Oregon
Theodore R. Kulongoski, Governor

Department of Environmental Quality
Northwest Region Portland Office
2020 SW 4th Avenue, Suite 400
Portland, OR 97201-4987
(503) 229-5263
Fax: (503) 229-6945
TTY: (503) 229-5471

September 23, 2010

Colonel Steven R. Miles,
District Commander
U.S. Army Corps of Engineers
ATTN: CENWP-OP-GP
P.O. Box 2946
Portland, OR 97208-2946

RE: 401 Water Quality Certification for Lower Willamette River Federal Navigation Channel Maintenance Dredging at Post Office Bar - CENWP-PM-E-10-04

Dear Colonel Miles:

The Department of Environmental Quality (DEQ) has reviewed the U.S. Army Corps of Engineers (USACE) application materials for the above noted proposal to conduct maintenance dredging activities within the federal navigation channel of the Willamette River, between approximately river mile (RM) 2+00 and 2+30, Portland, Multnomah County, Oregon (Section 23, T2N/R1W) with dredged material and decant water disposal at West Hayden Island, in the Columbia River, at approximately RM 105 (approximately 2 miles upriver from the confluence with the Willamette River), in the City of Portland, Multnomah County, Oregon (Section 28, T2N/R1E).

Project Description: In order to maintain safe navigation within the federal navigation channel of the Willamette River, USACE is proposing to remove approximately 75,000 cubic yards (CY) of material which has shoaled at an inside bend on the east bank of the river in an area known as Post Office Bar, which was last dredged in 1989. The material will be removed using a closed-lipped, environmental, clamshell bucket to a depth of approximately -42 feet CRD (including 2 feet of advanced maintenance dredging). Dredged material will be placed on a watertight barge for transport to an approved disposal site on West Hayden Island, where it will be offloaded using a mechanical pump with no discharge of decant water to waters of the state.

The Willamette River is classified as water quality limited under the federal CWA. US Environmental Protection Agency (EPA) approved Total Maximum Daily Loads (TMDLs) have been developed for the parameters of Bacteria, Dioxin and Temperature and it is on Section 303(d) list of impaired waterbodies for the parameters of Mercury, Dissolved Oxygen, Iron, DDT, DDE (DDT metabolite), PCBs, Arsenic, Aldrin, Dieldrin, PAHs, Manganese, Pentachlorophenol, and Biological Criteria. Other parameters listed for potential concern include: Hexavalent Chromium, Lead, Copper, Nickel, Zinc, Parathion, Malathion, Fluoranthene, Chrysene, DDD, Benzo(A)pyrene, and Benzo(A)anthracene.

The Portland Harbor Superfund Site has been designated by EPA, initiating an assessment and remediation process to address widespread legacy contamination that is present in the lower reaches of the Willamette River. Areas targeted for cleanup span from approximately RM 0 to 12, with areas of interest continuing to approximately RM 14.

Beneficial uses designated in the Willamette River include: Water Supply (Public, Private, Industrial); Livestock Watering; Irrigation; Fish and Aquatic Life (salmonid

rearing; anadromous fish passage; resident fish and aquatic life); Wildlife and Hunting; Fishing; Boating; Water Contact Recreation; Aesthetic Quality; and Commercial Navigation & Transportation.

DEQ has prepared an Evaluation and Findings Report on the proposed dredging project (attached), which analyzes potential water quality and beneficial use impacts as a result of the proposal, and finds that 401 WQC conditions are required to protect water quality and beneficial uses.

Based on information provided by the applicant, DEQ does not anticipate any long-term violations of State Water Quality Standards, including *Oregon Administrative Rule (OAR) 340-41-004, Antidegradation Policy for Surface Waters*, provided the applicant strictly adheres to the conditions which follow.

1) **Duration of Certification:** This 401 Water Quality Certification (WQC) for the single event of dredging activities described above is valid for five years and expires upon closure of the in-water timing window (see Condition 2) of the fifth year after issuance.

