UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, WA 98101

ACTION MEMORANDUM

DATE: June 20, 2005

SUBJECT: Action Memorandum for a Non-time-critical Removal Action at the GASCO site within the Portland Harbor Superfund Site, Portland, Multnomah County, Oregon; Site ID: BW

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Site ID: CERCLIS - OR027734359

I. PURPOSE

The purpose of this Action Memorandum is to document the U.S. Environmental Protection Agency's (EPA) approval of the non-time-critical removal action described herein for the GASCO site located within the Portland Harbor Superfund Site, Portland, Multnomah County, Oregon. A removal action will be completed at the GASCO site (the "site") and will be conducted by Northwest Natural Gas Company (NW Natural) pursuant to an Administrative Order on Consent dated April 28, 2004.

On April 28, 2004, EPA signed an Administrative Order on Consent (AOC) agreed to by NW Natural (USEPA 2004). An EPA Action Memorandum and Statement of Work also were issued at that time. The AOC requires that NW Natural perform a number of activities associated with a removal action for the tar body (as defined in the AOC) present on the surface of a portion

of the nearshore sediments at the site. The April 28, 2004 Action Memorandum documented the basis for a time critical removal action.

During design of the removal action, delays occurred due to discussions between EPA and NW Natural regarding the scope of water quality monitoring, containment design, and disposal options. Due to these complicating factors, the design of the time-critical removal action took significantly longer than 6 months. EPA determined that an Engineering Evaluation/Cost Analysis (EE/CA) should be prepared to evaluate removal action alternatives. The EE/CA was finalized in May 2005 and put forth for a 30-day public comment period. Due to the project timeframe, this removal action is now being conducted as a non-time-critical removal action. The non-time-critical removal action addresses approximately 15,000 cubic yards of "tar body" at the site described more fully below.

This Action Memorandum documents EPA's selection of the removal action alternative and supersedes the April 28, 2004 Action Memorandum.

By approval of this memorandum, EPA Region 10 determines that: 1) the conditions at the site may present an imminent and substantial endangerment to public health, or welfare, or the environment; and 2) the site conditions meet the criteria of the National Contingency Plan (NCP), 40 CFR Section 300.415, for a removal action. The removal action is required for immediate reduction of the risk to the public and the environment from uncontrolled hazardous substances at the GASCO site. An administrative record has been prepared for this removal action. No obligation of funds is necessary as this action will be conducted by NW Natural under a CERCLA order.

II. SITE CONDITIONS AND BACKGROUND

A. Site Description

The EPA identification number for the Site is: CERCLIS - OR027734359. The GASCO site is within the boundaries of the Initial Study Area of the Portland Harbor Superfund site. The Portland Harbor Superfund site was listed on the National Priorities List (NPL), pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, on December 1, 2000. NW Natural was notified of its potential responsibility for response costs. NW Natural is one of ten parties that signed an administrative order on consent for RI/FS activities with EPA in September 2001.

The GASCO site is approximately 35 acres in size and is a former gasification and oil-tar distillation plant located at 7900 N.W. St. Helens Road in Portland, Oregon. The site is bounded by the Willamette River at River Mile 6 and State Highway 30 (St. Helens Road). The site is adjacent to the Wacker Siltronic and U.S. Army Corps of Engineers U.S. Moorings facilities. The location of the site is shown on Figure 1.

The site is currently owned by the Northwest Natural Gas Company, which is the assumed name of the Portland Gas and Coke Company (GASCO). It is currently used as a liquefied natural gas plant. GASCO purchased the site in approximately 1910. At that time, the site was larger, approximately 85 acres, than currently configured. GASCO built and operated an oil gasification plant on the site between 1913 and 1956. Between 1913 and 1923, only gas and lampblack briquettes were produced. In 1923, by-products refining began. After 1925, when tar refining operations began, the quantity of tar within the waste stream would have decreased, but waste tar in the effluent continued to occur as suspended material and emulsions from the secondary tar box. Prior to 1941, all wastewater effluent and tar stills from the gasification process and by-product refining was discharged to a stream channel leading from the production area to the Willamette River, or to low lying areas of the site. After 1941, wastewater effluent and tar stills were disposed of in settling ponds on the northern portion of the site. When the plant was shut down in 1956, an estimated 30,000 cubic yards of tar waste had accumulated in the ponds. The southern portion of the original GASCO property was sold and is now owned by Wacker Siltronic Corporation. The tar ponds on the northern portion of the site were buried under 10 feet of fill in 1973. Current uses of the Gasco site, other than as a liquefied natural gas plant, are: bulk transfer of creosote oil and coal tar pitch; liquefied gas storage; and bulk petroleum storage.

