

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

In the Matter of the Remedial)	No. 92 TC-112
Action by:)	
)	
UNITED STATES NAVY)	
Puget Sound Naval Shipyard)	ENFORCEMENT ORDER
Kitsap County, Washington)	
)	
)	

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J1182

To: United States Navy
Puget Sound Naval Shipyard
Bremerton, Washington

I. Jurisdiction

This Order is issued by the Washington State Department of Ecology (Ecology) pursuant to the authority of RCW 70.105D.050(1).

II. Findings of Fact

2.1 Ecology makes the following Findings of Fact, without admission of such facts by the United States Navy.

2.2 The PSNS is a facility that is located in Bremerton, Washington in Kitsap County. The facility is adjacent to, and bordered by: Burwell Street, Chester Street, Mahan Avenue, and First Street on the north; the Washington State Ferry Terminal, First Street, and Pacific Avenue on the east; Sinclair Inlet to the south; and West Street, Farragut Street, Highway 304 on the west.

2.3 The PSNS has been providing support for the Pacific Fleet since 1891. The facility has been expanded over time from its original size (approximately 190 acres) to its present size (approximately

350 acres). The majority of construction and expansion took place during World War II. Timberland, wetlands, tidelands, and beaches have been developed into the present complex of over 100 industrial buildings, 230 other structures, 6 drydocks, and over 12 berthing piers and moorings. Over the years, tidelands were reclaimed and the shoreline reconfigured by fill from dredging operations or fill from shoreside sources.

2.4 The environmental problems to be addressed include various releases of hazardous substances from all historical military and industrial operations at PSNS such as shipbuilding and remodeling, sandblasting, plating, handling of lead acid batteries, etc. In addition, the fill and dredge materials include various substances considered to be hazardous.

2.5 Known Sites of concern included in the Draft Final Site Inspection Study within the Facility are Site 1, Site 3, Site 6, Site 7, Site 8, Site 9a and Site 9b, Site 10 East, Site 10 Central, Site 10 West, and Site 11. Additionally, a Time Critical Removal Action has been studied by PSNS at Site No. 2. Individual Sites within the facility are described below and are outlined in Figure 1.

2.6 Site 1: This Site is situated adjacent to Sinclair Inlet between Mooring A and Drydock 5 (Figure 1). Site 1 is primarily soil and gravel with some asphalt pavement. It is presently used for storage of materials. Several trailers are located along the waterfront and two low level radiation storage areas are located on or near the site. Site 1 was used as a fill area from 1960 to 1974 and contains approximately 70,000 cubic yards of fill over the two-acre Site. Fill

materials include construction debris, rubble, spent abrasive grit ("blaster sand" and copper slag that was used for hull cleaning), and various contaminants. The major categories of contaminants detected in surface soils includes primarily metals and polychlorinated biphenyls (PCBs). The major categories of contaminants detected in subsurface soils include metals and semi-volatiles. The major category of contaminants detected in groundwater includes metals.

2.7 Site 2: Building 399: This Site is due north of the zone between Mooring "E" and Pier "D" (Figure 1). It is bounded on the north by South Avenue, on the east by "Z" Street, on the south by Wycoff Way and on the West by West Street. The Site contains several one story wood and concrete block structures in relatively poor condition. The major categories of contaminants detected in surface soils includes but is not limited to, metals, semi-volatiles, and PCBs. The major categories of contaminants detected in subsurface soils includes but is not limited to, metals, semi-volatiles, and volatiles. The major category of contaminants detected in groundwater includes but is not limited to, metals.

2.8 Site 3: Helicopter Pad: The Site is southwest of the Steam Plant and was previously used as a liquid industrial waste disposal area and helicopter pad. Between 1963 and 1972, liquid industrial wastes were disposed in this area by filling unlined pits with liquid wastes, and allowing the pits to empty into the Sinclair Inlet through tidal action and gravity drainage. Approximately 30,000 gallons of liquid wastes, including plating wastes from the former Metal Plating Shop, unopened paint cans, oil, and metal parts and shavings, were disposed at

this Site. Chemicals in these wastes include heavy metals, acids, organic solvents, oil-based formulations, epoxies, and possibly organotins (a family of alkyl tin compounds widely used as stabilizers for chlorinated organics, vinyl resins, and lacquers). The major categories of contaminants detected in surface soils includes but is not limited to, metals, semi-volatiles, volatiles, pesticides, and PCBs. The major categories of contaminants detected in subsurface soils includes but is not limited to, metals, semi-volatiles, volatiles, pesticides, and PCBs. The major categories of contaminants detected in groundwater includes but is not limited to, metals, semi-volatiles, volatiles, and pesticides. The major categories of contaminants detected in marine sediments adjacent to Site 3 includes, but is not limited to, metals, semi-volatiles, volatiles, and pesticides.