2) **Fish Protection/ODFW Timing:** All in-water work shall occur within the Oregon Department of Fish and Wildlife's (ODFW) preferred time window as specified in Oregon Guidelines for Timing of In-Water Work to Protect Fish and Wildlife Resources, June 2008, or most current version. Exceptions to the work timing window must be reviewed and approved in writing by ODFW and National Marine Fisheries Service (NMFS).

3) **Aquatic Life Movements:** No activity may substantially disrupt the movement of those species of aquatic life indigenous to the water body, including those species that normally migrate through the area. Unobstructed fish passage must be provided for at all times during dredging and disposal activities. Exceptions to this condition must be reviewed and approved in writing by ODFW and NMFS.

4) **Sediment Characterization** has been conducted in accordance with the *Sediment Evaluation Framework for the Pacific Northwest, May 2009* [USACE, NMFS, US Fish and Wildlife Service (USFWS), US Environmental Protection Agency (EPA), DEQ, Washington Department of Natural Resources (WDNR), Washington Department of Ecology (Ecology), and Idaho Department of Environmental Quality (IDEQ)].

   (a) Sediments were determined by the Project Review Group (PRG) to be unsuitable for unconfined, in-water placement, due to exceedance of screening levels and bioaccumulative risk for PCBs, DDT, Zinc and Cadmium.

   (b) The PRG determined that newly exposed surface material is likely to contain higher levels of PCBs and DDT than the current levels and therefore, will pose bioaccumulative risk. As such, leave surface management options are required.

5) **Dredged Material and Leave Surface Management:** Due to the contaminants present and the potential for their mobilization into other areas prior to completion of the decision on remedies for remediation of the Portland Harbor superfund site, USACE must implement the following limitations and requirements:

(a) Dredging of holes or sumps below maximum depth and subsequent redistribution of sediment by dredging, dragging, or other means is prohibited.

(b) Within three days of dredging completion, grab samples must be collected from the newly exposed surface and analyzed for PCBs and DDT to establish a baseline for comparison in determining success of the monitored natural recovery option of leave surface management. Density of samples should be repetitive of that done for the SEF process. Results must be submitted to DEQ and EPA.

(c) Relatively uncontaminated sediment is anticipated to be deposited at rates of approximately 4 inches per year. Therefore, following the first full spring runoff cycle (or sooner as per NMFS BO Condition) and no later than mid-June 2011, grab sample collection and analysis must be repeated for the newly deposited surface of the dredged area and compared against the baseline established above. Results must be submitted to DEQ and EPA as soon as they are available.

(d) In the event DEQ and EPA determine from analysis of the sampling results that surface levels of PCBs and DDT pose unacceptable risk, USACE must implement a contingency measure to address risk from exposure and distribution. DEQ and EPA will confer with USACE regarding preferred contingencies that include:

i. Place 3 to 6 inches of clean sand to provide interim enhancement of the natural deposition in the dredged area for purposes of keeping exposed contaminants from mobilizing;

ii. Re-dredge to a depth that will accommodate placement of a clean sand cap at the desired maintenance depth;

iii. Provide a remedy through another process in consultation with EPA, such as the Portland Harbor superfund remediation (Comprehensive Environmental Response, Compensation, and Liability Act or CERCLA) process or the Natural Resource Damage Assessment (NRDA) process; or,

iv. Develop and implement a project that will alleviate exposure to PCBs and DDT in of another area within the Lower Willamette River.

6) **Dredging Operations:** USACE and its contractors must conduct dredging operations employing Best Management Practices (BMPs) which minimize disturbance or siltation of adjacent habitat or waters. These BMPs must include the following:

(a) Floating containment and absorbance booms must be maintained on site throughout implementation of the project and deployed in the event that any sheen or floating debris is detected during project operations.