A number of remedial investigation and risk assessment activities have been completed at the GASCO site to date pursuant to the Oregon Hazardous Cleanup law and under a voluntary agreement with the Oregon Department of Environmental Quality ("DEQ"). During the first phase of the Remedial Investigation, widespread oil gasification and by-products refining waste contamination was identified in site soils, groundwater, and Willamette River sediments. Tars were identified to depths of 70 feet in the vicinity of the former tar waste disposal area. In the former plant site area, dense non-aqueous-phase liquids (DNAPLs) were identified at three distinct locations. In subsequent RI phases, monitoring wells were installed adjacent to the Willamette River and detected elevated levels of benzene and naphthalene. Sediment samples were found to contain high concentrations of polynuclear aromatic hydrocarbons and pure tar waste extending from the site into the river was confirmed. Groundwater contamination was detected up to 100 feet below the surface along the riverbank.

1. Removal Site Evaluation

Past operations and waste disposal practices by GASCO are considered to be the primary sources of the most significant contaminants found at the site. GASCO historically discharged wastewater and tar stills directly into a stream channel leading to the Willamette River, and later to low lying areas of the site. These past releases from the GASCO facility are the primary source of visual tar material and contaminants in the river sediments that are subject to this removal action. NW Natural is concurrently investigating upland areas of the site to evaluate whether there is an ongoing source of contamination to the in-water area. Investigations are also

being conducted as part of the Portland Harbor Superfund Site to evaluate contaminants in river sediments other than those addressed in this removal action.

The focus of this removal action is the bank and river bottom containing visibly observable black tar waste and contaminated sediments with the highest levels of total PAHs (tPAHs), hereinafter referred to the "tar body". The tar body represents a principal threat material (PTM) and potential continuing source of releases to the river. The EPA has determined that the presence of the tar body constitute actual and/or threatened "releases" as defined in Section 101(22) of CERCLA, 42 U.S.C. § 9601(22).

2. Physical Location

The site is located in the Portland Basin, a broad structural depression of the Willamette Valley. Three main units are found beneath the site including (youngest to oldest): surficial fill, Willamette River alluvial deposits, and Columbia River basalt. A laterally extensive layer of silt with little to no clay content was found at elevations ranging from 25 to 30 feet above mean sea level (msl) on the west of the site (near St. Helen's Road) to 5 to 10 feet msl on the east of the site (near the Willamette River). Based on a detailed survey map for the GASCO site dated 1906 which identifies the pre-fill elevations of the site, the silt layer at this site is inferred to be at the top of the alluvial deposits. The GASCO 1906 survey map also depicts a former creek bed, which has been characterized as a drainage feature of the former Doane Lake that extends from the former lake south of the GASCO property, through the GASCO property north to the U.S. Moorings facility.

The tar body removal action area is located in the Willamette River, near-shore of the GASCO facility. Based on data collected during previous investigations and during the removal action design characterization study, an approximately 15,000 cubic yard dredge prism was identified as the extent of the removal action boundary. The extent of the tar body dredge prism is shown on Figure 2. The physical location of the tar body is adjacent to the GASCO dock and encompasses an approximately 0.7 acre surface area (Figure 2). The vertical extent of the dredge prism ranges from approximately 2 to 3 feet thick to approximately 20 feet thick and is located from the near surface to over 40 feet from the ordinary mean water line.

Land use within the vicinity of the site is primarily heavy industrial, commercial, and recreational (river). All of the work will be completed in near-shore sediments.

