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

AUG 29 2014

OFFICE OF
COMPLIANCE AND ENFORCEMENT

Reply to: OCE-184

Mr. Brian Anderson
Program Manager
The Boeing Company
M/C 1W-12
P. O. Box 3707
Seattle, Washington 98124-2207

Re: Risk-based Disposal Approval for the Duwamish Sediment Other Area (DSOA) and Southwest Bank Corrective Measure and Habitat Project, Boeing Plant 2,
2014 Southwest Bank Excavation, Sediment Removal, and Shoreline Reconstruction
TSCA ID No. WAD 00925 6819

Dear Mr. Anderson:

This letter constitutes approval under the authority of 40 Code of Federal Regulations (C.F.R.) § 761.61(c) for the cleanup and associated verification sampling and analysis of certain polychlorinated biphenyl (PCB) remediation waste at The Boeing Company (Boeing) Plant 2 facility in Seattle, Washington. More specifically, this approval authorizes Boeing, with respect to the requirements for cleanup and disposal of PCB remediation waste at 40 C.F.R. § 761.61(c), to clean up a portion of the approximately 83,000 cubic yards of sediment originally scheduled for Construction Season 3 (CS3) that are accessible using shore-based excavation equipment, and to perform verification sampling, backfilling and post-backfilling monitoring following removal of contaminated material. This letter also documents EPA's evaluation of those project elements which will be conducted under requirements of 40 C.F.R. § 761.61 other than § 761.61(c). This approval and EPA's evaluation of the project under the Toxic Substance Control Act (TSCA) is wholly contingent upon EPA written approval of all phases and aspects of the project pursuant to the Resource Conservation and Recovery Act (RCRA) corrective action Administrative Order on Consent, EPA Docket No. 1092-01-22-3008(h) (Boeing Order, Reference 6).

Background

This approval is the fourth in a series of related approvals that provide authorization for work under the Boeing Order subject to the requirements of TSCA, the first of which was issued December 20, 2012 (Reference 2) based on Boeing's original application (Reference 1). The second and third approvals were issued on May 22, 2013 (South Shoreline Work Elements, Reference 3) and December 17, 2013 (2014-2016 Sediments Work Elements, Reference 4). A fifth approval is anticipated to provide approval pursuant to TSCA for cleanup and disposal of remaining sediments during CS3.

This approval is based on revisions to the original plans for the 2014-2016 Sediments Work Elements, or CS3. These revisions are documented in a memorandum "SW Bank Area – Shoreline and Nearshore Excavation and Reconstruction (Reference 5)." As described in Reference 5, previous shoreline construction, excavation and remediation were performed along the south shoreline in the general area from South Park Bridge southward to temporary outfall Z, which includes the Southwest Bank Area.

Upon completion of excavation, backfilling of the south shoreline, including the SW Bank Area, was performed to create slopes and habitat along the shoreline per the design. This shoreline work was originally scheduled to be performed in conjunction with dredging of the Duwamish Sediment Other Area (DSOA), with shoreline reconstruction and habitat creation to have originally occurred after completion of dredging and placement of dredging related backfill. Due to a variety of scheduling and coordination issues, including South Park Bridge construction and planned work at the T117 and Jorgensen Sites, the dredging along the south shoreline, including the Southwest bank, was not performed during CS1. However, the shoreline work proceeded as originally scheduled. This has resulted in a condition where the constructed shoreline and habitat could be potentially undermined by the required dredging along approximately 400 feet of the shoreline adjacent to the Southwest Bank, creating the potential for slope failures of the shoreline backfill and habitat into the dredge area.

During CS2, a rock berm was placed along the offshore edge of the constructed shoreline prior to dredging to improve stability and protect the adjacent landward backfill and constructed habitat during the dredging work. This method worked well within the area of CS2 dredging. For dredging along the Southwest Bank Area, the required dredge cuts are deeper and the constructed shoreline backfill and habitat are at a steeper slope compared with CS2 dredging and shoreline configuration. The steeper slope and deeper cuts along the Southwest Bank Area require a more robust approach to shoreline stability management than was used during CS2. In order to perform the required dredging along the shoreline at the Southwest Bank Area, it will be necessary to first re-excavate the shoreline area in order to remove a portion of the previously placed backfill to create a more stable slope and to provide a construction access corridor that can then be used to access the nearshore sediment within the DSOA using land based equipment prior to the start of on-water dredging, scheduled to start in October. By excavating the nearshore sediment from shore earlier than October, the shoreline can be reconstructed and re-vegetated within the fall planting season, which would not be possible based on the on-water dredging schedule.

This approval is issued to Boeing, the owner and operator of the Plant 2 facility, who has overall responsibility for implementation of this authorized work. This project will involve transfer of contaminated sediments, soils and debris from the point of excavation to on-site temporary storage piles, loading these materials into intermodal containers or trucks, and off-site disposal at facilities other than those owned or operated by Boeing. This approval is not issued to any of the owners or operators of these off-site facilities. The approval does, however, include consideration of how PCB remediation waste subject to this approval will be transported and disposed of to ensure that work subject to this approval satisfies the standard of no unreasonable risk of injury to health or the environment at 40 C.F.R. § 761.61(c)(2).

This written decision for a risk-based method for cleanup, storage, and disposal of PCB remediation waste is based on Boeing's application for a risk-based disposal approval (RBDA) consisting of the documentation identified in Enclosure 1. All sections of the RBDA application, including those referenced in this approval, are incorporated by reference, as modified or superseded by requirements of this approval. In granting this approval, EPA finds that the proposed cleanup and verification of PCB remediation waste, subject to the conditions below, will not pose an unreasonable risk of injury to health or the environment. Boeing 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 at 40 C.F.R. § 761.61(c). Any actions by Boeing which violate the terms and conditions of this approval may result in administrative, civil judicial, or criminal enforcement by EPA in accordance with Section 16 of TSCA, 15 U.S.C § 2615.

Conditions

1. Boeing is authorized to perform cleanup of PCB remediation waste, associated verification sampling, backfilling and post-backfilling monitoring as documented in Reference 5 pursuant to the specific provisions of 40 C.F.R. § 761.61 documented in Enclosure 2 to this approval, and as approved by EPA under the Boeing Order (Reference 6) that are associated with the 2014 Southwest Bank Excavation, Sediment Removal, and Shoreline Reconstruction. Boeing must ensure that all PCB remediation waste with as-found concentrations ≥ 50 ppm is separately excavated, segregated and disposed of from the balance of sediments to be cleaned up under this approval. Soil and sediment excavation, shoreline reconstruction and revegetation subject to this approval must be completed by December 31, 2014, with shipment for off-site disposal of PCB remediation waste subject to this approval to be completed 60 days following completion of excavation activities. If necessary, Boeing may request an extension to these dates pursuant to Condition 16.

2. Within 60 days following completion of cleanup work subject to this approval, or at such other time as agreed to by EPA, Boeing will provide EPA with a summary report of activities completed pursuant to this approval, and documentation of issues or problems that were encountered. Alternately, Boeing may submit the results of work pursuant to this approval concurrently, or included with, the construction completion to be required following completion of CS3 work.

3. This approval will remain in effect for the duration of the Boeing Order (Reference 6) with respect to work requirements subject to the requirements of 40 C.F.R. § 761.61. Following completion of such work under the Boeing Order, including post-backfilling monitoring, Boeing may provide a written request to EPA to terminate this approval.

4. Boeing is authorized to construct and operate temporary stockpile structures and to store for disposal contaminated soils and sediments as documented in "South Shoreline Stockpile Management Plan (Reference 7)." Boeing will ensure that best management practices are used for gravity dewatering within these stockpiles for purposes of minimizing the quantity of residual liquids remaining in the solids, consistent with project schedules, equipment limitations, and the properties of the excavated soils/sediments. Boeing will establish and maintain records as provided for in 40 C.F.R. §761.180[1].

