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

OCT 25 1996

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Recommended

97-EAP-032

Ms. Mary Riveland, Director
State of Washington
Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

Mr. Chuck Clarke
Regional Administrator
U.S. Environmental Protection Agency
Region 10
1200 Sixth Avenue
Seattle, Washington 98101

RECEIVED
OCT 28 1996
DEPARTMENT OF ECOLOGY
OFFICE OF DIRECTOR

Dear Ms. Riveland and Mr. Clarke:

CHANGE REQUEST M-82-96-01: "ESTABLISH MILESTONES AND TARGET DATES FOR B PLANT FACILITY TRANSITION, MILESTONE SERIES M-82"

Enclosed for your approval is Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) Change Control Form M-82-96-01 (Enclosure 1) referenced above. This change request has been discussed extensively with State of Washington, Department of Ecology (Ecology) and U.S. Environmental Protection Agency (EPA) staff and agreed to in draft form. Also included for your approval is Change Control Form M-20-96-01 (Enclosure 2) which reflects the revised milestone number M-20-21A.

During the 45 day public comment period, only one letter of comment was received. I am also enclosing a copy of this letter and our response (Enclosure 3). The response was developed jointly between Ecology and U.S. Department of Energy, Richland Operations Office (RL) staff. Enclosure 4 is the B Plant Issues Resolution Summary. This summary reflects agreements made during the B Plant Facility Transition Tri-Party Agreement negotiations.

If there are any questions, please contact me or your staff may contact Jim Mecca, Director, Transitions Program Division on (509) 376-7471 or Paul Krupin of the Environmental Assurance, Permits, and Policy Division on (509) 373-7589.

Sincerely,

John D. Wagone
John D. Wagone
Manager

EAP:PJK

Enclosures (4)

cc: (List on reverse side)



ENCLOSURE 1

FEDERAL FACILITY AGREEMENT

AND

CONSENT ORDER (FFCA)

CHANGE CONTROL FORM

M-82-96-01

Change Number M-82-96-01	Federal Facility Agreement and Consent Order Change Control Form <small>Do not use blue ink. Type or print using black ink.</small>	Date 10/18/96
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Originator S. D. Godfrey	Phone (509) 372-0501
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Class of Change <input checked="" type="checkbox"/> I - Signatories <input type="checkbox"/> II - Executive Manager <input type="checkbox"/> III - Project Manager

Change Title

Establish milestones and target dates for B Plant Facility Transition, Milestone Series M-82.

Description/Justification of Change

 On October 5, 1995, official shutdown notice for the B Plant Facility at Hanford was received from the U. S. Department of Energy, Headquarters. B Plant, having no identified future mission, meets the definition of a "key facility," as described in Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement), Sixth Amendment, Section 8.0, "Facility Decommissioning Process." As a result, B Plant has initiated the facility transition phase of decommissioning, in accordance with the Tri-Party Agreement (TPA), Sixth Amendment, Section 8.0.

The B Plant Transition Project has been developed to establish a safe and environmentally secure configuration for B Plant, to achieve necessary preclosure actions, and to transition B Plant to the surveillance and maintenance (S&M) phase. The transition project will remove, reduce, and/or stabilize major radioactive and chemical sources at B Plant. Completion of transition activities will result in reduced risk to plant workers, the public, and the environment. After transition is complete, B Plant will continue to be routinely monitored throughout the S&M phase until decommissioning and closure are complete.

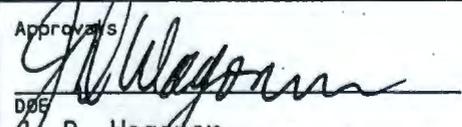
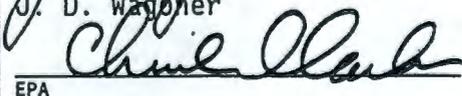
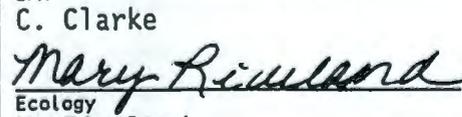
(Continued on next page)

Impact of Change

 This change control form establishes a new major milestone, interim milestones, and target dates for the transition of B Plant. On approval, Hanford site planning and budget development documents (e.g., Sitewide System Engineering control documents, Project Management Plans, and Multi Year Work Plans) will be modified accordingly.

Affected Documents

 Hanford Federal Facility Agreement and Consent Order, as amended by its Sixth Amendment, February 1996, Hanford site internal planning and budget documents (e.g., Sitewide System Engineering control documents, Project Management Plans, and Multi Year Work Plans).