3. Site Characteristics

The focus of this removal action is the bank and river bottom containing contaminated sediments (tar body) with visibly observable black tar waste and the highest levels of total PAHs (tPAHs), which represents a principal threat material (PTM). The primary hazardous substances and pollutants or contaminants associated with the tar body at the GASCO site are: polycyclic aromatic hydrocarbons (PAHs), benzene, naphthalene, toluene, ethylbenzene, and xylenes

(BTEX), and cyanide. Other metals, semi-volatile organic compounds (SVOCs), and volatile organic compounds (VOCs), have also been detected at elevated levels, but have been generally observed at lower concentrations as compared to the primary contaminants noted above (see Table 2 of the EE/CA for removal action characterization data and Appendix A of the EE/CA for historical analytical data [Anchor 2005]). Chemical concentrations detected within the tar body include tPAHs up to 26,400 milligrams per kilogram (mg/kg), benzene up to 22 mg/kg, and naphthalene up to 5,100 mg/kg (Sample SD-7, see Appendix A of the EE/CA [Anchor 2005]).

The tar body includes a variety of physical characteristics, including: 1) thin tar laminations bounded by sediments, 2) lenses of tar, 3) soft, sticky masses of tar, and 4) dense brittle fragments of tar containing little or no sediments. Visually contaminated material underlies the tar body and includes: 1) Saturated sediments with dense sticky, non-flowing oil, 2) saturated sediments with tar and tar-like substances, 3) sediments with a heavy sheen, 4) blebs of oil and/or tar, and 5) sediments with a slight sheen.

Physical definitions were used to define the vertical and lateral extent of the tar body (Figure 2). Brittle tar material observed at the site is generally weathered tar at the surface that has been exposed to air during low river flow conditions. Most of the tar present below this weathered layer is of softer consistency. As described in Section 2.3 of the EE/CA, the approximate volume of the dredge prism is 15,000 cubic yards. The proposed dredge prism is shown in Figure 2.

Sample data of sediment located outside the dredge prism detected significant concentrations of tPAHs and other compounds. However, the primary focus of the removal action is to remove surface-exposed black tar material, which is a source of ongoing releases or potential threat of releases of contaminants to the Willamette River and downstream areas. The removal action will result in a surface of lesser tPAH concentration upon which a pilot, thin-barrier cap will be placed.

4. Release or threatened release into the environment of a hazardous substance, or pollutant, or contaminant

The portion of the GASCO site that will be addressed by the removal action consists of approximately 15,000 cubic yards tar and contaminated river sediments. The contaminants of concern are certain PAHs, BTEX, and cyanide. The removal action will address metals, SVOCs and VOCs in the dredge prism as well. Contaminants found at the site are “hazardous substances” as defined by Section 101(14) of CERCLA, 42 U.S.C. § 9601(14 that may present an imminent and substantial danger to public health or welfare under Section 104(a)(1) of CERCLA, 42 U.S.C. § 9604(a)(1). Concentrations and analysis of contaminants in the tar body are described in the EE/CA and in the attached Table 2. The primary source of these contaminants is believed to be past upland releases from the former GASCO facility.

The presence of hazardous substances at the site, or the past, present, or potential migration of hazardous substances currently located at or emanating from the site, constitute actual and/or threatened "releases" as defined in Section 101(22) of CERCLA, 42 U.S.C. § 9601(22).

5. NPL status

The GASCO site is located within the boundaries of the Initial Study Area of the Portland Harbor Superfund site, which was listed on the NPL on December 1, 2000.

6. Maps, pictures, and other graphic representations

Relevant figures and tables are attached to this memorandum.

B. Other Actions

1. Previous actions

No previous sediment remediation or removal actions have been completed in the aquatic portions of the GASCO site. The Portland Harbor Superfund site remediation investigation/feasibility study (RI/FS), which includes sediments at the GASCO site, is currently underway. In addition, an RI/FS is underway for upland portions of the GASCO site above the ordinary high water line under the Oregon DEQ's voluntary cleanup program. See the above descriptions of past/ongoing site investigations.

2. Current actions

Other than administrative actions associated with this non-time-critical removal action, there are no current actions associated with the in-water site. The upland project is currently in the investigation stage and has included some recovery and disposal of subsurface product in some portions of the site that are not directly relevant to the in-water removal action. The RI/FS for the Portland Harbor Superfund site has included a number of sediment cores and surface samples collected near and within the GASCO site boundaries.