5. Boeing is authorized to add absorbents to excavated soils and sediments within the stockpiles authorized by Condition 4 for purposes of absorbing residual free liquids remaining in excavated soils and sediments. Sufficient absorbent material will be added and appropriately mixed, as needed, to eliminate visible free liquids before removal from the stockpile enclosures. Boeing is not authorized to add absorbents to any other aqueous PCB remediation waste associated with this project, such as vehicle or container wash water, storm water collected from areas outside of the stockpile enclosures which may have been in contact with contaminated soils or sediments, or final decontamination water from the facility generated pursuant to Condition 8 of this Approval.

6. All aqueous PCB remediation waste generated as part of this project other than residual free liquids in excavated shoreline soils or sediments, stormwater from within the stockpile area, and

[1] EPA notes that authorization to construct temporary soil stockpiles was provided to Boeing as part of South Shoreline Work Elements addressed in Reference 5.

decontamination water generated pursuant to Condition 8, must be managed according to one of the following options:

- Collected on-site and shipped via Department of Transportation-compliant containers or tank trucks to an off-site facility for decontamination as required and discharge pursuant to 40 C.F.R. § 761.79(b)(1)(ii) or (iii);
- Collected, and decontaminated (pre-treated) on-site as required and discharged pursuant to 40 C.F.R. § 761.79(b)(1)(ii) or (iii) to the King County Publicly Owned Treatment Works (POTW). If this option is selected, Boeing must provide EPA with a copy of King County's pretreatment permit that demonstrates the permit contains an enforceable limit for PCBs, prior to any discharge to the King County POTW. Any previous submission of the King County permit is considered in satisfaction of this condition provided it remains valid and in effect for the duration of work subject to this approval;
- Managed on-site in the dredge water return treatment system subject to the requirements of the USACE Section 10/404 permit (Reference 8).

Boeing will ensure that any decontamination of aqueous PCB remediation waste on-site at the facility will be conducted in compliance with the requirements of 40 C.F.R. § 761.79(e)-(g).

Any sampling and analysis pursuant to this condition that is not otherwise subject to a written sampling and analysis plan approved by EPA under the Boeing Order or by King County under authority applicable to authorization for discharge to the King County POTW, must be conducted under a written sampling and analysis plan, and a project-specific quality assurance project plan that assures data will be of acceptable quantity and quality for their intended decision-making uses. Boeing will make such plans available to EPA no later than ten (10) business days prior to any sampling or analysis under the plan, or such other time as EPA may agree to.

7. Boeing will ensure that all trucks or intermodal containers used to transport PCB remediation waste under this approval, or as otherwise authorized pursuant to 40 C.F.R. § 761.61, will have adequate liners, or are otherwise sufficiently watertight, to prevent any incidental liquids from leaking from the boxes or containers during transport.

8. All equipment and structures that have been in contact with liquid or non-liquid PCB remediation waste subject to this approval must be disposed of or decontaminated following completion of work under this approval. All such disposable equipment or materials must be disposed of in a facility permitted, licensed or registered by a State to manage municipal solid waste subject to 40 C.F.R. Part 258, or municipal non-hazardous waste subject to 40 C.F.R. §§ 257.5 through 257.30, as applicable. Non-disposable equipment and structures must be decontaminated using mechanical means or pressure washing to achieve a "clean debris surface" as defined in 40 C.F.R. § 268.45, Table 1, footnote 3. Water generated from decontamination activities must be managed according to one of the options enumerated in Condition 6 above.

   Boeing will ensure that any decontamination conducted pursuant to this condition will be conducted in compliance with the requirements of 40 C.F.R. 761.79(e)-(g).

9. Boeing is authorized to dispose of bulk PCB remediation waste with PCB concentrations < 50 ppm in a facility permitted, licensed or registered by a State to manage municipal solid waste subject to 40 C.F.R. Part 258, or municipal non-hazardous waste subject to 40 C.F.R. §§ 257.5 through 257.30, as applicable.

10. Boeing is authorized to dispose of bulk PCB remediation waste with PCB concentrations ≥ 50 ppm in a hazardous waste landfill permitted by a State authorized under § 3006 of RCRA.

11. Boeing will ensure that a copy of this approval is provided to members of its field engineering team (Dalton, Olmsted and Fuglevand; AMEC Environment and Infrastructure, Inc., and its subconsultants; Envirocon, Inc., and its subcontractors; Waste Management, Inc.; PSC/Stericycle; Clean Harbors, Inc.) (Field Team) responsible for conducting work subject to requirements of the approval. Boeing will ensure that any contracts and associated contract directions it issues to members of the Field Team, or any other contractors or consultants, are consistent with the requirements of this approval. Boeing is responsible for ensuring compliance with this TSCA Risk Based Disposal Approval and all applicable requirements of 40 C.F.R. Part 761.

12. Boeing will ensure that all field work associated with this project conducted by Boeing or its Field Team is conducted under written site-specific health and safety plans. Boeing will ensure that these plans document appropriate training and personal protective equipment required for all personnel that may be exposed to PCBs during work associated with this project. Boeing will make available copies of such plans to EPA upon request.

13. Nothing in this approval relieves Boeing of any obligation to comply with the Boeing Order, any other EPA or Ecology administrative action, or any statutory requirements, or rules or regulations applicable to the activities subject to this approval.

14. Within seven (7) days following the effective date of this approval, Boeing will provide EPA with written or e-mail notice of its project manager responsible for overall implementation of work subject to this approval. The initial EPA TSCA project manager is identified in Condition 17. The respective project managers will be responsible for timely and routine communication regarding implementation of this approval, including notification pursuant to Condition 15. For matters otherwise reportable to the EPA RCRA project manager under the Boeing Order, concurrent notification via e-mail is acceptable and encouraged.

15. If at any time before, during, or after conduct of activities subject to this approval, Boeing 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, Boeing must report such data or information via facsimile or e-mail to EPA within five working days at the project manager level, and in writing to the Regional Administrator within 30 calendar days of first possessing or becoming aware of such data or information. At his or her sole discretion, the EPA project manager may waive the written reporting requirement for those issues that are determined to be minor, or can be timely resolved without modification of this Approval. Boeing shall also report in the same manner, new or different information related to a condition or any element of the approved activities if the information is relevant to this approval. EPA may direct Boeing 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. Boeing shall follow such direction until written approval is obtained from the EPA that finds the condition(s) requiring such direction no longer poses an unreasonable risk of injury to health or the environment.

16. EPA reserves the right to modify or revoke this approval based on information provided pursuant to Condition 15, 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. Boeing may request modification of this approval by providing a written request to EPA. If the EPA agrees with a request for modification, the EPA will provide written approval to Boeing. Prior to obtaining written approval of a modification request, Boeing shall comply with the existing approval conditions.