2.9 Site 3 is partially asphalt-paved and used by PSNS personnel as a parking lot for passenger cars and worker/driver buses. An outfall discharge pipe from the City of Bremerton's storm sewer system to Sinclair Inlet is located off PSNS property adjacent to Site 3.

2.10 Site 6 consists of stormwater and combined sewer overflow drainage systems, historical sanitary sewers, marine waters, sediments, and biota which have received hazardous substances as a result of past PSNS Facility activities (Figure 1). Site 6 received the combined storm and sanitary sewers discharge to Sinclair Inlet until 1957 when the combined sewers were diverted to the City of Bremerton's sewer system. The storm sewers were redirected to Sinclair Inlet in 1975. Currently, approximately 75 storm sewers discharge directly to Sinclair Inlet while the sanitary sewers discharge to the Bremerton sewer system. Industrial

wastes were discharged to the storm sewers until the completion of the Industrial Waste Treatment Plant in 1979. In addition, direct surface water runoff, nearshore fill operations, and over-the-water maintenance of vessels may have significantly contributed to contamination of Site 6. The major categories of contaminants detected in Site 6 sediments includes but is not limited to, metals, pesticides, PAHs, PCBs, and volatile organics.

2.11 Site 7: Building 99, Old Metal Plating Shop (Figure 1). This Site is situated in the northeastern portion of the PSNS. While in operation, the floor of the Metal Plating Shop was visibly cracked and may have provided a pathway for spilled chemicals to reach soil and groundwater. The types of chemicals used in the plating shop include acids, bases, sodium cyanide, calcium sulfate, and heavy metals. The Old Plating Shop has been demolished, and temporary structures currently occupy a major portion of the Site. The remainder of the Site is asphalt paved. The major categories of contaminants detected in surface soils includes but is not limited to, metals, semi-volatiles, and volatiles. The major categories of contaminants detected in subsurface soils includes, but is not limited to, metals, semi-volatiles, and volatiles. The major categories of contaminants detected in groundwater includes but is not limited to, metals, and volatiles.

2.12 Site 8: Building 106 (Old Utility Plant) and the adjacent areas to the south and east of the building extending eastward to Drydock No. 3 (Figure 1). Building 106 was originally used for steam generation and later for electrical production. An electrical equipment substation was constructed at the northern corner of Building 106. A

leaking abandoned waste oil tank is located under Building 106. The major categories of contaminants detected in surface soils includes but is not limited to metals, semi-volatiles, and volatiles. The major categories of contaminants detected in subsurface soils include metals, semi-volatiles, and volatiles. The major categories of contaminants detected in groundwater include metals and semi-volatiles.

2.13 Site 9a: Crane Maintenance area situated between "R" Street and Building 450 (Figure 1). Site 9a is used as a routine crane maintenance and painting area. The painting, sanding, chipping, grinding and needle-gunning operations have introduced debris onto the ground for extended periods of time. The major categories of contaminants detected in surface soils includes but is not limited to metals and volatiles. The major categories of contaminants detected in subsurface soils include metals, semi-volatiles, and volatiles. The major category of contaminants detected in groundwater includes but is not limited to metals.

2.14 Site 9b: Site 9b is located directly east of Tank 317 (Figure 1). Site 9b consists of soil which has been excavated from the crane maintenance area (Site 9a) and deposited adjacent to Tank 317 at Site 11. Major contaminants groups detected at Site 9B include metals

2.15 Site 10: Site 10 is a Composite Site consisting of various landfill areas throughout the PSNS (Figure 1). These areas include former disposal sites and shoreline fill areas used for leveling and extending the PSNS boundaries. Fill material varies with the location, and includes oily sludge, automobile scrap, construction debris, general shipyard debris, spent abrasive grit, and other materials. Potential

contaminants include PCBs, metals, volatile organics, and organotins.