C. State and Local Authorities

1. State and local actions to date

The Oregon DEQ is overseeing the RI/FS being conducted on the upland portions of the site. In December 1993, NW Natural signed up for DEQ's Voluntary Cleanup Program, and in August 1994, signed an agreement with DEQ to conduct an RI/FS at the site. An RI/FS workplan was submitted to DEQ in January 1995 and approved in August 1995. In March 2001, a source

control evaluation was initiated. Upland investigation and risk assessment activities are continuing.

The Oregon DEQ have participated in reviewing and commenting on documents associated with the GASCO tar body removal action.

2. Potential for continued State/local response

The removal action at the GASCO site will be conducted under CERCLA authority, with the state being given the opportunity to provide timely comments on project design documents and work plans. Coordination efforts with state and local authorities will continue throughout the project.

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

A. Threats to Public Health or Welfare

At the GASCO site, potential exposure pathways for human health risks include ingestion of contaminated fish and dermal exposure to contaminated sediment at low tide. The tar body is on the surface, open and exposed in the Willamette River and on the river bank, more so at low water levels. Trespassers on this and adjacent industrial property, transients camping nearby, recreational boaters, and workers all may be exposed by contact to site contaminants, especially during low water when more of the tar is exposed.

CERCLA hazardous substances, pollutants, and contaminants already are present in the riverbank, on the river bottom, and in river sediments (see Table 1). Contaminants found in GASCO sediments are known human carcinogens (e.g., PAHs and benzene) and are also known to accumulate in the tissue of fish and shellfish (e.g., PAHs and cyanide). Although the risk is unquantified, uptake of site contaminants by aquatic biota may become a part of the food chain.

The tar body and areas near the tar body have been investigated during a number of previous sampling events, including a design characterization study for this removal action. Chemical concentrations detected within the tar body include tPAHs up to 26,400 mg/kg, benzene up to 22 mg/kg, and naphthalene up to 5,100 mg/kg; see Table 2.

The tar body includes pure tar waste and highly contaminated materials that is a source of ongoing releases or potential threat of releases of contaminants to the Willamette River and downstream areas. Significantly high levels of tPAHs and benzene have the potential to dissolve off the tar body and the tar body is prone to erosion during flood events. "Tar balls" have been

noted on nearby beach areas downstream of the main tar body area. Willamette River stage and current fluctuation can accelerate erosion of the high tPAH material in the river.

During the Portland Harbor RI/FS, a number of sediment cores were also collected from the GASCO area (see Tables/Round 2A). Most of the cores were collected outside the removal action area, but in proximity to the tar body. These samples verify the extent and magnitude of contaminated material at the site. The highest concentrations detected were from samples collected immediately adjacent to the tar body area (Core ID: C276). Total PAHs were detected up to 11,271 mg/kg, benzene up to 70 mg/kg, and naphthalene up to 4,400 mg/kg in a sample collected from 5 to 8.5 feet below mud line.

The concentrations of tPAHs, BTEX, and cyanide detected during the tar body investigation and Portland Harbor RI/FS indicate the presence of PTM. A streamlined risk evaluation, presented in the EE/CA, demonstrates the elevated risk to human health from the tar body material. The estimated risk of the tar body to applicable receptors was completed for both non-cancer effects and cancer risks and is shown on Table 5 of the EE/CA. For PRGs based on non-cancer endpoints, the values (ratios) show exceedances above a hazard quotient (HQ) of one. For PRGs based upon a cancer risk, the values (ratios) show exceedances of a cancer risk above one-in-a-million or 10^{-6} cancer risk. For sediment samples in and near the tar body, the HQ ranges from 1 to 27 (sample SD-7) for non-cancer risks and exceedances above the cancer risk ranges from 1 to 6,362 (in sample SD-7).

B. <u>Threats to the Environment</u>

The contamination at the GASCO site may create~~s~~ an imminent and substantial endangerment to the environment in part through the actual or potential exposure of the river water, river sediment, surface soils and standing surface water to hazardous substances and pollutants or contaminants. Actual or potential exposure to the tar body and associated contaminants exists for fish, shellfish, other aquatic biota, such as benthic organisms, and wildlife, such as pisciverous birds. Actual or potential exposure to aquatic species, although not quantified, may become part of the ecological food chain as wildlife consume such species. PAH contamination exists as pure tar in the Willamette River and on the riverbank. Concentrations of tPAHs throughout the tar body and in some surrounding sediment exceed 1000 times the probable effects concentrations (PEC) and in most areas are above 100 times the PEC (MacDonald, et al, 2000).