Approvals  <small>DDE</small> J. D. Wagner	10/25/96 <small>Date</small>	<input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved	
 <small>EPA</small> C. Clarke	11/27/96 <small>Date</small>	<input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved	
 <small>Ecology</small> M. Riveland	11/26/96 <small>Date</small>	<input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved	

Description/Justification of Change (continued):

The B Plant decommissioning and closure process, as described in the Tri-Party Agreement, Section 8.0, will be accomplished in three phases:

- Phase I - Facility Transition Phase (including TSD unit preclosure actions),
- Phase II - Surveillance and Maintenance Phase, and
- Phase III - Facility Disposition Phase (including TSD unit closure).

The mission of the B Plant Transition Project is to place B Plant and its ancillary facilities in a safe, environmentally sound, and stable condition which requires minimal long term surveillance and maintenance, thereby reducing the risks associated with the current radiological and chemical inventory and the costs for S&M until the facility disposition phase. The overall goal of the B Plant Transition Project is to complete B Plant facility transition (Phase I) by September 30, 1998, and turnover B Plant to the environmental restoration contractor in fiscal year 1999 for cost effective, long term S&M. At the completion of Phase I, transition will be complete, necessary preclosure actions will be complete and/or approved, and Phase II (S&M) will begin. Transition of B Plant will result in a reduction of the hazards and risks associated with these facilities and will greatly reduce the costs of surveilling and maintaining these facilities until the facility disposition phase is initiated. When transition is completed, it is expected that funds will be available for higher priority site environmental management activities.

Tank/vessel management activities to be performed during transition will be dependent upon: 1) the historical use of the tank/vessel in question, 2) the current status, and 3) the degree to which any given activity will reduce the risk of a release of hazardous substances to the environment. Inactive chemical feed tanks at B plant have been emptied and flushed prior to becoming subject to HWMA/RCRA requirements. Liquid wastes removed from the deactivation of chemical supply and distribution systems (e.g., tanks, headers) will be managed as newly generated waste. The majority of B plant vessels which were used to manage listed/mixed waste have been emptied and flushed prior to the date of mixed waste regulation (1987). Nevertheless, some tanks and vessels located within the B plant canyon have remained active since the plant was shutdown in 1985. These tanks and vessels supported routine canyon waste handling activities. Some canyon tanks and vessels contained liquids, after the date of mixed waste regulation, above levels which constitute a "minimum heel." Flushing of those tanks and vessels which contained or still contain liquids above minimum heels will not reduce the risk of a release to the environment. Therefore, additional flushing of these vessels will not be required. During the transition period, all vessels that contain liquids above a minimum heel will be emptied. A tank or vessel will be considered empty when its contents have been removed (e.g., pumped, jetted) to the fullest extent possible. Liquids removed from deactivated tanks and vessels will be sampled, treated to meet Tank Farms acceptance criteria, and transferred to the Tank Farms for subsequent waste management and disposal. Sampling and analysis will be performed as necessary, and as approved by Ecology, to support waste transfer to Tank Farms and to assist in the identification of those dangerous wastes and hazardous substances remaining in the facility.

With the exception of closure requirements, interim status requirements will be managed in accordance with the Attachment (B Plant Issues Resolution Summary). Transition activities will minimize potential threats to human health and the environment posed by wastes previously managed at B Plant. The B Plant Dangerous Waste Part A Permit Application, Form 3, will be revised to include any vessel that managed listed/mixed waste after the date of mixed waste regulation. A Preclosure Work Plan for treatment, storage, and disposal (TSD) units within B Plant will be developed and submitted to Ecology (lead regulatory agency) for approval (this milestone is contained in the M-20 milestone series, as milestone M-20-21A). The B Plant S&M Plan and proposed B Plant end point criteria will be submitted as part of this Preclosure Work Plan covering TSD units and hazardous substances that are proposed to remain at B Plant after completion of facility transition. Closure of B Plant TSD units will be achieved in conjunction with facility disposition.

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During transition, highly radioactive and mixed solid waste generated by WESF will continue to be received in Cell 4 of the 221-B canyon. Cell 4 will continue to store this waste until facility disposition and closure. No liquid waste will be stored in Cell 4.

Throughout the B Plant transition project, opportunities to implement waste minimization will be reviewed and implemented to the extent practicable. Waste minimization activities that have been or are now planned as part of this project include the recycling of bulk commercial chemical products, the reduction of hazardous materials used at the facility, and the reduction of flushing activities. These activities and others that may be identified will reduce the volume of waste being transferred to the Double-Shell Tanks. The volume of cooling water and steam condensate discharged to the ground will also be minimized as a result of transition and will be released in accordance with the limitations established pursuant to Consent Order No. DE-91NM-177.

