waste is already being stored or where TSD facility requirements are already in place. Ecology would like to work with USDOE/WHC in developing alternative ideas for management of this waste stream.

Tank Management: USDOE/WHC has proposed guidelines for tank management, including assumptions influencing vessel disposition, and a table of vessel categories and recommendations. (Reference: February 29, 1996, meeting handout.)

Although several critical tank management issues have yet to be discussed in sufficient detail, e.g., adequacy of process knowledge or sample collection/analytical requirements, Ecology concurs thus far with USDOE/WHC's assumptions, as identified in the February 29, 1996, handout. Ecology also concurs with USDOE/WHC's table of vessel categories and recommendations with the following exceptions/clarifications:

- Category C and D: The applicable date for applying mixed waste regulation via RCRA is August 1987.
- Category F: Other process vessels outside the canyon may require RCRA permitting. Determination needs to be based on process knowledge, sample results, vessel status, etc.

USDOE/WHC also presented an idea of puncturing canyon tanks as a means of removing the liquid wastes inside. Ecology encourages innovative thinking and supports this concept; however, additional technical discussions regarding drain system integrity, compatibility, etc., are needed.

Compliance Assessment: Ecology performed a compliance assessment of B-Plant on February 28, 1996. The report is being developed and a response letter is forthcoming. Ecology's goal is to identify, clarify, and resolve interim status compliance issues within the assessment framework, e.g., requirements for labeling, inspection, secondary containment.

I hope this letter helps to clarify Ecology's position on the aforementioned issues. I have been very pleased with communication on this project, and hope to continue in a positive way. Please feel free to contact me at (509) 736-3024 if you have any questions about this letter.

Sincerely,

Laura Russell

Laura Russell
B-Area Project Manager
Nuclear Waste Program

LR:mf

cc: Dave Evans, USDOE
Paul Krupin, USDOE
Jim Mecca, USDOE
Chris Midgett, WHC

Dixon, Brian J

From: Dixon, Brian J
Sent: Thursday, August 28, 2014 11:40 AM
To: ^Administrative Record
Cc: Childers, Heather M; Williams, Joel F Jr
Subject: Document to be Added to AR
Attachments: 20140825100304444.pdf

I have not been able to find this letter in the AR and DOE has requested that it be added. I will provide a printed copy by plant mail.

Appropriate references to the letter could include B Plant, OU 200-CB-1, and TSD Unit TS-2-3.

Thanks,
Brian