UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue, Suite 900
Seattle, Washington 98101-3140

27 JUN 2008

Reply to: OCE-164

David L. Wessman
TSCA Compliance Manager
U.S. Department of Energy
Idaho Operations Office
1955 Freemont Avenue, MS 1216
Idaho Falls, ID 83415

Re: Toxic Substances Control Act (TSCA) Risk-Based Disposal Approval for the Risk-Based Disposal Plan for PCB Paint in the TRA Fluorinel Dissolution Process Mockup and Gamma Facilities Canal at the Idaho National Laboratory Site

Dear Mr. Wessman:

This letter constitutes approval under the authority of 40 Code of Federal Regulations (CFR) 761.61(c) and 40 CFR 761.62(c) for long-term storage pending final disposal of PCB applied paint and potentially contaminated concrete in Building TRA-641, located at the Test Reactor Area (TRA) Fluorinel Dissolution Process (FDP) Mockup and Gamma Facilities Waste System canal at the Idaho National Laboratory (INL) Site. Final disposal of PCBs, which will occur through the facility decommissioning and disposition (D&D) process, is outside the scope of this risk-based disposal approval (RBDA). This approval is subject to the conditions below. The rationale of the United States Environmental Protection Agency (EPA) for establishing each of these conditions is contained in the Statement of Basis appearing as an enclosure to this letter.

This written decision for a risk-based method for storage of PCB remediation waste and PCB bulk product waste is based on the United States Department of Energy, Idaho Operations Office (DOE-ID) application for a risk-based disposal approval dated April 2008. All sections of the RBDA application referenced in this approval are incorporated by reference. In granting this approval, EPA finds that the proposed storage of PCB remediation waste and bulk PCB product waste, subject to the conditions below, will not pose an unreasonable risk of injury to health or the environment. DOE-ID shall ensure that activities conducted pursuant to this approval are in full compliance with conditions of the approval. The conditions of this approval are enforceable under TSCA and implementing regulations 40 CFR Part 761.61(c) and 761.62(c). Any actions by DOE-ID which violate the terms and conditions of this letter may result in administrative, civil, or criminal enforcement by EPA in accordance with Section 16 of TSCA, 15 USC § 2615.

**Conditions**

1. DOE-ID may store PCB remediation waste and PCB bulk product waste in the TRA-641 Canal as documented in Section 2.5 of the RBDA application. This approval will remain in effect until the start of decommissioning and disposition (D&D) activities which may be established for TRA-641.

2. DOE-ID will maintain floor drain and pipe closures, as well as trench access controls, as documented in Section 3.2 of the RBDA application.

3. DOE-ID will perform actions enumerated under "Additional steps that will be taken as part of this Risk-Based Approval" in Section 3.2 of the RBDA application. Items a. and b. under "Additional Steps" of Section 3.2 will also apply to any surface preparation necessary prior to protective paint application. Surface preparation may include techniques such as washing, wiping or scraping that do not generate air-dispersible particles.

4. DOE-ID may conduct activities in the TRA-641 Canal as documented in Section 2.6 of the RBDA application, provided the following requirements are met:

   - DOE-ID takes reasonable and prudent precautions to minimize or eliminate damage to protective paint coating applied to the interior of the TRA-641 Canal that may result from activities in the Canal;
   - Repair or repaint in as timely manner as practicable any damage to the protective paint coating of the TRA-641 Canal that may occur as a result of activities in the Canal;
   - Any PCB paint chips or dust that may result from damage to the protective paint coating as a result of activities in the TRA-641 Canal are timely cleaned up as necessary to prevent dispersal or worker exposure;
   - Workers with authorization to access the TRA-641 Canal as part of activities in the Canal must be equipped with appropriate personal protective equipment (PPE) to ensure no unreasonable risk of injury to health with respect to potential exposure to PCBs.

5. Nothing in this approval relieves DOE-ID of any obligation to comply with other rules and regulations applicable to the activities subject to this approval.

6. If any time before during or after storage of PCB remediation waste or PCB bulk product waste pursuant to this approval, DOE-ID possesses or is otherwise made aware of any data or information (including but not limited to site conditions that differ from those presented in the application) that activities approved herein may pose an unreasonable risk of injury to health or the environment, DOE-ID must report such data or information, via facsimile or e-mail to EPA according to Condition 7 within five working days, and in writing to the Regional Administrator within 30 calendar days, of first possessing or being made aware of those data or information. DOE-ID shall also report in the same manner new or different information related to a condition or any element of the approved storage activities if the information is relevant to this approval. EPA may direct DOE-ID to take such actions it finds necessary to ensure the approved storage activities do not pose an unreasonable risk of injury to health or the environment. DOE-ID shall follow such direction until written approval is obtained from EPA that finds the condition(s) requiring such direction no longer poses an unreasonable risk of injury to health or the environment. EPA reserves the right to modify or revoke this approval based on information provided pursuant to this condition, or any other information available to EPA that provides a basis to conclude that activities covered by this approval pose an unreasonable risk of injury to health or the environment.