Contact with the tar body could pose a risk to waterfowl that may use, rest, or feed in the area. Other animals may also be exposed if using this water for drinking. Uptake to aquatic species is likely but not quantified. The Willamette River is a transitory area for a number of ESA listed fish species, including 5 salmonid species listed as threatened under the Endangered Species Act. Coastal cutthroat trout, steelhead, and chum and chinook salmon are also all considered sensitive species by ODFW. Pacific lamprey and river lamprey are recognized as species of concern at the federal level (USFWS). Western toad, Cope's giant salamander, tailed

frog, northern red-legged frog, northwestern pond turtle, and painted turtle are all considered sensitive species by ODFW. In addition, northwestern pond turtle, tailed frog, and red-legged frog are listed as species of concern by USFWS. Aleutian Canada geese and the American peregrine falcon are protected as state endangered species (ODFW). Nine wetland plants that occur in the Willamette Valley and may occur in the Portland Harbor Superfund Site are all species of concern by USFW.

The contaminants of concern (i.e., PAHs, BTEX, and cyanide) found in GASCO sediments are known to adversely affect aquatic biota, as evidenced by sediment chemical concentrations, some at levels exceeding 1,000 times the PECs. Based on site visits performed by EPA and DEQ personnel, tar and associated contaminants from historical releases has and continues to erode and be deposited on nearby beaches posing an actual or potential threat of exposure and environmental and human health threat. Willamette River stage and current fluctuation can accelerate erosion of the high PAH material in the river.

Sediment toxicity testing (bioassay tests) conducted in surface samples collected from the Portland Harbor RI/FS Round 2A event further demonstrates the threat of the tar body to ecological receptors (see Table 3). Thirteen samples were collected from the GASCO in-water area, some of which were located adjacent to or in proximity to the tar body. Bioassay tests using *Chironomus tentuns* and *Hyalella azteca* species were conducted using surface samples collected. A number of the samples, including station numbers G294, G283, G288, G298, G294, demonstrated near 100 percent mortality of one or both species. In addition, core logs from these samples indicated the presence of tar, strong odors, and other indications of significant contamination. This information supports the potential threat to ecological receptors presented by the tar waste, which is also a source of ongoing releases or potential threat of releases of contaminants to the Willamette River and downstream areas.

IV. ENDANGERMENT DETERMINATION

Actual or threatened releases of hazardous substances from this site may present an imminent and substantial endangerment to public health, or welfare, or the environment.

V. PROPOSED ACTIONS AND ESTIMATED COSTS

A. Proposed Actions

This non-time-critical removal action for the tar body at the GASCO site will be implemented by NW Natural pursuant to an Administrative Order on Consent dated April 28, 2004. The objectives of the actions outlined below are: (1) removal of visibly observable tar containing high concentrations of tPAH in river sediments and the riverbank adjacent to the Gasco facility (tar body; principle threat material), and (2) achieve reductions in potential exposures to human health and the environment; and reduce the actual or potential migration of such high level contamination downstream. Additionally, an objective of the actions outlined below is to facilitate further characterization work on upland sources of contamination to the

river. These proposed actions are based on the information known to date regarding the conditions at the site. As additional information is gathered, further actions may be necessary.

1. Proposed action description

The preferred alternative (Alternative C in the EE/CA) includes dredging of 15,000 cubic yards of tar body and contaminated river sediment, isolation of the work area using non-rigid containment (silt curtains), transport of the material in barges to a transfer facility, and trucking the material to a Subtitle C landfill for disposal. The dredge area will be capped with cover material after completion. Figures 3 and 4 show the proposed dredge area and the configuration of the containment system. The following provides details of the preferred alternative.

Containment

Containment of the work area will be accomplished using a combination of a near full-length silt curtain (anchored 2 feet above mudline), a six-foot high bedload baffle barrier, an oil containment floating boom with a hanging skirt, and a bubble curtain used as an exclusion zone. The designed containment system was shown in the EE/CA, through modeling, to limit potential releases and/or water column or downstream impacts during dredging operations.