This change control form establishes the following major and interim milestones and target dates for the facility transition phase at B Plant (Phase I):

MILESTONE	DESCRIPTION	DUE DATE
M-82-00	Complete B Plant Facility Transition Phase and Initiate the Surveillance and Maintenance Phase Completion of this major milestone includes the following key elements: (1) completion of all activities necessary to achieve end point criteria for placing the B Plant facility in a safe and stable S&M mode, and (2) completion of all activities described in the following interim milestones and target actions.	September 1999
M-82-01	Submit End Point Criteria for Transition of B Plant A document identifying end point criteria necessary to place B Plant in an environmentally sound, safe, and stable configuration will be submitted to Ecology for review and approval. The end point criteria document will become part of the Preclosure Work Plan. Subsequent to this initial submittal, the end point criteria document will be updated throughout transition to reflect changes that will occur during deactivation work activities. The B Plant Preclosure Work Plan submittal is covered under interim milestone M-20-21A.	June 1996
M-82-02	Complete Deactivation of the B Plant 211-B Area Deactivation of the 211-B Area includes as necessary, but is not limited to, removing any remaining chemical inventory, flushing or emptying tanks and supply headers, isolating utilities, and decontaminating/stabilizing surfaces contaminated with hazardous materials.	January 1997
M-82-03	Complete Removal of Organic Solvent Waste from the B Plant Canyon Organic solvent waste stored in the B Plant Canyon will be removed from the Canyon and transferred to a RCRA compliant storage facility outside the B Plant canyon.	June 1997

An S&M plan will be submitted to Ecology for their review and approval, as part of the Preclosure Work Plan for TSD units and for hazardous substances/dangerous wastes. The S&M Plan will describe those activities which will occur during the S&M period and will include a list of hazardous substances/dangerous wastes which will remain at the B Plant facility following transition. Subsequent to this initial submittal, the S&M Plan will be updated throughout transition to reflect changes that will occur during deactivation work activities.

The B Plant Preclosure Work Plan submittal is covered under interim milestone M-20-21A.

M-82-05 Complete Deactivation of the B Plant Aqueous Makeup Area **May 1998**

Deactivation of the Aqueous Makeup Area includes, but is not limited to, removing any remaining chemical inventory, flushing or emptying tanks and supply headers, isolating utilities, and decontaminating/stabilizing surfaces contaminated with hazardous materials.

M-82-06 Complete Deactivation of the B Plant Liquid Effluents Area **May 1998**

Deactivation of the Liquid Effluents Area includes, but is not limited to, eliminating B Plant sources to the B Plant Cooling Water (CBC) and Chemical Sewer (BCE) streams, isolating B Plant from liquid effluent streams, isolating utilities, deactivating associated support facilities, and decontaminating/stabilizing contaminated surfaces.

M-82-07 Document Hazardous Substances/Dangerous Wastes Remaining within B Plant **June 1998**

Hazardous substances/dangerous wastes will remain within B Plant upon completion of Facility Transition activities. Hazardous substances include, but are not limited to: (1) non-dangerous waste components that are highly radioactive, (2) part of the plant structure (e.g., lead shielding in walls), (3) intact pieces of equipment (e.g., silver reactors, lead counterweights in jumpers, etc.), and (4) highly radioactive containerized waste stored in Cell 4 (e.g., Cesium, Strontium, and Lead). The list prepared in milestone M-82-04 will be updated to include any materials identified during deactivation activities not identified in the initial submittal.

M-82-08 Complete Disposition of Organic Solvent Waste **September 1998**

Organic solvent waste removed from the B Plant canyon and transferred to RCRA compliant storage will be disposed of to another RCRA compliant disposal facility, either on or off the Hanford Site. Activities performed to support disposal of the organic solvent waste may include additional sampling and treatment. In the event that organic disposal is not achievable by September 1998, the organic solvent waste will be moved from interim storage at B Plant to another RCRA compliant storage location at a Hanford Site facility.

M-82-09

0713510, 2082
Complete Decoupling of WESF from B Plant

December 1998

B Plant currently supports the WESF mission by supplying deionized water, receiving and disposing of low level liquid waste, receiving solid waste, and receiving and monitoring effluent streams. The isolation or "Decoupling" of WESF from B Plant will involve the replacement of these essential systems/services from a source other than B Plant to allow standalone operation of WESF.