7. Submissions required by this approval shall be provided to EPA as follows:

   EPA: Michael A. Bussell
   Office of Compliance and Enforcement
   EPA Region 10
   1200 6th Ave., Suite 900, MS OCE-164

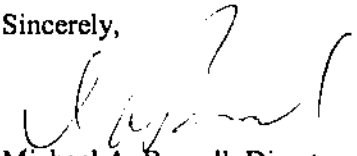
Seattle, WA 98101
E-mail: Bussell.mike@epa.gov
Facsimile: (206) 553-7176

w/copies to

Dave Bartus
Office of Air, Waste and Toxics
EPA Region 10
1200 6th Avenue, Suite 900, MS AWT-122
Seattle, WA 98101
E-mail: Bartus.dave@epa.gov
Facsimile: (206) 553-8509

Should you have any questions or comments, please contact Dave Bartus at (206) 553-2804, or Bartus.dave@epa.gov.

Sincerely,



Michael A. Bussell, Director
Office of Compliance and Enforcement

Enclosures (2)

cc: Michael Gregory, Idaho Department of Environmental Quality

# Enclosure 1
# References


1) "Risk-Based Disposal Plan for PCB Paint in the TRA Fluorinel Dissolution Process Mockup and Gamma Facilities Canal," April 8, 2008.

2) Phillips, 1957, "MTR Gamma Facility Operation Manual," Phillips Petroleum Co. – Atomic Energy Division, IDO-16423, December 1957.

3) DOE-ID, 2000, *Proving the Principle: A History of the Idaho National Engineering and Environmental Laboratory, 1949–1999*, DOE/ID-10799, 2000.

4) Rolfe, R. L., and E. L. Wills, 1984, *Characterization of the Materials Testing Reactor*, EG&G Idaho, Inc., WM-F1-83-016, 1984.

5) INEEL, 2000, *Characterization and Decision Analysis Report for Test Reactor Area Buildings 654 and 641*, INEEL\EXT-99-00902, Rev. 1, August 2000.

6) Jason Associates, 2007, *Supporting Documentation for HWMA/RCRA Closure Certification of the TRA Fluorinel Dissolution Process Mockup and Gamma Facilities Waste System Voluntary Consent Order SITE-TANK-005 Tank System TRA-009*, Jason Associates Corporation

7) DOE-ID, 2007, *HWMA/RCRA Closure Plan for the TRA Fluorinel Dissolution Process Mockup and Gamma Facilities Waste System Voluntary Consent Order SITE-TANK-005 Tank System TRA-009*, DOE/ID-11282, Rev. 1, January 2007

# Enclosure 2
# Statement of Basis

Introduction

The United States Department of Energy, Idaho Operations Office (DOE-ID) prepared a Toxic Substances Control Act (TSCA) Risk-Based Disposal Approval (RBDA) application to address regulatory requirements applicable to the long-term storage pending final disposal of PCB applied paint and potentially contaminated concrete in Building TRA-641, located at the Test Reactor Area (TRA) Fluorinel Dissolution Process (FDP) Mockup and Gamma Facilities Waste System canal at the Idaho National Laboratory (INL) Site. These wastes constitute PCB remediation waste (PCBs that may have penetrated from paint into concrete) and PCB bulk product waste (PCB paint).

The canal in question was used for two projects – gamma irradiation experiments, and the FDP mockup. The Gamma Building (TRA-641) was originally constructed in 1955 to conduct gamma irradiation experiments using spent fuel elements from the Materials Test Reactor (Phillips 1957) in the TRA-641 canal. The spent fuel emitted gamma rays that had a penetrating power similar to x-rays that could, among other things, kill pathogens. The variety of products irradiated included meat, grain, fruit, plastics, drugs, coal, gold, and diamonds (DOE-ID 2000). By 1971, the gamma irradiation experiments ended, all the radioactive components were removed from TRA-641, and the canal was drained and decontaminated (Rolfe and Wills 1984). The interior dimensions of the canal are approximately 40-ft long X 6-ft wide X 17-ft deep.