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

EPA: Edward J. Kowalski, Director
Office of Compliance and Enforcement
EPA Region 10
1200 6th Avenue Suite 900, MS OCE-184
Seattle, Washington 98101
E-mail: Kowalski.edward@epa.gov
Facsimile: (206) 553-4743

With copies to the EPA Project Manager:

Dave Bartus
Office of Air, Waste and Toxics
EPA Region 10
1200 6th Avenue, Suite 900, MS AWT-122
Seattle, Washington 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,

Edward J. Kowalski
Director

Enclosures
1. References
2. Statement of Basis

cc: Will Ernst, The Boeing Company
Hidea Fujita, Washington State Department of Ecology, Northwest Regional Office
Jim Sifford, King County Industrial Waste Program
Peggy Rice, King County Industrial Waste Program
Heather Trim, People for Puget Sound
Glen St. Amant, Muckleshoot Tribe
John Wakeman, U.S. Army Corps of Engineers
Olivia Romano, U.S. Army Corps of Engineers

Enclosure 1
References

1) Cover letter and Work Plan: "TSCA Risk-Based Disposal Application, Duwamish Sediment Other Area and Southwest Bank Corrective Measure and Habitat Project, Boeing Plant 2, Seattle/Tukwila, WA" dated November 16, 2012.
2) Letter: "Risk-based Disposal Approval for the Duwamish Sediment Other Areas and Southwest Bank Corrective Measure and Habitat Project, Boeing Plant 2, Seattle, Washington, TSCA ID No. WAD 00925 6819," Edward J. Kowalski, EPA to Michael L. Verhaar, The Boeing Company, dated December 20, 2012.
3) Letter: "Risk-based Disposal Approval for the Duwamish Sediment Other Area and Southwest Bank Corrective Measure and Habitat Project, Boeing Plant 2, South shoreline Work Elements, Seattle, Washington, TSCA Id No. WAD 00925 6819," Edward J. Kowalski, EPA to Michael L. Verhaar, The Boeing Company, dated May 22, 2013.
4) Letter: "Risk-based Disposal Approval for the Duwamish Sediment Other Area and Southwest Bank Corrective Measure and Habitat Project, Boeing Plant 2, 2014-2016 Sediments Work Elements, Seattle, Washington, TSCA ID No. WAD 00925 6819," Edward J. Kowalski, EPA to Brian Anderson, The Boeing Company, dated December 17, 2013.
5) Memorandum: "SW Bank Area – Shoreline and Nearshore Excavation and Reconstruction, Boeing Plant 2, Seattle, WA," Dalton, Olmstead Fuglevand to Melissa Blankenship, Dave Bartus, and Erika Hoffman, EPA and Laura Inouye, Washington State Department of Ecology, dated June 18, 2014.
6) Resource Conservation and Recovery Act (RCRA) Administrative Order on Consent, EPA Docket No. 1092-01-22-3008(h).
7) Work Plan: "South Shoreline Stockpile Management Plan," Boeing Duwamish DSOA Corrective Measure & Habitat Project, Boeing Plant 2, Seattle, Washington, Revision 0," Envirocon, Inc., dated April 8, 2013.
8) Department of the Army, Corps of Engineer Permit NWS-2011-0384, dated December, 2012.
9) Final Decision and Response to Comments for Boeing Plant 2 Sediments, Duwamish Sediment Other Area and Southwest Bank, Boeing Plant 2, Seattle/Tukwila, Washington," transmitted from U.S. EPA Region 10 to Mr. William Ernst and Mir. Michael Gleason, Resource Conservation and Recovery Act (RCAR) Docket No. 1092-01-3008(h), EPA ID No. WAC 00925 6819.
10) Work Plan: "Final Design Report, Duwamish Sediment Other Area and Southwest Bank Corrective Measure and Habitat Project, Boeing Plant 2, Seattle/Tukwila, Washington," AMEC Environmental & Infrastructure, Inc., Dalton, Olmstead & Fuglevand, and Floyd|Snider, November 2012.
11) Work Plan: "Final Construction Statement of Work, Duwamish Sediment Other Area and Southwest Bank Corrective Measure and Habitat Project, Boeing Plant 2, Seattle/Tukwila, Washington," AMED Environmental & Infrastructure, Inc., Dalton Olmstead and Fuglevand, and Floyd|Snider, December, 2012.

Enclosure 2
Statement of Basis

Introduction

Boeing Plant 2 is located at 7755 East Marginal Way South in Seattle, Washington, with portions of the facility extending into Tukwila, Washington. The 107 acre site is bounded by the Duwamish Waterway to the west; Webster Street, Slip 4, and property owned by Crowley Marine Corporation to the north (excluding public streets and ways); the AIRGAS NOR PAC plant and East Marginal Way South to the east; and the Jorgensen Forge Company (Jorgensen Forge) to the south.

Beginning in 1936, The Boeing Company (Boeing) has manufactured airplane parts at Plant 2. Manufacturing activities have ceased at the Plant 2 facility, and a number of buildings have been removed. The Plant 2 facility, owned and operated by Boeing, is being cleaned up pursuant to the Administrative Order on Consent (Boeing Order, Reference 4) issued to Boeing in 1994 by the U.S. Environmental Protection Agency (EPA) under authority of RCRA Section 3008(h), as amended (42 U.S.C. §6928(h)). Certain aspects of the Plant 2 cleanup relating to polychlorinated biphenyls (PCBs) are also subject to the requirements of the Toxic Substance Control Act (TSCA), 15 U.S.C. §2601 et seq. (1976) and implementing regulations at 40 Code of Federal Regulations (C.F.R.) Part 761.

Soils, sediments, debris and structures in the waterway in front of (to the west of) Plant 2, and the adjacent shoreline have been documented to be contaminated with polychlorinated biphenyls (PCBs), as well as other constituents of concern. Under the Boeing Order, Boeing will be conducting corrective measures to remove approximately 260,000 cubic yards (cy) of sediments, soils, debris, and structures from the waterway in front of Plant 2 and the adjacent Plant 2 shoreline. The materials are contaminated with PCBs and other constituents of concern. The Corrective Measures footprint is designed to remove soil, sediments, debris and structures containing PCBs at concentrations greater than 0.130 milligrams per kilogram (mg/kg) or parts per million (ppm). Three localized areas offshore of the SW Bank contain PCBs at concentrations greater than 50 ppm; they represent a total of approximately 260 cy (or less than 0.1 percent) of soil/sediment. The remaining volume of soil/sediment contains PCBs at concentrations less than 50 ppm, with an average concentration of less than 1 ppm.

Boeing's initial submittal of an application for a risk-based disposal approval was provided to EPA November 16, 2012 for the first phase of work initiated in December 2012. Boeing provided an application for the second phase of work, focused on the South Shoreline Work Elements, in April 2013, followed by an application for sediment cleanup for the 2014-2016 construction seasons (construction seasons 2 and 3). As outlined in the cover letter to this approval and in Reference 5, Boeing has determined that certain nearshore sediments should be excavated prior to the start of Construction Season 3 work scheduled start in October 2014, and that this work is best accomplished from shore-based excavation equipment rather than in-water dredging as originally proposed. The particulars of the proposed work are well-documented in Reference 5 and are not repeated here.

The remainder of this Statement of Basis documents EPA's review of Boeing's RBDA application for the 2014 Southwest Bank Excavation, Sediment Removal, and Shoreline Reconstruction and EPA's basis for issuing this risk-based disposal approval. A third application and approval is anticipated to provide approval pursuant to TSCA for cleanup and disposal of remaining sediments during subsequent construction seasons.

EPA's Evaluation of Boeings Risk-Based Disposal Approval Application

In evaluating Boeing's request for a risk-based disposal approval, EPA has considered the following issues:

- Relationship among governing authorities and corresponding project approvals;
- Scope of the requested approval;
- Specific elements of the cleanup project.

Relationship between RCRA, Rivers and Harbors Act/ Federal Water Pollution Control Act (Clean Water Act), and TSCA requirements and project approvals

The soil and sediment cleanup associated with this project is subject to multiple authorities and permits[2]. Those that most directly relate to the requirements applicable to cleanup of PCB remediation waste as part of this project include the Resource Conservation and Recovery Act (RCRA), the Rivers and Harbors/Clean Water Act, the Toxic Substances Control Act (TSCA) and the permits or approvals associated with each.