Site 10 has been divided into three separate geographic locations:

2.16 Site 10 East extends from Pier 8 to the eastern edge of PSNS and is suspected to contain spent sand blast grit (Figure 1). This area is now primarily covered with gravel and grass with some asphalt pavement. Some sections of the site are used for steel slab storage. The major categories of contaminants detected in surface soils includes metals and semi-volatiles. The major categories of contaminants detected in subsurface soils include metals, semi-volatiles, and volatiles. The major category of contaminants detected in groundwater includes metals and semi-volatiles.

2.17 Site 10 Central is the area extending along the waterfront from building 368 to Drydock 4 in the vicinity of Site 1 (Figure 1). The Site is asphalt paved to the waterfront where the asphalt meets the riprap bank. The major categories of contaminants detected in surface soils includes metals and semi-volatiles, and PCBs. The major categories of contaminants detected in subsurface soils include metals, semi-volatiles, and PCBs. The major category of contaminants detected in groundwater includes metals, semi-volatiles, and PCBs.

2.18 Site 10 West: This Site is bounded on the north by Farragut Avenue, on the east by "W" street, on the south by Sinclair Inlet, on the west by State Highway 304 (Figure 1). The major categories of contaminants detected in surface soils includes metals, semi-volatiles, and volatiles. The major categories of contaminants detected in subsurface soils include metals, semi-volatiles, and

volatiles. The major category of contaminants detected in groundwater includes metals, semi-volatiles, and volatiles.

2.19 Site 11: The Tank 316 area includes the area where underground Tanks 316 and 317 are located and above-ground Tank 315 is situated (Figure 1). These tanks are known or suspected to have leaked fuel into underlying soil and groundwater. The use of Tank 316 was discontinued in 1972. The tank had approximately a 5 million-gallon-capacity. In 1986, it was drained, steam cleaned, and back filled with sandblast grit and soils of unknown origin. The ground surface above the tank is currently a gravel parking lot. Tank 317 has not been used since 1988. The tank has been drained, and left in place. The tank had approximately a 5 million-gallon-capacity. Tank 315 is currently used to store petroleum product (bunker C) and has the capacity to hold approximately 2 million gallons. The major categories of contaminants detected in surface soils includes metals, semi-volatiles, volatiles, and Total Petroleum Hydrocarbons (TPH). The major categories of contaminants detected in subsurface soils include metals, semi-volatiles, volatiles, TPH, and PCBs. The major category of contaminants detected in groundwater includes metals, semi-volatiles, volatiles, and TPH.

2.20 The foregoing information is contained in the following documents:

(a) "Initial Assessment Study of Naval Shipyard, Puget Sound, Bremerton, Washington." Naval Energy and Environmental Support Activity (NEESA, 1983). Prepared for the Navy Assessment and Control of Installation Pollutants Department.

(b) "Draft RCRA Facility Assessment, Puget Sound Naval Shipyard, Bremerton, Washington." (PCR Environmental Management, 1990). Prepared for the U.S. EPA Office of Waste Programs Enforcement, Contract No. 68-W9-0009.

(c) "Final Site Inspection Study Volumes 1, 2, 3, and 4, Puget Sound Naval Shipyard, Bremerton, Washington." (URS Consultants, May, 1992. CTO-0017.)

III.

Ecology Determinations

3.1 The United States Navy is an "owner and operator" as defined in RCW 70.105D.020(6) of a "facility" as defined in RCW 70.105D.020(3).

3.2 The facility is known as the Puget Sound Naval Shipyard, located at Bremerton, Washington in Kitsap County, Washington.

3.3 The substances found at the facility as described above are "hazardous substances" as defined in RCW 70.105D.020(5).

3.4 Based on the presence of these hazardous substances at the facility and all factors known to Ecology, there is a release or threatened release of hazardous substances from the facility, as defined at RCW 70.105D.020(10).

3.5 By letter dated August 13, 1991, Ecology notified the United States Navy of its status as a "potentially liable person" under RCW 70.105D.040 after notice and opportunity for comment.

3.6 Pursuant to RCW 70.105D.030(1) and 70.105D.050, Ecology may require potentially liable persons to investigate or conduct other remedial actions with respect to the release or threatened release of

hazardous substances, whenever it believes such action to be in the public interest.