(b) Employ techniques to minimize sediment disturbance and distribution through the water column.

i. Sequence or phase work activities to minimize the extent and duration of in-water disturbances;

ii. Employ an experienced equipment operator;

iii. Implement bucket control techniques, such as:

1. Position the barge as close to the dredge as possible to minimize decant water and sediment returning to the water.

2. Do not overfill the bucket.

3. Close the bucket as slowly as possible on the bottom.

4. Pause before hoisting the bucket off of the bottom to allow any overage to settle near the bottom.

5. Hoist load very slowly.

6. Move the bucket quickly to the barge to avoid decant water from being discharged to surface waters.

7. "Slam" open the bucket after material is dumped on a barge to dislodge any additional material that is potentially clinging to the bucket.

8. Ensure that all material has dumped into the barge from the bucket before returning for another bite.

9. Do not dump partial or full buckets of material back into the wetted stream.

(c) Load the sealed barge such that safe movement without spillage of any dredged material or decant water is possible during transport to the disposal facility.

(d) Use an experienced operator and all practical control methods for offloading slurry and elutriate at the disposal facility to avoid any discharge to the Columbia River or other waters of the state (including wetlands).

(e) If the dredging operation causes a water quality problem which results in distressed or dying fish, the operator shall immediately: cease operations; take appropriate corrective measures to prevent further environmental damage; collect fish specimens and water samples; and notify DEQ, ODFW and NMFS.

7) **Dredged Material Disposal:** As sediments proposed for dredging have been determined to be unsuitable for unconfined, in-water disposal, all material and water removed must be disposed of at the Port of Portland's West Hayden Island facility in compliance with the terms and conditions for compliance with DEQ's Solid Waste rules as detailed in DEQ's July 8, 2010 letter regarding Beneficial Use Determination (BUD20100708).

(a) Discharge to waters resulting from dewatering during dredging or release of return water from an upland facility is prohibited except as provided below.

i. All water removed with sediment must be contained and disposed of at an appropriately sized and sealed upland facility by evaporation or absorption by inert material (such as shredded paper).

ii. A Modified Elutriate Test (MET) may be performed for the known contaminants of concern (CoCs) with results compared against DEQ freshwater chronic water quality criteria. If CoC concentrations are below the criteria, criteria are not applicable, or DEQ Cleanup offers a determination of acceptability; dewatering and return water discharge are not limited.

1. The MET must be performed before dredging.

2. DEQ must approve the list of CoCs and analytical method prior to the applicant performing the MET.

3. DEQ must review the results and provide approval of discharge from dewatering and return water in writing prior to dredging.

8) **Turbidity:** All practical Best Management Practices (BMPs) must be implemented during dredging and disposal to minimize and contain turbidity during in-water work. Any activity that causes turbidity to exceed 10% above natural stream turbidities is prohibited except as specifically provided below.

(a) **Monitoring:** Turbidity monitoring shall be conducted and recorded as described below. Monitoring shall occur each day during daylight hours when dredging is being conducted. A properly and regularly calibrated turbidimeter is required taking measurements at approximately mid-depth below the surface of the water and above the channel bottom at the compliance and background distances.

i. Representative Background Point: a sample or observation must be taken every two hours at a relatively undisturbed area at least 100 feet upcurrent from in-water disturbance to establish background turbidity levels for each monitoring cycle. Background turbidity, location, date, time and tidal stage must be recorded prior to monitoring downcurrent.

ii. Compliance Point: Monitoring shall occur every two hours approximately 300 feet downcurrent from the disturbance and be compared against the background measurement or observation. The turbidity, location, date, time and tidal stage must be recorded for each sample.