Dredging

Dredging will be completed using a crane and bucket on a spud barge within the non-rigid containment system. Approximately 15,000 cubic yards of material will be removed.

Transport

The removed material will be loaded onto sealed floating barges and transported via the Willamette and Columbia Rivers to the Port of Morrow offloading facility. The material will be loaded onto trucks and hauled to the disposal facility.

Disposal

The removed material will be disposed at the Chem Waste Subtitle C disposal facility in Arlington, Oregon. The Subtitle C facility meets EPA performance standards developed as part of the removal action design.

Capping

After completion of dredging to design dredge depths and proper sloping, cover/capping material will be placed over the removal area. The cap will also extend over any accumulations of material adjacent to the bedload baffle/silt curtain.

Monitoring

Post-removal monitoring will be performed pursuant to the Monitoring and Reporting Plan, which is a deliverable required by the Scope of Work to the AOC. Post-removal monitoring will ensure that the removal action objectives are met pending a final, long-term remedy. Monitoring will also occur during the action to ensure that short term impacts are mitigated to the extent possible through the use of best management practices (BMPs). As a result of public comments received, the monitoring approach described in the EE/CA will be revised to include baseline and action specific monitoring for site related contaminants suspended and settling in the vicinity of the project area, using equipment such as sediment traps.

Alternative actions described in EE/CA

The EE/CA included the proposed action described above (identified as Alternative C in the EE/CA), and Alternatives A, B, D, and E. Alternatives A, B, D, and E are described below.

Alternative A- Proposed capping of the tar body in the river without any removal.
Alternative B- Proposed removal of tar body by dredging, non-rigid containment, and disposal in a Subtitle D facility.
Alternative D- Proposed removal of tar body by dredging, rigid containment, and disposal in a Subtitle D facility.
Alternative E – Proposed removal of tar body by dredging, rigid containment, and disposal in a Subtitle C facility.

Through an evaluation of effectiveness, implementability, and costs, the proposed action (Alternative C) was selected as the preferred alternative. Capping (Alternative A) was determined to not meet the objectives of the AOC, since no removal of the tar body was proposed. Alternative B did not meet EPA performance standards for disposal of the tar body material, specifically with the readily available Subtitle C facility alternative (Alternative C). Alternatives D and E were not selected due to the time required for implementation of the remedy, a substantially higher cost, and the determination that the alternatives did not at this time provide a substantially greater benefit than Alternative C.

2. Contribution to remedial performance

The GASCO site is located within the Initial Study Area of the Portland Harbor Superfund site and is being investigated as part of the in-water Harbor-wide RI/FS. The Initial Study Area is from River Mile 3.5 to 9.2 and includes portions of the GASCO site that have or could impact river sediments. The Portland Harbor Superfund site was listed on the NPL on December 1, 2000 and a Record of Decision is expected some years after the completion of the GASCO non-time-critical removal action. Due to the number of years remaining to outline the remedy at this site, this removal action is designed to immediately remove a known hot spot of pure tar waste and one likely source of the highest PAH-contaminated material, reduce the risk of further migration of contaminants to adjacent sites, and reduce exposure to receptors to high

concentrations of PAH material that will require removal under any future remedial alternative. Removal of the tar body and replacement with clean cap material may also help to understand the degree to which widespread upland tar and oil contamination are moving into the river.

3. Description of alternative technologies

Candidate technologies for sediment remediation were identified and screened prior to developing alternatives for further engineering analysis. General categories of remedial technologies considered at the screening stage included: capping, sediment excavation/removal, construction containment, and sediment transport, treatment, and disposal. Each of these candidate technologies was evaluated based on effectiveness, implementability, and cost. Technologies were eliminated from further consideration due to low expected technical feasibility or effectiveness. Technologies that were not cost-effective relative to other equally-protective options were also not retained.

4. Engineering Evaluation/Cost Analysis (EE/CA)

NW Natural prepared the EE/CA, which documents the development and evaluation of removal action alternatives, and discusses the rationale for the recommended alternative. The EE/CA was finalized in May 2005, and a copy of the Executive summary of the EE/CA is provided in Attachment A. A 30-day public comment period on the EE/CA was held, and EPA prepared a response to public comments (Attachment B).