3.7 Based on the foregoing facts, Ecology believes the remedial action required by this Order is in the public interest.

IV. Work to be Performed

4.1 Based on the foregoing Facts and Determinations, it is hereby ordered that the United States Navy take the following remedial actions and that these actions be conducted in accordance with Chapter 173-340 WAC and Chapter 173-204 WAC unless otherwise specifically provided for herein.

4.2 The United States Navy will conduct and finance the cost of Remedial Investigation(s) and Feasibility Study(s) for the Facility as defined in paragraph 2.2, including all areas where known or suspected contamination has occurred due to the introduction of hazardous substances into the environment.

4.3 Draft RI/FS Management Plans for the Operable Units listed below shall be submitted to Ecology on the dates specified in Appendix A. The Operable Units at the PSNS Site shall be:

- Operable Unit A (Site 3)
- Operable Unit B (Site 10 West & Site 2)
- Operable Unit C (Site 1, Site 10 Central, Site 10 East, and Site 9a)
- Operable Unit D (Site 8)
- Operable Unit E (Site 11 and Site 9b)

- Operable Unit F (Site 7)
- Operable Unit G (Combined groundwater contamination from all Sites)
- Operable Unit H (Site 6)

4.4 Individual Sites may be moved into different Operable Units or Sites may be combined into new Operable Units based on information presented about the site or logistical considerations at PSNS. The Navy may propose to Ecology reorganization of Sites into Operable Units other than those stated above, and any related schedule changes. The reorganization of sites into different Operable Units or the creation of new Operable Units and the reasons for the proposal shall be submitted to Ecology in writing for Ecology's review and approval. The project coordinators may agree to modifications of Operable Unit organization without formal amendment of this Order. Ecology will approve and document any modifications in writing.

4.5 If a LUSI is contained in an Operable Unit, then it shall be studied under the RI/FS process and remediated no later than the completion of the CAP at that Operable Unit.

4.6 Contaminated surface soils at the Facility may be potentially harmful to individuals who are exposed either by dermal contact with the surface soils or are exposed to airborne dust generated from the Facility. Construction or heavy equipment used at the Facility can expose subsurface soils to the surface. Additionally, contaminants may be transported from the Facility to Sinclair Inlet by either surface water runoff, groundwater flow, or other transport mechanisms.

Contaminants transported to Sinclair Inlet are a potential cause of degradation of the marine environment of Sinclair Inlet. The Remedial Investigation(s) for the Facility will at a minimum evaluate these contaminant pathways.

4.7 The Navy shall identify Interim Action alternatives consistent with WAC 173-340-430 which are appropriate at the Facility prior to the implementation of final remedial actions at the Facility. The necessity for an Interim Action shall be proposed by Ecology or the Navy as early as possible in the cleanup process. Interim Action alternatives shall be identified and proposed to Ecology by the Navy as soon as the need for an Interim Action has been established.

4.8 The Navy shall prepare and transmit the following documents for each Operable Unit to Ecology for review, comment, and approval in accordance with the provisions of this Order:

- (a) RI/FS Scope of Work.
- (b) RI/FS Management Plans, including a Work Plan, a Health and Safety Plan, a Sampling and Analysis Plan, a Quality Assurance Project Plan, a Technical Standard Operating Procedures, a Technical Data Management Plan, and any modification to the overall a Public Participation Plan
- (c) Interim Action Analysis of Alternatives Report
- (d) RI/FS Report
- (e) Cleanup Action Plan

(c) Unless otherwise specified, following receipt of Ecology's comments on a draft document, the Navy shall have thirty (30) calendar days to respond to comments and submit a "draft final" document to Ecology for approval. This time period may be extended upon Ecology's determination that good cause exists if written notification detailing the circumstances and duration of delay is provided to Ecology prior to expiration of the initial thirty (30) calendar day period.

(d) Within thirty (30) calendar days after receipt of a draft final document, Ecology will notify the Navy in writing of Ecology's approval or disapproval of the document. Ecology may extend the thirty (30) calendar day period by providing oral or written notification to the Navy, prior to expiration of the initial thirty (30) calendar day period. Ecology will provide an estimate of the time required for completion of its review.

(e) If the draft final document is disapproved, Ecology will, at its discretion, either require the Navy to revise and resubmit the document within a specified period of time for approval, or Ecology will revise and approve the document.