M-82-10

Complete Deactivation of the B Plant Canyon

September 1999

Deactivation of the B Plant canyon includes, but is not limited to, isolating canyon piping to external facility interfaces (e.g., Tank Farms, 216-B3 Pond, cribs, etc.), removing organic solvent waste, and emptying process vessels. Vessels with liquid (other than organics) above minimum heel will be emptied and the liquid will be appropriately disposed to Tank Farms. Sampling and analysis will be performed as necessary to support disposal and to assist in developing an inventory of hazardous substances/dangerous wastes to remain within the facility. Flushing of vessels will not be required, but may be performed at the discretion of the facility, as needed to complete disposal activities.

M-82-10-T01

Complete Isolation/Stabilization of Retired Filters and Provide Operating Canyon Ventilation System for S&M Phase (Project W-059)

September 1999

Retired filters (HEPA and sandfilter) contain radionuclide inventories that must be isolated from the on-line canyon ventilation system and stabilized to ensure safe conditions for the S&M phase. Project W-059 will provide for isolation and stabilization of the retired HEPA filters and the sandfilter, and will provide an active canyon ventilation system suitable for the S&M phase.

ENCLOSURE 2

FEDERAL FACILITY AGREEMENT

AND

CONSENT ORDER (FFCA)

CHANGE CONTROL FORM

M-20-96-01

Change Number M-20-96-01	Federal Facility Agreement and Consent Order Change Control Form Do not use blue ink. Type or print using black ink.	Date 10/18/96
Originator S. D. Godfrey		Phone (509) 372-0501
Class of Change <input type="checkbox"/> I - Signatories <input checked="" type="checkbox"/> II - Executive Manager <input type="checkbox"/> III - Project Manager		
Change Title Revise Interim Milestone M-20-21A Due to B Plant Facility Transition		
Description/Justification of Change On October 5, 1995, official shutdown notice for the B Plant Facility at Hanford was received from the U. S. Department of Energy, Headquarters. B Plant, having no identified future mission, meets the definition of a "key facility," as described in Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement), Sixth Amendment, Section 8.0, "Facility Decommissioning Process." As a result, B Plant has initiated the facility transition phase of decommissioning, in accordance with the Tri-Party Agreement (TPA), Sixth Amendment, Section 8.0. <div style="text-align: right;">(Continued on next page)</div>		
Impact of Change Interim milestone M-20-21A is revised by this change, thus replacing the requirement for B Plant to prepare and submit a Part B Permit Application with the requirement to submit a B Plant Preclosure Work Plan. This action is appropriate for the facility, since it has no future mission. Replacement of this milestone with a milestone for submission of a preclosure work plan will reduce costs and accelerate the transition of B Plant into a low cost, safe S&M condition. No adverse impacts result from this change. On approval, Hanford site planning and budget development documents (e.g., Sitewide System Engineering control documents, Project Management Plans, and Multi Year Work Plans) will be modified accordingly.		
Affected Documents Hanford Federal Facility Agreement and Consent Order, as amended by its Sixth Amendment, February 1996, Hanford site internal planning and budget documents (e.g., Sitewide System Engineering control documents, Project Management Plans, and Multi Year Work Plans).		
Approvals <div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <p><i>John D. Wagoner</i> _____ DDB</p> </div> <div style="width: 20%;"> <p>10/25/96 _____ Date</p> </div> <div style="width: 40%;"> <p><input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved</p> </div> </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div style="width: 30%;"> <p>_____ EPA</p> </div> <div style="width: 20%;"> <p>_____ Date</p> </div> <div style="width: 40%;"> <p><input type="checkbox"/> Approved <input type="checkbox"/> Disapproved</p> </div> </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div style="width: 30%;"> <p><i>Mary Ruzelana</i> _____ Ecology</p> </div> <div style="width: 20%;"> <p>11/26/96 _____ Date</p> </div> <div style="width: 40%;"> <p><input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved</p> </div> </div>		

Description/Justification of Change (continued):

This change control form revises interim milestone M-20-21A as result of B Plant entering into transition. Interim milestone M-20-21A, which requires the submission of a B Plant Part B Permit Application to Ecology and EPA, will be replaced with a milestone for submittal of a "Preclosure Work Plan." The preclosure work plan must be prepared in cases where completion of RCRA closure activities during the transition or surveillance and maintenance (S&M) phases are impractical. It details actions to be completed during the transition phase in order to facilitate full RCRA closure at the final disposition phase. This change is submitted in conjunction with the B Plant facility transition change package submitted under milestone series M-82.