(b) **Compliance**: Results from the compliance points should be compared to the background levels taken during that monitoring interval. Limited duration exceedances are allowed as follows:

MONITORING WITH A TURBIDIMETER		
ALLOWABLE EXCEEDANCE TURBIDITY LEVEL	ACTION REQUIRED AT 1ST MONITORING INTERVAL	ACTION REQUIRED AT 2ND MONITORING INTERVAL
0 to 5 NTU above background	Continue to monitor every 2 hours	Continue to monitor every 2 hours
5 to 29 NTU above background	Modify BMPs & continue to monitor every 2 hours	Stop work after 8 hours at 5-29 NTU above background
30 to 49 NTU above background	Modify BMPs & continue to monitor every 2 hours	Stop work after 2 hours at 30-49 NTU above background
50 NTU or more above background	Stop work	Stop work

If an exceedance over the background level occurs, the applicant must modify the activity and continue to monitor every two hours. **If an exceedance over the background level continues after the second monitoring interval, the activity must stop until the turbidity levels return to background.** If, however, turbidity levels return to background at or after second monitoring level due to implementation of BMPs or natural attenuation, work may continue with appropriate monitoring as above.

If an exceedance occurs at: 50 NTU or more over background; 30 NTU over background for 2 hours; or 5-29 NTU over background for 8 hours, the activity must stop immediately for the remainder of that 24-hour period.

(c) **Reporting:** Copies of daily logs for turbidity monitoring shall be available to DEQ, USACE, NMFS and ODFW upon request. The log must include: background NTUs, compliance point NTUs, comparison of the points in NTUs, and location, date, time, and tidal stage for each reading. Additionally, a narrative must be prepared discussing all exceedances with subsequent monitoring, actions taken, and the effectiveness of the actions.

7) **Spill Prevention:**

(a) Best management practices (BMPs) shall be employed in order to prevent petroleum products, chemicals, or other deleterious waste materials from entering waters of the State.

(b) Fuel hoses, oil drums, oil or fuel transfer valves and fittings, etc., must undergo frequent inspection for drips or leaks, and shall be maintained in order to prevent spills into State waters.

(c) An adequate supply of spill response materials, such as booms and absorbent materials, shall be kept at the immediate project site and deployed as necessary.

(d) The applicant must remove all foreign materials, refuse, and waste from the area and dispose of them properly.

8) **Spill & Incident Reporting:**

(a) In the event that petroleum products, chemicals, or any other deleterious materials are discharged into state waters, or onto land with a potential to enter state waters, the discharge shall be promptly reported to the Oregon Emergency Response Service (OERS, 1-800-452-0311). Containment and cleanup must begin immediately and be completed as soon as possible.

(b) If the project operations cause a water quality problem which results in distressed or dying fish, the operator shall immediately: cease operations; take appropriate corrective measures to prevent further environmental damage; collect fish specimens and water samples; and notify DEQ, ODFW, NMFS and USFWS as appropriate.

9) DEQ reserves the option to modify, amend or revoke this WQC, as necessary, in the event new information indicates that the project activities are having a significant adverse impact on state water quality or beneficial uses.

10) A copy of this WQC letter shall be kept on site and readily available for reference by the Port and its contractors, USACE, DEQ, NMFS, and other appropriate state and local government inspectors.

11) This WQC is invalid if the project is operated in a manner not consistent with the project description contained in the permit application materials.

12) DEQ is to have site access upon reasonable request.

13) If you are dissatisfied with the conditions contained in this certification, you may request a hearing. Such request must be made in writing to the DEQ Office of Compliance and Enforcement at 811 SW 6th Avenue, Portland Oregon 97204 within 20 days of the mailing of this certification.

The DEQ hereby certifies that this project complies with the Clean Water Act and state water quality standards, if the above conditions are made a part of the federal permit. The applicant shall notify the DEQ of any change in the ownership, scope, or construction methods of the project subsequent to certification. If you have any questions, please contact Alexandra Liverman by email at: liverman.alex@deq.state.or.us or by phone at 503 229-6030.

Sincerely,

Nina DeConcini for

Sally Puent
Water Quality Manager
Northwest Region

T:AL.certmiles.CENWP-PM-E-10-04.POBar

Attachments: Evaluation and Findings Report
Antidegradation Review Worksheet
DEQ Response to Non-Water Quality Comments

cc: Genevieve Angle, NMFS
Jonathan Freedman, EPA
Chip Humphrey, EPA
Jim Anderson, DEQ
Audrey O'Brien, DEQ
Commenters