(f) With the exception of the RI/FS report(s), Draft Final Interim Action Report(s), and Cleanup Action Plan(s), documents become final upon Ecology's approval of the draft final document. The terms and schedules therein become an integral and enforceable part of this Order. Ecology approved draft final RI/FS report(s), Draft Cleanup Action Plan(s) or Draft Final Interim Action Report(s) are subject to

the public notice and participation requirements of WAC 173-340-600 before the terms and schedules therein become an integral and enforceable part of this Order.

4.12 The Navy shall perform the tasks and submit plans, reports, and other documents as required by the management plans submitted to Ecology. This Order will fully incorporate the provisions of the management plans developed under paragraph 4.8 and Appendix A. In the event of any inconsistency between this Order and the management plans developed under paragraph 4.8 and Appendix A, this Order shall govern.

4.13 All documents submitted pursuant to paragraph 4.8 and Appendix A shall comply with the applicable requirements of Chapter 70.105D RCW and Chapter 173-340 WAC.

4.14 New Site Discovery: If the PSNS or Ecology discover a new hazardous waste site, as defined in WAC 173-340-200, at the PSNS Facility, then this new hazardous waste site shall be studied and remediated under the scope of this Order. New Sites may be proposed by the Navy for inclusion in existing Operable Units, or an entirely new Operable Unit(s) may be created to encompass any number of new sites which need study and potential remedial action under the MTCA.

4.15 Reports: The Navy shall submit issue-specific technical memorandums within thirty (30) calendar days after receipt of a written request by Ecology. In recognition of the particular constraints of individual issues, this time frame will be extended when adequate justification for so doing is provided by the Navy and approved by Ecology.

4.16 Schedule: The Navy shall provide to Ecology a schedule within thirty (30) calendar days of the effective date of this Order, to be updated on a quarterly basis, which includes all key tasks to accomplish submittal of the deliverables specified in this Order. The schedule shall specify completion dates for each task and indicate dependencies between and among tasks. Requirements for Ecology review and approval shall be identified and clearly shown on the schedule. Any schedule revision request shall include a description of the proposed revision as compared to the current schedule and shall detail known and anticipated impacts to the investigation. The schedule required under this section encompasses all deliverable requirements of this Order and is in addition to schedules required in work plans.

4.17 Sampling: The Navy shall allow split or replicate samples to be collected by Ecology and shall provide Ecology written notification fifteen (15) working days before any sampling activity, except during an emergency. If an emergency exists, prompt oral notification shall be given of the emergency and of the Navy's intent to collect samples. A written summary of actions implemented during the emergency shall be provided to Ecology within ten (10) working days.

4.18 Laboratory/Field Date Submittal: Under normal circumstances, laboratory analysis of samples and submittal of non-validated results to the Navy takes forty-five (45) calendar days from the date the samples were submitted to the laboratory. If the laboratory exceeds forty-five (45) calendar days to analyze samples, the

Navy shall provide to Ecology within fifteen (15) calendar days a written statement justifying the exceedance, and a revised schedule for data submittal.

4.19 All validated laboratory results shall be provided to Ecology in print and on computer diskette(s) within forty-five (45) calendar days after initial receipt by the Navy, its consultant, contractor, or subcontractor of non-validated analytical results from the laboratory. These results shall also include a list of the compounds which were analyzed for, but not detected.

4.20 The Navy may extend the forty-five (45) calendar day period for an additional twenty (20) calendar days by providing written notification to Ecology, prior to expiration of the initial forty-five (45) calendar day period. If preliminary analysis indicates a potential imminent and substantial endangerment to the public health, the Ecology project manager shall be notified immediately. Analytical backup documentation shall be provided to Ecology within ten (10) working days after receipt of Ecology's written request.

4.21 If validated data are not provided to Ecology within sixty-five (65) calendar days after initial receipt by the Navy, its consultant, contractor, or subcontractor of non-validated analytical results from the laboratory, a summary of all non-validated positive analytical results shall be made available to Ecology upon request. This summary shall also include a list of the compounds which were analyzed for, but not detected.

4.22 If requested thirty (30) calendar days prior to sampling, the Navy shall provide Ecology in print and on computer diskette(s) validated results of sampling, tests, or other data generated by the Navy with respect to implementation of this Order within forty-five (45) calendar days of sample collection or field testing. If validation of the data is not completed within forty-five (45) calendar days, non-validated data shall be made available to Ecology upon request and validated data shall be submitted as they become available, but in no event later than ninety (90) calendar days after the sampling or testing.