The revised milestone is as follows:

M-20-21A Submit a B Plant Preclosure Work Plan to Ecology March 1999

A Preclosure Work Plan will be submitted to Ecology for approval. It will include the proposed B Plant end point criteria and S&M Plan for approval of actions pertaining to TSD units and hazardous substances/dangerous wastes which will remain in place following transition.

ENCLOSURE 3

**PUBLIC COMMENT REGARDING
PROPOSED TRI-PARTY
AGREEMENT AMENDMENTS FOR
B PLANT FILTER HIGH EFFICIENCY
PARTICULATE AIR (HEPA) FILTERS**

96-TPD-219



Department of Energy
 Richland Operations Office
 P.O. Box 550
 Richland, Washington 99352
 OCT 8 1996

96-TPD-219.

Mr. Dirk Dunning, P.E.
 Oregon State Department of Energy
 625 Marion Street N.E.
 Salem, Oregon 97310

Dear Mr. Dunning:

PUBLIC COMMENT REGARDING PROPOSED TRI-PARTY AGREEMENT AMENDMENTS FOR B PLANT
 FILTER HIGH EFFICIENCY PARTICULATE AIR (HEPA) FILTERS

Dear Mr. Dunning:

Please reference Oregon State Department of Energy letter, Dirk Dunning, to
 Moses Jarayski, Washington State Department of Ecology, dated September 17,
 1996.

Thank you for your input regarding the proposed Tri-Party Agreement amend-
 ments. Your letter highlighted important safety and environmental issues
 which are being considered as we manage deactivation of the B Plant 291-B
 filters. Your letter identified two considerations which we should take into
 account during development of endpoint criteria for the 291-B High Efficiency
 Particulate Air (HEPA) filters. Your suggestions were as follows:

1. The endpoint criteria developed to support this milestone should balance
 the risks to current workers of stabilizing the filters to minimize these
 risks with the risk to future workers during decontamination and decommis-
 sioning (D&D) of this facility, and with the on-going risk from cata-
 strophic accidents.
2. Radioactive cesium and strontium make up most of the radioactive material
 on these filters. These materials are water soluble. If the filters are
 exposed to water, these materials may migrate to the soil. The end point
 criteria should attempt to prevent or minimize this possibility.

The issues raised in your suggestions are being considered as we plan the
 transition "end point" criteria, and the deactivation/ultimate disposition of
 the 291-B HEPA filters. Based upon our evaluation of a suite of safety and
 environmental issues, the following transition "endpoint criteria" for the
 filters have been developed:

- o Isolate the outlet exhaust air plenum from the environment.

Dirk Dunning
96-TPD-219

- 2 -

OCT 8 1996

- o Isolate the inlet exhaust air plenum from the canyon.
- o Ensure engineered barriers/seals are in place to prevent migration of both hazardous and radioactive contamination to the environment.
- o Provide a moisture barrier to prevent liquid intrusion into the filters.

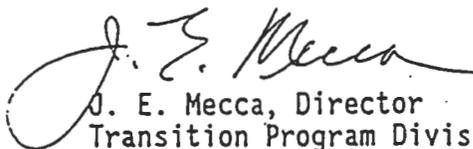
Response to suggestion 1: The 291-B HEPA filter endpoint criteria have been developed to balance the associated risks. Isolation of the outlet exhaust air plenum will significantly reduce consequences of a catastrophic accident. Installation of an isolation barrier, between the canyon and the filters, will allow for the option to D&D the filters separately from the canyon without risk of cross contamination.

Present plans dictate that final D&D of the filters will not commence until all transition activities are complete. The end of the "transition phase" coincides with successful attainment of all "end point criteria." However, we realize that early D&D actions associated with B plant HEPA filters have the potential to further reduce risk, and RL has initiated an evaluation to determine the most reasonable path forward. This evaluation will include balancing the potential to achieve a significant risk reduction with present day fiscal realities. In June 1996, the 291-B Retired Filter Risk Reduction/Remediation Value Engineering Study was conducted. An Independent Technical Expert (ITE) is reviewing results of this study. This ITE will also peruse the 291-B filter endpoint criteria and will evaluate advantages/disadvantages of near-term remediation of the retired filters. This ITE review is scheduled to be complete in December 1996.

Response suggestion 2: The 291-B filter end point criteria include installation of an engineered barrier/seal and a moisture barrier. These barriers should prevent accumulation of water in the filters and preclude leakage of contaminated water from the filters to the environment.

We appreciate your participation in this important public comment process. You are welcome to review pertinent B-Plant End Point Criteria as they are being developed. If you have any further questions, please contact me at (509) 376-7471, or David T. Evans, B Plant Program Manager at (509) 373-9278.