A brief summary of each of these key sets of requirements is presented in the following paragraphs, along with a discussion of how each relates to EPA's basis for establishing the requirements of this risk-based disposal approval.

Summary of RCRA Requirements

As noted in the Introduction section, all aspects of cleanup at the Boeing Plant 2 facility are being managed as corrective action under the Resource Conservation and Recovery Act (RCRA) through the Boeing Order. Through this authority, EPA has performed site characterization as necessary to document the nature and extent of contamination in the project area, selected the final remedy and established sediment cleanup standards (Reference 9), and has approved the work plan for the various elements of the final remedy (References 10 and 11), including post-cleanup monitoring. Corrective action under the Boeing Order addresses any hazardous waste as defined in Section 1004(5) of RCRA, which include PCBs.

Summary of Rivers and Harbors/Clean Water Act Requirements

The Rivers and Harbors Act of 1899 (33 C.F.R. §§ 321-329) gives the United Stated Army Corps of Engineers (USACE) regulatory authority over construction activities in all navigable waters of the United States. Section 10 of the act is intended to protect these waters for purposes of navigation and general public benefit. This regulation is administered through the Section 10 Permit application process. Section 404 of the Clean Water Act (33 U.S.C. § 1344) prescribes procedures to be followed before dredged or fill materials can be discharged into national water resources (including wetlands) and, as such, provides regulatory guidelines and permit requirements for dredging and filling activities, including shoreline excavation activities for this Project. Administration of the requirements of Section 404 is vested in the USACE and is handled in conjunction with the Section 10 permit process.

When both a Section 10 permit and a Section 404 (of the Clean Water Act) permit are required, as is the case for the Project, they are typically considered and administered together by the

[2] An enumeration of the various permits and approvals applicable to this project is presented in Table 1 of the Final Design Report, Reference

USACE as a Section 10/404 permit (Reference 8 to the original approval, Reference 2 to this approval). Excavated materials within the Project area regardless of construction sequencing (either dredged from barges in the Waterway or excavated with equipment from the shoreline) will be governed by the requirements of the Section 10/404 permit and will be managed as "dredged material" per the provisions of the Section 10/404 permit.

EPA notes that the scope of the USACE Section 10/404 Permit only applies to dredging and filling activities within, or activities that have discharges to waters of the United States. Waters of the United States includes navigable waters, non-navigable waters, and wetlands. The USACE permit does not extend to off-site disposal of contaminated sediments, soils, structures or debris where disposal is not in waters of the United States or there are no discharges to waters of the United States. Therefore, off-site disposal of contaminated soils, sediments, structures or debris which are dredged or excavated under the USACE 10/404 permit will be disposed of under TSCA requirements as established in this risk-based disposal approval.

Boeing has included language in Section 1.3.1 of the "Final Design Report Duwamish Sediment Other Area and Southwest Bank Corrective Measure and Habitat Project, Boeing Plant 2, Seattle/Tukwila, Washington" (Reference 10) stating that:

"The dredging, excavation, transportation, and management of PCB remediation waste with concentrations of PCBs less than 50 ppm will be performed in accordance with a permit issued by the USACE (Section 10/404), thus meeting the requirements in 40 CFR 761.61(b)(3) under the performance based exemption."

EPA agrees with this statement to the extent that project activities are in fact covered by the USACE Section 10/404 permit, and are therefore authorized under TSCA pursuant to 40 C.F.R. § 761.61(b)(3). Activities covered by the USACE Section 10/404 permit include all in-water dredging and barge transportation of sediments and debris containing <50 ppm total PCBs, excavation of shoreline sediments, soils, structures and debris, and on-site stockpiling of these materials containing <50 ppm total PCBs, and treatment of return flow water from dredged sediments and shoreline sediments containing <50 ppm total PCBs. These activities do not, however, include any subsequent management (storage, processing for disposal, or transportation) or final off-site disposal of <50 ppm sediments, soils, structures and debris, or any activities related to cleanup, processing for disposal, transportation or off-site disposal of sediments containing ≥ 50 ppm total PCBs. These activities subsequent to those covered by the USACE Section 10/404 permit are subject to requirements of this approval, not the self-implementing authorization of 40 C.F.R. § 761.61(b)(3). A further discussion of the requirements of 40 C.F.R. § 761.61(b)(3) is provided in the "Summary of TSCA requirements" in the following section.

Summary of TSCA requirements

As discussed in the section "Scope of the Requested Approval," soils, sediments, and debris within the project area are generally considered to meet the definition of PCB remediation waste, and are subject to the requirements for cleanup and disposal of PCB remediation waste at 40 C.F.R. § 761.61[3]. Under 40 C.F.R. § 761.61 rules, spills or releases of PCBs may be cleaned up using the self-implementing procedures of 40 C.F.R. § 761.61(a). PCB remediation waste may be disposed of (or in some cases, managed) under the performance-based standards of 40

[3] One exception is soils associated with the North Shoreline area adjacent to Slip 4 and Building 2-122. These materials were addressed under the initial project RBDA issued in December, 2012.

C.F.R. § 761.61(b), or the sampling, cleanup, storage and disposal of PCB remediation waste may be conducted under a risk-based disposal approval issued by EPA pursuant to 40 C.F.R. § 761.61(c). According to 40 C.F.R. § 761.61(a)(1)(i)(A), the self-implementing procedures of 40 C.F.R. 761.61(a) may not be applied to cleanup of PCBs in sediments[4] in marine and freshwater ecosystems. In some instances, decontamination of PCB remediation waste may be accomplished according to decontamination standards and authorization at 40 C.F.R. § 761.79.

Boeing is requesting that TSCA provide a written risk-based determination approval to document that the overall action will also meet TSCA requirements, including processing for disposal and disposal requirements. As further explained in the following section, EPA is evaluating the risks of PCBs on a cradle-to-grave approach, including transportation, and final land disposal, as part of its evaluation of whether or not the proposed work satisfies the TSCA standard of no unreasonable risk of injury to health or the environment. EPA is basing this evaluation on application of a combination of performance-based requirements pursuant to 40 C.F.R. § 761.61(b)(3), and on an application of the risk-based disposal approval authority of 40 C.F.R. § 761.61(c).

Scope of the requested approval

Under TSCA, soils, sediments, and debris within the project scope that have been impacted by PCBs satisfy the definition of "PCB Remediation Waste" at 40 C.F.R. § 761.3. This definition includes the following elements:

- Materials disposed of prior to April 18, 1978 that are currently at concentrations ≥ 50 ppm PCBs, regardless of the concentration;
- Materials which are currently at any volume or concentration where the original source was ≥ 500 ppm PCBs beginning on April 18, 1978, or ≥ 50 ppm PCBs beginning on July 2, 1979; and
- Materials which are currently at any concentration if the PCBs are spilled or released from a source not authorized for use under [40 C.F.R Part 761].

The TSCA regulations include a provision at 40 C.F.R. 761.50(b)(3)(iii) that states:

"The owner or operator of a site containing PCB remediation waste has the burden of proving the date that the waste was placed in a land disposal facility, spilled, or otherwise released into the environment, and the concentration of the original spill."

Boeing's RBDA application does not provide documentation of either the source concentration or the date(s) of spills or releases that have impacted the DSOA project area. In these circumstances, EPA conservatively assumes that all media/materials affected by a spill or release meet the definition of PCB remediation waste, and must be cleaned up and disposed of according to the requirements of 40 C.F.R. § 761.61. On this basis, EPA considers all sediment, soils and debris subject to cleanup under the Boeing Order to meet the definition of PCB remediation waste, and subject to requirements of this approval with the exception of soils associated with the North Shoreline area adjacent to Slip 4 and Building 2-122, which were addressed in the initial project RBDA issued in December 2012 Reference 2.