4.23 The Navy shall provide to Ecology within five (5) working days after receipt of Ecology's written request, a copy of all field investigation notes covering the specified task and period of field activity.

4.24 Groundwater Data Sampling Submittal: In accordance with WAC 173-340-840(5), groundwater sampling data shall be submitted consistent with procedures specified by Ecology for submittal of groundwater sampling data.

4.25 Progress Reports: The Navy shall submit to Ecology written quarterly progress reports which briefly describe:

- o the actions it has taken during the previous quarter to implement the requirements of this Order and to otherwise address human health and environmental concerns at the Site;
- o actions scheduled to be taken during the next quarter;

- o all field and laboratory data packages received or generated by the Navy, its consultant, contractor, or subcontractor during the previous quarter, including all validated and non-validated data;
- o the status of schedule compliance;
- o deliverables submitted and the dates of submittal;
- o deliverables anticipated for submittal during the next quarter and the anticipated dates of submittal;
- o anticipated problems and proposed solutions, including technical, budget, and scheduling implications;
- o problems encountered and proposed solutions, including technical, budget, and scheduling implications;
- o problems resolved and the method of resolution, including technical, budget, and scheduling implications; and,
- o key staffing changes.

4.26 In addition, the Navy and Ecology will hold monthly Project Coordinator meetings which shall cover the interval from the 26th of the preceding month through the 25th of the subject month. The meetings will discuss on a monthly basis at least those items listed under the quarterly progress reports.

4.27 Due Dates: If the final day of any time period falls on a Saturday, Sunday, or a state or federal legal holiday, the time period shall be extended to the next working day. Any time period scheduled to begin on the occurrence of an act or event shall begin on the day after the act or event. The deliverable due date shall be considered satisfied for documents 15 pages or less in length, if they are received by FAX on the date due, and the "originals" are received within two (2) working days.

V. Terms and Conditions of Order

5.1 Definitions: Unless otherwise specified, the definitions set forth in Chapter 70.105D RCW and Chapter 173-340 WAC shall control the meanings of the terms used in this Order. The following definitions shall apply to this Order:

(a) "Facility" shall mean the Puget Sound Naval Shipyard (PSNS), which covers approximately 350 acres in Bremerton, Washington. This includes berthing piers, moorings, and adjacent waters and sediments in Sinclair Inlet and any off-base area contaminated by the migration of hazardous substances, pollutants, or contaminants from PSNS. This does not include the Naval Supply Center Puget Sound.

(b) "Site" shall mean any discrete contaminated area within the PSNS and any area contaminated due to migration of hazardous substances, pollutants or contaminants from the Site. Examples of Sites would be: Site 1, Site 3, Site 6, Site 7, Site 8, Site 9a and Site 9b, Site 10 east, Site 10 central, Site 10 west, and Site 11 as defined in The PSNS Site Inspection Study, and Site 2 as defined in the Initial Assessment Study.

(c) "Operable Unit" shall mean a combination of Sites with similar characteristics or a combination of similar steps in the cleanup process at different Sites. The primary criteria for placement of a Site into an Operable Unit includes geographic proximity, similarity of waste characteristics, contaminant types, and the possibility for economies of scale.

5.2 Public Notice: RCW 70.105D.030(2)(a) requires that, at a minimum, this Order be subject to concurrent public notice. Ecology shall be responsible for providing such public notice and reserves the right to modify or withdraw any provisions of this Order should public comment disclose facts or considerations which indicate to Ecology that the Order is inadequate or improper in any respect.

5.3 Remedial Action Costs: The United States Navy shall pay to Ecology costs incurred by Ecology for work conducted on the Puget Sound Naval Shipyard prior to and under this Order. These costs shall include work performed by Ecology or its contractors for investigations, remedial actions, Order preparation, oversight, and administration. Ecology costs shall include costs of direct activities; e.g., employee salary, laboratory costs, travel costs, contractor fees, and employee benefit packages; and agency indirect costs of direct activities. The United States Navy shall pay the required amount within ninety (90) calendar days of receiving from Ecology an itemized statement of costs that includes a summary of costs incurred, an identification of involved staff, and the amount of time spent by involved staff members on the project. A general description of work performed will be provided to the Navy by Ecology upon request. Failure to pay Ecology's costs within ninety (90) calendar days of receipt of the itemized statement of costs will result in interest charges at the rate of one (1) percent per month.