Sincerely,



J. E. Mecca, Director
Transition Program Division

TPD:RXG

cc: Moses Jaraysi, Ecology
Roger Stanley, Ecology

SEP 17 1996

Integrated _____

RCRA _____

CERCLA _____

Oregon

WQ _____

AQ _____

KENNEWICK

September 16, 1996

Administrative _____

DEPARTMENT OF

EFSEC _____

N-Reactor _____

ENERGY

Mr. _____

Cross reference _____

Mr. Moses Jaraysi
Washington State Department of Ecology
1315 W. 4th Ave.
Kennewick, WA 99336

Dear Mr. Jaraysi:

We reviewed the proposed amendments to the Tri-Party Agreement for placing B-plant into a transition status. The last milestone in the package relates to the High Efficiency Particulate Air Filters.

Background

These filters are made of fiberglass, some plywood, organic glues and other materials in a rigid concrete construction. The inventory of radioactive materials on these filters is estimated to be about 1.5 million curies. The most heavily exposed filters in the D filter bank are predicted to have been exposed to a cumulative radiation exposure of about 10 million rad or more. At these high levels of exposure, organic materials break down and lose structural integrity. Some inorganic materials may also begin to fail at this high exposure level.

As these filters age and are exposed to additional radiation damage, the degradation of the filters must be expected to increase. This may create a significant risk to future workers from exposure to dust and loose highly radioactive material when the filters are finally dismantled.

The filters also pose an on-site and off-site airborne risk in a catastrophic accident. The stabilization of the filters is expected to greatly reduce this risk. As the filters degrade, this reduced level of risk should be expected to increase, as the filters become more susceptible to break up in a catastrophic accident.

Suggestions

The end point criteria developed to support this milestone should balance the risks to current workers of stabilizing the filters to minimize these risks with the risk to future workers

John A. Kitzhaber
Governor



625 Marion Street NE
Salem, OR 97310
(503) 378-4040
FAX (503) 373-7806
Toll-Free 1-800-221-8C

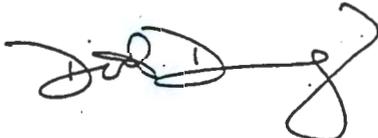
Mr. Moses Jaraysi
September 16, 1996
Page 2

during the D&D of this facility, and with the on-going risk from catastrophic accidents.

Radioactive cesium and strontium make up most of the radioactive material on these filters. These materials are water soluble. If the filters are exposed to water, these materials may migrate to the soil. The end point criteria should attempt to prevent or minimize this possibility.

If you need further information, please contact me by phone at (503)378-3187, or by e-mail at dirk.a.dunning@state.or.us.

Sincerely,

A handwritten signature in black ink, appearing to read 'Dirk Dunning', with a stylized flourish at the end.

Dirk Dunning, P.E.
Oregon Department of Energy

ENCLOSURE 4

B PLANT ISSUES

RESOLUTION SUMMARY

B PLANT ISSUES RESOLUTION SUMMARY

Beginning in January 1996, RL and Ecology engaged in a series of technical meetings to discuss key regulatory issues that must be resolved to support successful transition of the B Plant facility. The meetings focused on clearly identifying key issues and mutually agreeable resolutions. The results of these meetings provide the regulatory basis for the B Plant TPA change request package. The key issues discussed during the technical meetings are identified below, along with tentatively agreed upon resolutions.

CELL 4 AND CONTAINMENT BUILDING WASTE

BACKGROUND: Highly radioactive and mixed solid waste from WESF is currently stored in B Plant Cell 4. Additionally, the 221-B Canyon is permitted as a containment building to store radioactively contaminated failed canyon process equipment and jumpers (or isolated components thereof) containing lead used as weights, counterweights, or radiation shielding. Solid mixed waste stored in the canyon may also be contaminated with residues from processing of tank wastes. RL proposes to continue these storage activities until the facility disposition phase.

ISSUE: Continued storage of this waste at B Plant during the surveillance and maintenance phase without a final status permit or a RCRA closure plan for B Plant would not comply with RCRA requirements.

RESOLUTION: The resolution of this issue is being developed in accordance with the Hanford Site contaminated equipment policy and Section 8.0 of TPA Amendment 6.

Cell 4 can continue to accept waste from WESF during B Plant transition phase. Storage activities in Cell 4 can continue through the transition phase and the surveillance and maintenance phase without issuance of a final status permit or a RCRA closure plan, provided that

- Waste/container inventories are complete and accurate, and
- Complete waste descriptions, associated hazards, and end point criteria are described as appropriate in the B Plant end point criteria document, Surveillance and Maintenance Plan, and Preclosure Work Plan.