[4] While the cited prohibition is specific to cleanup of sediments contaminated with PCBs, EPA interprets this prohibition to extend to soils, structures and debris within this project area, since they are essentially co-located with sediments and pose essentially the same health and environmental risks as do contaminated sediments.

The document "Final Construction Statement of Work" (Reference 6 to the original approval, Reference 2 to this approval) indicates that the overall project will be conducted over the course of three construction seasons, the first of which was completed between December 2012 and March 2013. Figures C-12 through C-14 in Appendix A of the "Final Construction Statement of Work" (Reference 11) documents specific elements of the project that will be completed in each of the three construction seasons.

Project activities subject to the requirements of 40 C.F.R. § 761.61 can be generally divided into the following categories:

- Characterization for purposes of defining the nature and extent of contamination;
- Developing, assessing, and selecting among remedial alternatives;
- Dredging and excavation of contaminated sediments, soils, and debris contaminated with PCBs at concentrations < 50 ppm, including dewatering;
- Dredging and excavation of contaminated sediments, and debris contaminated with PCBs at concentrations ≥ 50 ppm, including dewatering;
- Conducting sampling to verify completion of excavation/dredging activities, and to perform environmental monitoring during cleanup activities;
- Backfilling and post-backfilling monitoring;
- Treatment and discharge of return water from < 50 ppm sediments, soils, and debris;
- Treatment and discharge of return water from ≥ 50 ppm sediments, and debris;
- Temporary stockpile storage of excavated soils and sediments;
- Container loading activities, including absorption/stabilization of residual liquids for sediments, soils, and debris contaminated with PCBs <50 ppm;
- Final disposal of soils, sediments, and debris contaminated with PCBs at concentrations < 50 ppm, including use of soils and sediments as alternate daily cover[5];
- Final disposal of soils, sediments, and debris contaminated with PCBs at concentrations ≥ 50 ppm;
- Decontamination of and equipment in contact with PCB remediation waste during cleanup activities.

The following section provides an overview of which of the key regulatory authorities/permits that apply to each of the above categories, the specific TSCA regulatory authority that authorizes work within each category, and for work subject to this risk-based disposal approval, the principle source of requirements used by EPA to establish specific requirements under the risk-based disposal approval. In presenting this overview, EPA notes that all regulatory requirements identified in the table are in addition to requirements of the Boeing Order.

Specific elements of the cleanup project

Characterization for purposes of defining the nature and extent of contamination

Characterization of the nature and extent of PCB contamination for purposes of evaluating, selecting, and verifying completion of the sediment and soils remedy has been completed as part of the RCRA corrective action process under the Boeing Order. EPA accepts the results of this

[5] Use of debris generated as part of cleanup evaluated under this approval would not be suitable for alternate daily cover. Therefore, EPA is explicitly excluding debris from the materials conditionally authorized for disposal as alternate daily cover by this approval.

work as meeting the no unreasonable risk standard for cleanup of PCB remediation waste under 40 C.F.R. § 761.61(c).

Developing, assessing, and selecting among remedial alternatives

The development and assessment of remedial alternatives, and selection of the final corrective action remedy, has been completed as part of the RCRA corrective action process under the Boeing Order. The final remedy selection was documented in Reference 9. EPA accepts the results of this work as meeting the no unreasonable risk standard for cleanup of PCB remediation waste under 40 C.F.R.
§ 761.61(c).

Dredging and excavation of contaminated sediments, soils, and debris contaminated with PCBs at concentrations < 50 ppm, including dewatering

40 C.F.R. § 761.61(b)(3) provides that:

"Any person may manage or dispose of material containing <50 ppm PCBs that has been dredged or excavated from waters of the United States:
(i) In accordance with a permit that has been issued under section 404 of the Clean Water Act, or the equivalent of such a permit as provided for in regulations of the U.S. Army Corps of Engineers at 33 CFR Part 320."

Since requirements for excavation of soils and sediments, including shoreline soils and sediments, containing PCBs with total PCBs <50 ppm are included in the USACE Section 10/404 permit issued for this project (Reference 8), these same excavation activities also are authorized under TSCA pursuant to 40 C.F.R. § 761.61(b)(3). This approach to identifying appropriate TSCA authorization for these project elements is consistent with language in Boeing's original RBDA application. EPA notes that requirements for these project elements, as well as all project elements, are also included under the Boeing Order.

Excavation of contaminated soils, sediments, and debris contaminated with PCBs at concentrations ≥ 50 ppm, including dewatering.

Although excavation of contaminated soils, sediments, and debris with total PCBs at concentrations ≥ 50 ppm are subject to the USACE 10/404 permit (Reference 8), such activities are not within the scope of the performance-based authorization at 40 C.F.R. § 761.61(b)(3). EPA nevertheless finds that the work requirements do not pose an unreasonable risk of injury to health or the environment. EPA therefore is providing authorization for this element of the project through the RBDA pursuant to 40 C.F.R. § 761.61(c).

Conducting sampling to verify completion of excavation activities, and to perform environmental monitoring during cleanup activities

The development and assessment of remedial alternatives, and selection of the final corrective action remedy, has been completed as part of the RCRA corrective action process under the Boeing Order. The final remedy selection was documented in Reference 9. EPA accepts the results of this work as meeting the no unreasonable risk standard for cleanup of PCB remediation waste under 40 C.F.R. § 761.61(c).

Backfilling and post-backfilling monitoring

The development and assessment of remedial alternatives, and selection of the final corrective action remedy, has been completed as part of the RCRA corrective action process under the Boeing Order. The final remedy selection was documented in Reference 9. EPA accepts the results of this work as meeting the no unreasonable risk standard for cleanup of PCB remediation waste under 40 C.F.R. § 761.61(c).

Treatment and discharge of return water from < 50 ppm sediments, soils, structures and debris

The definition of PCB remediation waste at 40 C.F.R. § 761.3 addresses the regulatory classification of water associated with excavated sediments and soils. More specifically, the definition of PCB remediation waste includes, but is not limited to:

"Environmental media containing PCBs, such as soil and gravel; dredged materials, such as sediments, settled sediment fines, and aqueous decantate from sediment."

Therefore, all water separated from excavated sediments and soils subject to this approval is considered PCB remediation waste and is subject to either the applicable decontamination standards of 40 C.F.R. § 761.79, or the disposal requirements of 40 C.F.R. § 761.60(a) (See 40 C.F.R. § 761.61(b)(1)). However, EPA has provided special consideration for management of "materials" subject to a permit issued under the Clean Water Act Section 404, such as the USACE 10/404 permit. EPA considers the treatment and discharge to the Lower Duwamish Waterway of return water from < 50 ppm soils and sediments to be "management" in the context of the provisions of 40 C.F.R. § 761.61(b)(3), cited above. Since requirements for the treatment and subsequent discharge of return water associated with <50 ppm sediments are included in the USACE Section 10/404 permit, they also are authorized under TSCA pursuant to 40 C.F.R. § 761.61(b)(3).

Since soils and debris are expected to be co-generated with sediments, and they are subject to the same Boeing Order and 10/404 Permit requirements as dredged sediments, EPA is considering return water from soils, structures and debris to be indistinguishable from return water from sediments. Therefore, the same TSCA authorization applies to all return water from source materials with total PCB concentration < 50 ppm, regardless of whether the source material is sediment, soil, a structure or debris.

The specific technical requirements applicable to treatment and discharge of return water from <50 ppm soils and sediments are documented in the final decision and final design report (References10 and 11).