The FDP mockup was a full-scale test platform for the FDP located at the Idaho Nuclear Technology and Engineering Center (INTEC). The mockup was designed for process experimentation, design testing, and determination of operational parameters. This mockup was built inside TRA-641 in 1975 to test various aspects of the dissolution process before project implementation, including flow characteristics during sparging (INEEL 2000).

Work on the FDP ended in 1984. Since then the canal has not been in use except for Idaho Hazardous Waste Management Act (HWMA) Closure of a waste tank system from FDP experiments and removal of equipment in preparation for ultimate decontamination and decommissioning (D&D). Closure under HWMA was required because hazardous waste tanks were located in the canal. The Closure Certification was submitted to the Idaho Department of Environmental Quality on Sept. 25, 2007. Closure activities removed, or verified removal of, all piping, tanks, and other equipment from the canal (Jason Associates, 2007).

In preparation for ultimate D&D of TRA-641, the paint from the canal walls and floor was sampled for a variety of contaminants, including PCBs. Sample results showed the paint contains approximately 4,500 ppm PCBs. The paint with PCBs is assumed to be original to the facility. Localized areas of the canal walls and floor show chipping paint. All chips have been collected and managed as PCB waste. All equipment formerly in, and piping connecting to, the canal have been previously addressed through other regulatory processes, and are not within the scope of this RBDA approval.

The goals of this Risk-Based Disposal for long-term storage until final disposal through the D&D process of PCB paint on the interior of the TR-641 canal are:

a. Minimize potential human exposure to the paint by taking steps to reduce opportunities for inhalation, ingestion, or skin exposure to the paint; and
b. Minimize potential environmental contamination by containing and controlling the paint during current use and future D&D activities; and
c. Perform D&D of the canal such that PCBs subject to this RBDA do not pose an unreasonable risk to human health and the environment after D&D.

Pending final D&D of the TRA-641 building and the Canal, EPA agrees with DOE-ID that storage of the remaining PCB paint and any PCBs that may have migrated into concrete is the best management approach. Therefore, EPA is granting approval to do so through this RBDA, subject to a number of conditions. These conditions and EPA's basis for establishing them are discussed below.

1. DOE-ID may store PCB remediation waste and PCB bulk product waste in the TRA-641 Canal as documented in Section 2.5 of the RBDA application. This approval will remain in effect until the start of decommissioning and disposition (D&D) activities which may be established for TRA-641.

This condition establishes the scope and duration of storage activities authorized by this approval. Section 2.5 of the RBDA application documents that PCB paint was found on the concrete walls and floor of the Canal. This approval is limited to the interior of the Canal, since all equipment previously present in the canal have been removed, and piping between the canal and other parts of the TRA-641 building have been removed or capped. Previously, any existing paint that had chipped or peeled has been removed, so that any remaining paint is in sound condition, preventing exposure to PCBs through inhalation of chips or dust, as well as any migration of paint chips or dust out of the Canal to other areas of the building.

2. DOE-ID will maintain floor drain and pipe closures, as well as trench access controls, as documented in Section 3.2 of the RBDA application.

This condition establishes the following requirements through reference to the RBDA application:

a. Floor drains and pipe openings have been plugged.
b. The access to the grate covering the canal has been locked and marked to indicate PCB contamination in the canal.
c. The access to the grate covering the canal has been marked indicating that permission from the Facility Manager is required for entry.

These conditions will help ensure there is no migration of PCBs from the Canal, and that there are appropriate physical and administrative controls to prevent access to the canal by personnel without proper personal protective equipment (PPE) or authorization.

3. DOE-ID will perform actions enumerated under "Additional steps that will be taken as part of this Risk-Based Approval" in Section 3.2 of the RBDA application. Items a. and b. under "Additional Steps" of Section 3.2 will also apply to any surface preparation necessary prior to protective paint application. Surface preparation may include techniques such as washing, wiping or scraping that do not generate air-dispersible particles.

This condition establishes a number of technical requirements that will ensure that surface preparation activities prior to protective paint application satisfy the TSCA "no unreasonable risk" standard, paint on the Canal walls and floor will remain intact, and that any paint that does flake or chip will be appropriately removed. Since the existing paint has already deteriorated to some extent, it may be that some additional unsound (flaking) paint may need to be removed to ensure the protective paint will properly adhere and serve its intended protective function. EPA is allowing flexibility in the choice of surface preparation methods, provided that such methods do not generate air-dispersible particles that could result in the spread of or exposure to PCBs. In practice, contamination controls which may be necessary to limit radiological contamination will be fully adequate to satisfy requirements of this approval with respect to PCBs. Finally, the "Additional steps" under Section 3.2 of the RBDA application also establish marking and documentation requirements, PPE requirements, and inspection and reporting requirements. While this RBDA approval does not specify how final D&D will be

accomplished, it does require that whatever D&D does take place ensures that PCBs are properly disposed of and that DOE-ID demonstrate to EPA that the D&D actions satisfy the TSCA standard of no unreasonable risk of injury to health or the environment.