Resolution of the Cell 4 waste storage issue is documented in a letter from Ecology to RL dated March 7, 1996.

Additionally, continued storage of containment building waste (contaminated equipment/debris, failed process equipment, jumpers, lead waste, etc.) in the 221-B canyon containment building that has been generated, or that will be generated during the B Plant transition phase and the surveillance and maintenance phase can continue and will be managed in accordance with the established contaminated equipment policy.

MANAGEMENT OF B PLANT CANYON LISTED WASTE

BACKGROUND: Single- and double-shell tank waste carrying listed waste codes was processed in the canyon for cesium/strontium recovery. Additionally, B Plant used 1,1,1 trichloroethane as a degreasing agent.

ISSUES:

- Low level liquid waste going to Tank Farms -- In the past, B Plant did not designate this waste as f-listed when it was transferred to tank farms; however, it is managed as f-listed waste by tank farms.
- Solid waste being generated in the canyon -- Solid waste that comes into direct contact with f-listed tank waste is managed as f-listed for disposal purposes. Other radioactively contaminated waste is managed as low level waste.
- Organic waste stored in the canyon -- This waste is managed as f-listed.

RESOLUTION: B Plant has provided a letter to Tank Farms requesting corrections be made to land disposal requirement forms to reflect applicable f-codes for past transfers to tank farms and is currently managing this stream as f-listed. Current practices are acceptable for management of listed waste streams during the transition phase and surveillance and maintenance phase. This resolution is documented in a letter from Ecology to RL dated March 7, 1996.

RCRA PERMITTING

BACKGROUND: Tanks currently identified on the B Plant Part A are those that were considered (in 1994) to have actively managed regulated dangerous waste after the date of mixed waste regulation by Ecology (1987).

ISSUE: As a result of the resolution of listed waste issues, and of the issuance of the B Plant shutdown order, additional vessels in the B Plant complex need to be added to the Part A.

RESOLUTION: On February 29, 1996, RL presented a proposed strategy for identifying vessels that should be added to the Part A (Attachment 1). In summary, RL will add to the Part A any canyon vessel that processed listed/mixed waste after the date of mixed waste regulation. Resolution of the permitting issue is documented in a letter from Ecology to RL dated March 7, 1996. 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. The results of the matrix together with the RL recommendations identified in Attachment 1 will be used as a guide to identifying the tanks that will be added to the Part A.

TANK MANAGEMENT & INVENTORY REMOVAL

BACKGROUND: The B Plant process was last operated in 1985. When the process was shutdown, most vessels were flushed and emptied. Many of the plant systems have been removed from service or are no longer functional due to deterioration.

ISSUE: PUREX deactivation actions were used as a baseline for development of the tank management strategy at B Plant. The PUREX baseline called for flushing and sampling a large portion of the canyon vessels. However, the current B Plant infrastructure can not support vessel flushing, sampling, and inventory removal activities without significant expenditure of resources (e.g., equipment, funding, and manpower).

RESOLUTION: On February 29, 1996, RL presented a proposed tank management and inventory removal strategy (Attachment 1). Because (1) many of the vessels at B Plant were flushed when the process was shut down, (2) most vessels contain no remaining liquid heel, and (3) additional flushing will not reduce risk of release of hazardous material to the environment, the RL strategy calls for no additional flushing of any B Plant vessels. Partial resolution of the issue is documented in a letter from Ecology to RL dated March 7, 1996. In general, Ecology and RL have agreed to manage B Plant vessels in accordance with the proposed RL strategy. Regarding sampling/analysis requirements and the methods that will be used to remove liquid inventory, RL and Ecology have tentatively agreed to review and approve an inventory removal and sampling/analysis strategy on a case-by-case basis. For the initial 8 vessels identified with liquids, tentative agreement was reached to pump any remaining liquids to a central collection tank in the 221-B canyon where the liquids can be sampled and staged for transfer to Tank Farms without impact to other canyon activities. Sampling and analysis of the liquid inventory will be performed as necessary to support waste transfer to Tank Farms and to assist in the identification of those dangerous wastes and hazardous substances remaining in the facility.

INTERIM STATUS COMPLIANCE

BACKGROUND: Treatment, storage, and disposal units on the B Plant Part A are required to meet interim status requirements including secondary containment, labeling, monitoring, inspections, annual testing of tank systems, etc.