5. Applicable or relevant and appropriate requirements (ARARs)

For on-site activities, all state and federal ARARs will be complied with to the extent practicable. Preliminarily identified ARARs for all of the alternatives were described in Appendix C of the EE/CA, and are reproduced herein in Attachment C. Primary applicable federal ARARs deemed practicable for the removal are the Clean Water Act; Endangered Species Act; Resource Conservation and Recovery Act; Magnuson-Stevens Fishery Conservation Management Act; and Hazardous Materials Transportation Act. Primary applicable state ARARs deemed practicable for the removal are the Environmental Cleanup Act, Statewide Water Quality Plan, and Solid Waste Management.

NW Natural prepared a Biological Assessment that evaluates the potential effects on threatened and endangered species from this removal action. The Biological Assessment is currently under review by National Marine Fisheries Service and the U.S. Fish and Wildlife Service.

Off-site activities will comply with all applicable local, state, and federal laws, including the Off-Site Disposal Rule (40 CFR 300.440).

6. Project schedule

The schedule for this removal action is defined in Appendix E of the EE/CA. The construction phase of this project is expected to take approximately 2 months, dependent upon site conditions, starting on August 25, 2005.

B. Estimated Costs

The removal action is being implemented by NW Natural. The projected costs to implement this non-time-critical removal action are estimated at $7.5 million (see Appendix B of the EE/CA). Estimated costs for the other Alternatives ranged from $1.6 million to $11.8 million.

VI. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

If the action is delayed or not taken, contamination will continue to adversely affect the environment. Delayed action will increase environmental risks through prolonged exposure to contaminants present in the sediments.

VII. OUTSTANDING POLICY ISSUES

There are no outstanding policy issues at this site.

VIII. COMMUNITY RELATIONS

The EE/CA for the GASCO removal action was made available for public review and comment from May 13, 2005 to June 13, 2005. Notice of this comment period was published in *The Oregonian* on May 13, 2005. Additionally, a postcard providing notice of the comment period start, followed by a May 2005 Fact Sheet summarizing the proposed EE/CA alternatives were mailed to over 900 addressees on the Portland Harbor project mailing list.

EPA received comment letters during the public comment period. EPA responded to all comment letters (see "Responsiveness Summary", dated June 17, 2005, in Attachment B).

The Administrative Record for the April 28, 2004 Action Memorandum was prepared and notice of availability of the record for public comment was published in the May 13, 2004 Oregonian. A fact sheet summarizing the GASCO project and announcing the comment opportunity was mailed to the 900+ names on the Portland Harbor project mailing list. No comments were received during the first comment period. A supplemented Administrative Record was prepared for the EE/CA and for this Action Memorandum. The Administrative Record is available at EPA, the Portland Central Library, St. Johns Branch Library, and the Northwest Branch Library.

In addition to the formal public comment opportunity, EPA provided routine updates to the Portland Harbor Community Advisory Group between in May, August, October and December of 2004 and January, February, March and May 2005 . In addition, extended GASCO presentations were made at the December 2004 CAG Evaluation Committee and the April 2005 and June 2005 regular CAG meetings.

IX. ENFORCEMENT

This removal action will be implemented by NW Natural, pursuant to an Administrative Order on Consent (CERCLA No. 10-2004-0068). The order describes the environmental work to be performed for remediation of the tar body at the site. The work to be performed by NW Natural includes preparation and submittal of project design and removal action documents, implementation of the removal action, submittal of a Removal Action Completion Report, and submittal of a Monitoring and Reporting Plan to ensure that the removal action objectives are achieved at the site.

X. RECOMMENDATION

This decision document represents the selected removal action for the GASCO site, located within the boundaries of the Portland Harbor Superfund site, Portland, Oregon, developed in accordance with CERCLA as amended, and not inconsistent with the NCP. This decision is based on the administrative record for the site.

Conditions at the site meet the NCP Section 300.415(b)(2) criteria for a removal and I recommend your approval of the proposed removal action. None of the removal project costs come from the Regional Removal allowance. Your approval or disapproval should be indicated below.

Approve: _____Dan Opalski /s/ _____ Date: 6/20/2005_____

Disapprove: _____ Date: _____

List of Figures, Tables, and Attachments

Figures

Tables

Attachments