Treatment and discharge of return water from ≥ 50 ppm sediments, soils, structures and debris

Water separated from excavated sediments, soils, structures and debris with total PCB concentrations ≥ 50 ppm are not eligible to be "managed" under the provision of 40 C.F.R. § 761.61(b)(3). However, EPA has evaluated the specific technical requirements for treatment and discharge of this water documented in the final design report (Reference 10), and finds that they can be considered to be within the scope of decontamination activities authorized by 40 C.F.R. § 761.79(b), including, but not limited to, discharge to a publically-owned treatment works (POTW).

Temporary stockpile storage of excavated soils and sediments

Contaminated soils and sediments to be cleaned up under this RBDA will have total PCB concentrations both above and below 50 ppm. Once excavated using shore-based equipment, the soils and sediments will be placed in on-site lined stockpile areas. The stockpile area where temporary storage for disposal will occur for soils and sediments with total PCB concentrations ≥ 50 ppm will be constructed and operated according to the requirements of 40 C.F.R. 761.65(c)(9).

The stockpile area where temporary storage for disposal will occur for soils and sediments with total PCB concentrations <50 ppm are not subject to the storage for disposal requirements of 40 C.F.R. §761.65. However, given the large volume of materials to be managed in the stockpile area, and the proximity of these activities to the Duwamish waterway, EPA believes that it is appropriate to review the proposed activities as necessary to make a determination that they do not pose an unreasonable risk of injury to health or the environment as part of its overall evaluation of the project. EPA has evaluated the proposed design and operating requirements for the <50 ppm stockpile area as documented in Reference 7, and has determined that the proposed storage for disposal activities do not pose an unreasonable risk of injury to health or the environment.

Container loading activities, including absorption/stabilization of residual liquids for sediments, soils, and debris contaminated with PCBs <50 ppm

TSCA requires that liquids in contact with non-liquid PCBs be managed at the concentration of the PCBs in the phase with the highest PCB concentration, or separated and decontaminated or disposed of accordingly. Further, 40 C.F.R. § 761.50(a)(2) prohibits processing of liquid PCBs into non-liquid forms to circumvent the high-temperature incineration requirements of 40 C.F.R. § 761.50(a)(2).

EPA recognizes that generation of water in contact with PCB remediation waste is inherent in soil and sediment cleanup projects such as this, including cleanup of shoreline soils, sediments, structures and debris addressed in this approval. Further, EPA recognizes that given the large volume of soils and sediments to be managed, there are practical limitations in the degree to which entrained water can be separated from excavated materials. In light of these practical constraints while still ensuring full compliance with the stated TSCA requirements, EPA is authorizing the addition of absorbent materials to PCB remediation waste in the stockpile/container loading area provided that entrained water is drained from the stockpiled materials to the extent practicable via ordinary means (gravity draining) within the stockpiles. These same considerations apply to debris and structures that may be co-generated with contaminated soils and sediments.

EPA is not expecting that significant excess water will be associated with shoreline materials (soils, or debris) generated as part of this project above the Duwamish waterline. Should excess water be encountered during cleanup of shoreline areas of the project, for example, due to heavy precipitation, EPA expects that entrained water be drained from uplands soil, and debris to the extent reasonably practicable via gravity separation in the stockpile areas. Following this, absorbents may be added as necessary to facilitate transport and disposal.

Subject to the limitations noted above, EPA finds that the proposed storage for disposal and container loading activities, including absorption/stabilization of residual liquids for sediments

contaminated with PCBs <50 ppm, do not pose an unreasonable risk of injury to health or the environment.

Final disposal of soils, sediments structures and debris contaminated with PCBs at concentrations < 50 ppm, including use of sediments as alternate daily cover

The self-implementing cleanup requirements of 40 C.F.R. § 761.61(a) provide authorization to dispose of bulk PCB remediation waste with PCB concentrations < 50 ppm in a facility permitted, licensed or registered by a State to manage municipal solid waste subject to 40 C.F.R. Part 258, or municipal non-hazardous waste subject to 40 C.F.R. §§ 257.5 through 257.30, as applicable. Since this cleanup is not being conducted as a self-implementing cleanup, the provisions of 40 C.F.R. § 761.61(a) do not apply. However, disposal of < 50 ppm bulk PCB remediation waste is nevertheless appropriate for this project, so EPA is providing the same authorization through this risk-based disposal approval under the authority of 40 C.F.R. § 761.61(c).

The TSCA regulations do not speak directly to disposal of bulk PCB remediation waste as alternate daily cover that is otherwise eligible for disposal in a facility permitted, licensed or registered by a State to manage municipal solid waste subject to 40 C.F.R. Part 258, or municipal non-hazardous waste subject to 40 C.F.R. §§ 257.5 through 257.30, as applicable. Since by definition, materials disposed of as alternate daily cover are not covered by a daily cover, it is possible that PCB remediation waste disposed of as alternate daily cover could pose an unreasonable risk of injury to health or the environment. For example, if such wastes were to remain exposed to the elements in the arid Eastern Oregon or Washington climate, exposed to high temperatures or high winds, they could become desiccated and therefore dispersible. Boeing's risk-based disposal approval application presents a defensible case that, despite these potential concerns, disposal of bulk PCB remediation waste from this project with PCB concentrations < 50 ppm is both desirable and appropriate. EPA therefore is providing authorization to dispose of PCB remediation waste with concentrations < 50 ppm as alternate daily cover. EPA is, however, requiring that Boeing provide written documentation from the state oversight agency (in this case, the Oregon Department of Environmental Quality) that this practice is acceptable with respect to applicable solid waste landfill criteria.

As noted above, debris which may be generated as part of this project are not suitable for disposal as alternate daily cover. Therefore, debris are explicitly excluded from this authorization to dispose of bulk PCB remediation waste with PCB concentrations <50 ppm as alternate daily cover. Structures or debris must be directly disposed of as authorized by Condition 9, and not stockpiled or disposed of as alternate daily cover.

Final disposal of sediments, and debris contaminated with PCBs at concentrations ≥ 50 ppm

The self-implementing cleanup requirements of 40 C.F.R. § 761.61(a) provide authorization to dispose of bulk PCB remediation waste with PCB concentrations ≥ 50 ppm in a facility permitted by a State authorized under Section 3006 of RCRA. Since this cleanup is not being conducted as a self-implementing cleanup, the provisions of 40 C.F.R. § 761.61(a) do not apply. However, disposal of ≥ 50 ppm bulk PCB remediation waste is nevertheless appropriate for this project, so EPA is providing the same authorization through this risk-based disposal approval under the authority of 40 C.F.R. § 761.61(c).

Decontamination of equipment in contact with PCB remediation waste during cleanup activities

Although PCB remediation waste with PCB concentrations <50 ppm expected to be managed during the south shoreline elements of this project are not subject to the storage for disposal requirements of 40 C.F.R. § 761.65 or the corresponding closure requirements, appropriate cleanup or decontamination of structures and equipment that may come in contact with PCB remediation waste is necessary to ensure that the overall project does not pose an unreasonable risk of injury to health or the environment. EPA is establishing a "clean debris surface" as the performance standard for decontamination of equipment and structures in contact with PCB remediation waste, "borrowing" this standard from the alternate treatment standards for hazardous debris under the RCRA Land Disposal Restriction program. EPA is establishing this standard under the TSCA authority of 40 C.F.R. § 761.61(c), and in doing so, is not making any assertion that PCB remediation waste, or equipment or structures in contact with it, under this approval is subject to RCRA land disposal restriction treatment standards. This requirement will apply to all structures and equipment in contact with PCB remediation waste with concentrations both <50 ppm, and with concentrations ≥ 50 ppm that are not in dedicated service to work subject to this approval, or that are returned to commerce during or at the end of work subject to this approval.