ISSUE: Design features of the plant, constructed in the 1940's, and concerns about high radiation levels in some instances make strict compliance with interim status requirements impossible. B Plant does not currently comply with all interim status requirements, and it would be impractical for the plant to comply during the transition phase and the surveillance and maintenance phase. Specific areas of concern are inspections, integrity testing, secondary containment, and major risk labelling. Additionally, it would be an ineffective use of resources to maintain required planning documentation during the transition phase and the surveillance and maintenance phase.

RESOLUTION: Interim status compliance issues were identified by RL and presented to Ecology on March 7, 1996, along with proposed alternate compliance measures to be taken during the facility transition and

surveillance and maintenance phases (Attachment 2). In addition, Ecology performed a compliance assessment in February 1996, and issued a report of findings and recommendations on April 24, 1996. With the exception of closure requirements, interim status requirements will not be enforced on those interim status tanks and vessels that have been emptied to minimum heel. Specific interim status compliance agreements will be reflected in the S&M Plan and Preclosure Work Plan which are submitted in accordance with established B Plant facility transition milestones. Additionally, 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.

ORGANIC SOLVENT WASTE DISPOSITION

BACKGROUND: Approximately 4,600 gallons of radioactively contaminated organic solvent waste is stored in two permitted tanks in the B Plant canyon. The solvent contains dissolved and particulate radioactive contamination that must be reduced to allow removal of the solvent from the canyon and to satisfy the requirements of TPA target date M-32-07-T05. A Notice of Intent has been issued for RCRA-compliant storage of the organic solvent waste outside the B Plant canyon.

ISSUES: Initial decontamination washes of the solvent have not effectively reduced the solids and radioactivity levels to allow removal from the canyon. Additionally, Ecology has expressed a concern regarding storage of the solvent at the B Plant complex after facility transition. The concern relates to the appropriateness of maintaining RCRA-compliant storage at a deactivated facility. Ecology requested investigation of other storage options.

RESOLUTION: RL is working with Ecology to determine the best method of reducing radioactivity levels of the solvent to allow removal from the canyon and to fulfill existing TPA commitments for organic disposition. Organic solvent decontamination washes, to achieve the chemical separation of radionuclides, are presently the subject of TPA target milestone M-32-07-T05. It is expected that decontamination washes will be performed and that the target milestone date of June 1996 will be met to allow removal of the organic from the B Plant canyon. However, RL and Ecology recognize that further decontamination washes and/or filtration of the organic will be required in order to achieve the level of decontamination desired for removal of the organics from the canyon. These activities will be performed in direct support of the proposed milestones M-82-03 and M-82-08. After removal of the solvent from the B Plant canyon building, interim storage of the solvent at B Plant during the transition phase will be required while other storage options are being investigated. In parallel, RL plans to focus on the development of viable organic disposal options. In the event that organic disposal is not achievable by September 1998, RL will move the organic solvent waste from interim storage at B Plant to another RCRA compliant storage location at another Hanford Site facility.

Attachment 1.

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.

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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.

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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.

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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.
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.

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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
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.
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.

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Attachment 2.

Interim Status Compliance Issues

INTERIM STATUS COMPLIANCE ISSUES³

Interim status requirement	Issue	Proposed compliance measure during B Plant transition phase	Proposed compliance measure during B Plant S&M phase ²
<p>Daily visual inspection of aboveground tank systems</p> <p>WAC 173-303-640(6)(b) 40 CFR 265.195</p>	<p>B Plant does not perform daily visual inspections of above ground portions of dangerous waste tank systems in the canyon.</p>	<p>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.³</p>	<p>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.³</p>
<p>Annual integrity test of tank systems without compliant secondary containment</p> <p>WAC 173-303-640(4)(i) 40 CFR 265.193(i)</p>	<p>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.</p>	<p>No integrity tests or leak tests will be performed. Alternative compliance methods, approved by Ecology, will be developed and implemented during transition.</p>	<p>No integrity tests or leak tests will be performed. Surveillance and maintenance will be in accordance with the S&M Plan.</p>
<p>Secondary containment and leak detection</p> <p>WAC 173-303-640(4) 40 CFR 265.193</p>	<p>Leak detection and secondary containment for dangerous waste tank systems in the B Plant canyon do not meet all applicable requirements.</p>	<p>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.</p>	<p>No upgrades to secondary containment or leak detection systems will be performed. Surveillance and maintenance will be in accordance with the S&M Plan.</p>
<p>Major risk labelling of tank systems</p> <p>WAC 173-303-400(3)(a)(iii) WAC 173-303-640(5)(d)</p>	<p>Dangerous waste tank systems in the B Plant canyon are not marked with major risk labels.</p>	<p>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.³</p>	<p>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.³</p>

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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. ³	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.

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