4. DOE-ID may conduct activities in the TRA-641 Canal as documented in Section 2.6 of the RBDA application, provided the following requirements are met:

    - DOE-ID takes reasonable and prudent precautions to minimize or eliminate damage to protective paint coating applied to the interior of the TRA-641 Canal that may result from activities in the Canal;
    - Repair or repaint in a timely manner any damage to the protective paint coating of the TRA-641 Canal that may occur as a result of activities in the Canal;
    - Any PCB paint chips or dust that may result from damage to the protective paint coating as a result of activities in the TRA-641 Canal are timely cleaned up as necessary to prevent dispersal or worker exposure;
    - Workers with authorization to access the TRA-641 Canal as part of activities in the Canal must be equipped with appropriate personal protective equipment (PPE) to ensure no unreasonable risk of injury to health with respect to potential exposure to PCBs.

DOE-ID's RBDA application notes that one foreseeable use for the canal is to conduct mock-up and practice using remote manipulation tools for a future task on a highly radioactive system. Equipment will be placed into the canal; personnel will generally remain outside the canal. This proposed activity in the TRA-641 Canal is not likely to pose an unreasonable risk of injury to health of the environment provided certain basic precautions are taken to ensure the protective measures required by Condition 3 are not compromised. The bulleted precautions identified in Condition 4 are intended to ensure they are not compromised by activities that may be conducted in the TRA-461 Canal.

5. Nothing in this approval relieves DOE-ID of any obligation to comply with other rules and regulations applicable to the activities subject to this approval.

This condition establishes that this approval under TSCA does not relieve DOE-ID of any other obligation that it may have with respect to the approved activities.

6. If anytime before during or after storage of PCB remediation waste or PCB bulk product waste pursuant to this approval, DOE-ID possesses or is otherwise made aware of any data or information (including but not limited to site conditions that differ from those presented in the application) that activities approved herein may pose an unreasonable risk of injury to health or the environment, DOE-ID must report such data or information, via facsimile or e-mail to EPA according to Condition 7 within five working days, and in writing to the Regional Administrator within 30 calendar days, of first possessing or being made aware of those data or information. DOE-ID shall also report in the same manner new or different information related to a condition or any element of the approved storage activities if the information is relevant to this approval. EPA may direct DOE-ID to take such actions it finds necessary to ensure the approved storage activities do not pose an unreasonable risk of injury to health or the environment. DOE-ID shall follow such direction until written approval is obtained from EPA that finds the condition(s) requiring such direction no longer poses an unreasonable risk of injury to health or the environment. EPA reserves the right to modify or revoke this approval based on information provided pursuant to this condition, or any other information available to EPA that provides a basis to conclude that activities covered by this approval pose an unreasonable risk of injury to health or the environment.

This condition ensures that if any information not available to EPA at the time this approval is issued becomes known, it will be made available to EPA for purposes of ensuring that activities subject to this approval continue to pose no unreasonable risk of injury to health or the environment. This condition also ensures EPA's ability to make changes to the storage activities, including withdrawing approval for storage, as necessary to ensure no unreasonable risk of injury to health or the environment.

7. Submissions required by this approval shall be provided to EPA as follows:

EPA: Michael A. Bussell
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| Duncan | Villa | Downey | CAPT | | | |
|---|---|---|---|---|---|---|
| Electronic | Electronic | Sent 6/26/08 | Electronic – all comments from Carla Fisher accepted with thanks. | | | |
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David L. Wessman
TSCA Compliance Manager
U.S. Department of Energy
Idaho Operations Office
1955 Freemont Avenue, MS 1216
Idaho Falls, ID 83415

Re: Toxic Substances Control Act (TSCA) Risk-Based Disposal Approval for the Risk-Based Disposal Plan for PCB Paint in the TRA Fluorinel Dissolution Process Mockup and Gamma Facilities Canal at the Idaho National Laboratory Site

w/copies to Dave Bartus
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Should you have any questions or comments, please contact Dave Bartus at (206) 553-2804, or Bartus.dave@epa.gov.

Sincerely,

Michael A. Bussell, Director
Office of Compliance and Enforcement

Enclosures (2)

cc: Michael Gregory, Idaho Department of Environmental Quality