Discussion of Conditions

1. Boeing is authorized to perform cleanup of PCB remediation waste, associated verification sampling, backfilling and post-backfilling monitoring as documented in Reference 5 pursuant to the specific provisions of 40 C.F.R. § 761.61 documented in Enclosure 2 to this approval, and as approved by EPA under the Boeing Order (Reference 6) that are associated with the 2014 Southwest Bank Excavation, Sediment Removal, and Shoreline Reconstruction. Boeing must ensure that all PCB remediation waste with as-found concentrations ≥ 50 ppm is separately excavated, segregated and disposed of from the balance of sediments to be cleaned up under this approval. Soil and sediment excavation, shoreline reconstruction and revegetation subject to this approval must be completed by December 31, 2014, with shipment for off-site disposal of PCB remediation waste subject to this approval to be completed 60 days following completion of excavation activities. If necessary, Boeing may request an extension to these dates pursuant to Condition 16.

This condition provides overall authorization under TSCA for the project for the second phase of construction focused on South Shoreline Work Elements. As discussed above, some of the work activities subject to TSCA requirements are authorized through this approval under the risk-based disposal approval of 40 C.F.R. § 761.61(c), with the remainder subject to authorization under other provisions of 40 C.F.R. § 761.61 discussed above in the section "Specific elements of the cleanup project." All work associated with this project, including but not limited to work subject to TSCA requirements, is subject to the Boeing Order.

Reference 5 includes the following language:

"It is anticipated, based on discussions with EPA, that this material [sediments to be excavated pursuant to this approval] will be incorporated with the other impacted sediment and managed [in a Subtitle D landfill]."

While EPA and Boeing have discussed Boeing's proposal in the application for CS2 activities to co-dredge and co-dispose of PCB remediation waste in the two early removal areas with as-found

concentrations slightly above 50 ppm, EPA has not yet made a decision on this proposal. Therefore, EPA is requiring that PCB remediation waste subject to this approval with as-found concentrations ≥ 50 ppm be separately excavated, stockpiled, and disposed of. EPA expects to make a decision on Boeing's proposal as part of the approval for CS3 activities, expected to begin October 1, 2014.

EPA is establishing a schedule for completion of cleanup work under this approval, and for completion of off-site shipment for disposal. EPA's intent in establishing this schedule is to ensure timely completion of the authorized work. Since off-site shipment of PCB remediation waste may not be completed concurrent with completion of cleanup activities, some additional time will be required. EPA is establishing a period of 60 days following completion of excavation activities to complete off-site shipment for disposal, with a provision for modification if necessary.

2. Within 60 days following completion of cleanup work subject to this approval, or at such other time as agreed to by EPA, Boeing will provide EPA with a summary report of activities completed pursuant to this approval, and documentation of issues or problems that were encountered. Alternately, Boeing may submit the results of work pursuant to this approval concurrently, or included with, the construction completion to be required following completion of CS3 work.

This condition establishes a mechanism to review experiences gained and "lessons learned" during the completion of work subject to this approval, to make appropriate adjustments to plans and schedules for subsequent construction seasons, and to update or modify this approval accordingly. Since work subject to this approval was originally intended to be conducted as part of, not prior to, CS3, EPA is including a provision that allows Boeing to submit the construction completion report under this approval as part of the broader CS3 completion report that EPA will require as part of the expected approval for CS3.

3. This approval will remain in effect for the duration of the Boeing Order (Reference 6) with respect to work requirements subject to the requirements of 40 C.F.R. § 761.61. Following completion of such work under the Boeing Order, including post-backfilling monitoring, Boeing may provide a written request to EPA to terminate this approval.

This condition ensures that this approval remains in place and effective for the full duration of the project as established by the Boeing Order and this approval.

4. Boeing is authorized to construct and operate temporary stockpile structures and to store for disposal contaminated soils and sediments as documented in "South Shoreline Stockpile Management Plan (Reference 7). Boeing will ensure that best management practices are used for gravity dewatering within these stockpiles for purposes of minimizing the quantity of residual liquids remaining in the solids, consistent with project schedules, equipment limitations, and the properties of the excavated soils/sediments. Boeing will establish and maintain records as provided for in 40 C.F.R. §761.180[6].

This condition provides authorization for Boeing to construct and to operate temporary on-site stockpile storage areas. Boeing will use these stockpiles to conduct gravity de-watering of soils/sediments, and must meet the minimization of free liquids standard documented in the condition.

5. Boeing is authorized to add absorbents to excavated soils and sediments within the stockpiles authorized by Condition 4 for purposes of absorbing residual free liquids remaining in excavated

[6] EPA notes that authorization to construct temporary soil stockpiles was provided to Boeing as part of South Shoreline Work Elements addressed in Reference 5.

soils and sediments. Sufficient absorbent material will be added and appropriately mixed, as needed, to eliminate visible free liquids before removal from the stockpile enclosures. Boeing is not authorized to add absorbents to any other aqueous PCB remediation waste associated with this project, such as vehicle or container wash water, storm water collected from areas outside of the stockpile enclosures which may have been in contact with contaminated soils or sediments, or final decontamination water from the facility generated pursuant to Condition 8 of this Approval.

6. All aqueous PCB remediation waste generated as part of this project other than residual free liquids in excavated shoreline soils or sediments must be managed according to one of the following options:

   - Collected on-site and shipped via Department of Transportation-compliant containers or tank trucks to an off-site facility for decontamination as required and discharge pursuant to 40 C.F.R. § 761.79(b)(1)(ii) or (iii);
   - Collected, and decontaminated (pre-treated) on-site as required and discharged pursuant to 40 C.F.R. § 761.79(b)(1)(ii) or (iii) to the King County Publically Owned Treatment Works. If this option is selected, Boeing must provide EPA with a copy of King County's pretreatment permit that demonstrates the permit contains an enforceable limit for PCBs, prior to any discharge to the King County publically owned treatment works (POTW). Any previous submission of the King County permit is considered in satisfaction of this condition provided it remains valid and in effect for the duration of work subject to this approval;
   - Managed on-site in the Dredge Return Water Treatment System subject to the requirements of the USACE Section 10/404 permit (Reference 12).

   Boeing will ensure that any decontamination of aqueous PCB remediation waste on-site at the facility will be conducted in compliance with the requirements of 40 C.F.R. § 761.79(e)-(g).

   Any sampling and analysis pursuant to this condition that is not otherwise subject to a written sampling and analysis plan approved by EPA under the Boeing Order or King County under authority applicable to authorization for discharge to the King County POTW, must be conducted under a written sampling and analysis plan, and a project-specific quality assurance project plan that data will be of acceptable quantity and quality for their intended decision-making uses. Boeing will make such plans available to EPA no later than ten (10) business days prior to any sampling or analysis under the plan, or such other time as EPA may agree to.
   As discussed in the original RBDA (Reference 2), EPA is not providing authorization to manage aqueous PCB remediation waste other than residual liquids in sediments via addition of absorbents. EPA is establishing several options in Conditions 5 and 6 which ensure compliance with applicable provisions of 40 C.F.R. § 761.61, but which do not involve impermissible conversion of liquid PCB remediation waste to a non-liquid form to avoid otherwise applicable disposal requirements. The first two of these options involve decontamination, either off-site or on-site, and appropriate discharge, such as to a publically-owned treatment works. Such decontamination may be conducted on a self-implementing basis using one or more of the procedures enumerated at 40 C.F.R. § 761.79(b). The second option provides for on-site decontamination and discharge to the King County POTW. EPA is requiring that Boeing provide written documentation that appropriate pre-treatment requirements are in place prior to discharge to the King County POTW, since Boeings RBDA application did not indicate whether or not appropriate pre-treatment is in place to ensure compliance with 40 C.F.R. § 761.79(b)(1)(ii).

The final option provides for on-site decontamination and discharge to the waterway via the Dredge Return Water Treatment System under the USACE Section 10/104 Permit. EPA notes that although this option of treating and discharging water is included in Condition 6 for completeness, the underlying TSCA authority is the self-implementing decontamination authority of 40 C.F.R. 761.79(b)(ii).

EPA is including a requirement that any sampling and analysis associated with this condition is conducted under a written sampling and analysis plan and a quality assurance project plan. These plans can either be existing plans approved by EPA under the Boeing Order, or separate plans specific to this activity.

7. Boeing will ensure that all trucks or intermodal containers used to transport PCB remediation waste under this approval or as otherwise authorized pursuant to 40 C.F.R. § 761.61, will have adequate liners, or are otherwise sufficiently watertight, to prevent any incidental liquids from leaking from the boxes or containers during transport.

Even though Condition 5 provides authorization to add absorbents to excavated soils and sediments within the stockpile areas, and establishes the performance standard of no visible free liquids, it is possible that load separation may occur during transport. Similar concerns exist for transport of soils. EPA is establishing this condition to ensure that unintended release of separated liquid PCB remediation waste does not occur during transport for final disposal of PCB remediation waste associated with this project.

8. All equipment and structures that have been in contact with liquid or non-liquid PCB remediation waste subject to this approval must be disposed of or decontaminated following completion of work under this approval. All such disposable equipment or materials must be disposed of in a facility permitted, licensed or registered by a State to manage municipal solid waste subject to 40 C.F.R. Part 258, or municipal non-hazardous waste subject to 40 C.F.R. §§ 257.5 through 257.30, as applicable. Non-disposable equipment and structures must be decontaminated using mechanical means or pressure washing to achieve a "clean debris surface" as defined in 40 C.F.R. § 268.45, Table 1, footnote 3. Water generated from decontamination activities must be managed according to one of the options enumerated in Condition 6 above.

   Boeing will ensure that any decontamination conducted pursuant to this condition will be conducted in compliance with the requirements of 40 C.F.R. 761.79(e)-(g).

   This condition establishes disposal and decontamination requirements for all equipment and structures that may have been in contact with, or contaminated with, PCB remediation waste during project activities. EPA is establishing this condition to ensure that residual PCBs which may remain following project completion are disposed of, or equipment/structures are sufficiently decontaminated, to ensure that there is no unreasonable risk of injury to health or the environment.

9. Boeing is authorized to dispose of bulk PCB remediation waste with PCB concentrations < 50 ppm in a facility permitted, licensed or registered by a State to manage municipal solid waste subject to 40 C.F.R. Part 258, or municipal non-hazardous waste subject to 40 C.F.R. §§ 257.5 through 257.30, as applicable.

10. Boeing is authorized to dispose of bulk PCB remediation waste with PCB concentrations ≥ 50 ppm in a hazardous waste landfill permitted by a State authorized under *§ 3006* of RCRA.

Although 40 C.F.R. § 761.61(a) provides similar authorizations for bulk PCB remediation generated from self-implementing cleanups, this project is not being conducted under the authority of 40 C.F.R. § 761.61(a). Nevertheless, these methods of final disposal are appropriate to PCB remediation waste to be generated by this project, so EPA is establishing these disposal authorizations under the risk-based disposal approval authority of 40 C.F.R. § 761.61(c).

EPA understands that PCB remediation waste generated pursuant to this approval may provide potential benefit to the landfills in the form of moisture that is needed to optimize landfill gas production at those landfills with co-generation facilities. For this reason, Boeing is authorized to ship the sediments damp so long as no visual free water is present at the shipment point and no leaks occur during shipping. See the requirements of Conditions 5 and 6.

11. Boeing will ensure that a copy of this approval is provided to members of its field engineering team (Dalton, Olmsted and Fuglevand; AMEC Environment and Infrastructure, Inc., and its subconsultants; Envirocon, Inc., and its subcontractors; Waste Management, Inc.; PSC/Stericycle; Clean Harbors, Inc.) (Field Team) responsible for conducting work subject to requirements of the approval. Boeing will ensure that any contracts and associated contract directions it issues to members of the Field Team, or any other contractors or consultants, are consistent with the requirements of this approval. Boeing is responsible for ensuring compliance with this TSCA Risk Based Disposal Approval and all applicable requirements of 40 C.F.R. Part 761.

This condition emphasizes Boeing's responsibility for acts or omissions of its contractors.

12. Boeing will ensure that all field work associated with this project conducted by Boeing or its Field Team is conducted under written site-specific health and safety plans and the general health and safety provisions documented in Section 1.4 of Boeing's application (Reference 3). Boeing will ensure that these plans document appropriate training and personal protective equipment required for all personnel that may be exposed to PCBs during work associated with this project. Boeing will make available copies of such plans to EPA upon request.

Boeing's RBDA application documents general health and safety considerations in Section 1.4, but it does not include a specific health and safety plan. Section 1.5 does, however, include a statement that "The Project will be conducted in accordance with site-specific Health and Safely Plans (HASP)..." Further, Boeing's RBDA does not discuss any training requirements for personnel conducting work under this approval. Both are important to ensure that work is conducted safely and in a manner that does not pose an unreasonable risk of injury to health or the environment. This condition ensures that a health and safety plan is prepared and that it includes elements that the EPA considers necessary. EPA is not including an explicit requirement for EPA's review and approval, but this condition does ensure that EPA has access to the plan. If EPA should identify deficiencies that require revision, EPA may establish necessary revisions through modification of this approval pursuant to Condition 16.

13. Nothing in this approval relieves Boeing of any obligation to comply with the Boeing Order, any other EPA or Ecology administrative action, or any statutory requirements, or rules and regulations applicable to the activities subject to this approval.

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

14. Within seven (7) days following the effective date of this approval, Boeing will provide EPA with written or e-mail notice of its project manager responsible for overall implementation of work subject to this approval. The initial EPA TSCA project manager is identified in Condition 17. The respective project managers will be responsible for timely and routine communication regarding implementation of this approval, including notification pursuant to Condition 15. For matters otherwise reportable to the EPA RCRA project manager under the Boeing Order, concurrent notification via e-mail is acceptable and encouraged.

Based on experience during the first construction season under the initial RBDA (Reference 2), EPA and Boeing recognized the need for enhanced communication with respect to this approval based on a project management approach. EPA is establishing this condition, as well as conforming changes to Condition 16 below, to reflect this objective.

15. If at any time before, during, or after conduct of activities subject to this approval, Boeing 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, Boeing must report such data or information via facsimile or e-mail to EPA within five working days at the project manager level, and in writing to the Regional Administrator within 30 calendar days of first possessing or becoming aware of such data or information. At his or her sole discretion, the EPA project manager may waive the written reporting requirement for those issues that are determined to be minor, or can be timely resolved without modification of this Approval. Boeing shall also report in the same manner, new or different information related to a condition or any element of the approved activities if the information is relevant to this approval. EPA may direct Boeing 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. Boeing shall follow such direction until written approval is obtained from the EPA that finds the condition(s) requiring such direction no longer poses an unreasonable risk of injury to health or the environment.

16. EPA reserves the right to modify or revoke this approval based on information provided pursuant to Condition 15, 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. Boeing may request modification of this approval by providing written notice to EPA. If the EPA agrees with a request for modification, the EPA will provide written approval to Boeing. Prior to obtaining written approval of a modification request, Boeing shall comply with the existing approval conditions.

This condition establishes a mechanism whereby this approval may be modified by EPA, either independently or upon request to EPA.

Condition 17, not restated here, is self-explanatory.