5.4 Designated Project Coordinators: The project coordinator for Ecology is:

BARRY R. ROGOWSKI

TOXICS CLEANUP PROGRAM

DEPARTMENT OF ECOLOGY

PO BOX 47600

OLYMPIA WA 98504-7600

(206) 438-7362

FAX (206) 438-3050

Express Mail Address:

TOXICS CLEANUP PROGRAM

DEPARTMENT OF ECOLOGY

4415 WOODVIEW DRIVE S.E.

LACEY WA 98503

The project coordinator for the Navy is:

DAVID RODGERS

NAVAL FACILITIES ENGINEERING COMMAND

ENGINEERING FIELD ACTIVITY, NORTHWEST

3505 N.W ANDERSON HILL ROAD

SILVERDALE, WA 98383-2360

(206) 476-5775

FAX (206) 476-1158

5.5 The project coordinator(s) shall be responsible for overseeing the implementation of this Order. To the maximum extent possible, communications between Ecology and the United States Navy, and all documents, including reports, approvals, and other correspondence

concerning the activities performed pursuant to the terms and conditions of this Order, shall be directed through the project coordinator(s).

The project coordinators may agree to minor modifications to the work to be performed without formal amendments to this Order. Minor modifications will be approved and documented by Ecology in writing.

Should Ecology or the United States Navy change project coordinator(s), written notification shall be provided to Ecology or the United States Navy at least ten (10) calendar days prior to the change.

5.6 Performance: All work performed pursuant to this Order shall be under the direction and supervision, as necessary, of a professional engineer or hydrogeologist, or similar expert, with appropriate training, experience, and expertise in hazardous waste site investigation and cleanup. The United States Navy shall notify Ecology as to the identity of such engineer(s) or hydrogeologist(s), and of any contractors and subcontractors to be used in carrying out the terms of this Order, in advance of their involvement at the PSNS.

5.7 Access: Subject only to security and safety regulations, Ecology or any Ecology authorized representative shall have the authority to enter and freely move about the Facility at all reasonable times for the purposes of, among other things: inspecting records, operation logs, and contracts related to the work being performed under this Order; reviewing the progress in carrying out the terms of this Order; conducting such tests or collecting samples as Ecology or the project coordinator may deem necessary; using a camera, sound recording, or other documentary type equipment to record work done under this

Order; and verifying the data submitted to Ecology by the PSNS. This Order constitutes reasonable notice of access, and allows access to the Site at all reasonable times for purposes of overseeing work performed under this Order, subject to applicable federal security requirements.

5.8 Ecology shall allow split or replicate samples to be collected by the Navy during an inspection unless doing so interferes with Ecology's sampling. The Navy shall allow split or replicate samples to be collected by Ecology and shall provide Ecology written notification fifteen (15) working days before any sampling activity, except during an emergency. If an emergency exists, prompt oral notification shall be given of the emergency and of the Navy's intent to collect samples. A written summary of actions implemented during the emergency shall be provided to Ecology within ten (10) working days.

5.9 Public Participation: Ecology shall maintain the responsibility to ensure that public participation is conducted in compliance with Chapter 173-340 WAC at the PSNS Facility. The United States Navy shall prepare a draft, draft final, and final public participation plan covering the PSNS for Ecology's review and approval. The Navy shall help coordinate and implement public participation for the PSNS Facility

5.10 Retention of Records: The United States Navy shall preserve in a readily retrievable fashion, during the pendency of this Order and for ten (10) years from the date of completion of the work performed pursuant to this Order, all records, reports, documents, and underlying data in its possession relevant to this Order. Should any portion of

the work performed hereunder be undertaken through contractors or agents of the United States Navy, a record retention requirement meeting the terms of this paragraph shall be required of such contractors and/or agents.

5.11 Dispute Resolution: The United States Navy may request Ecology to resolve factual or technical disputes which may arise during the implementation of this Order. Such requests shall be in writing and directed to the signatory of this Order, their successor or their appointee. Ecology resolution of the dispute shall be binding and final. The United States Navy is not relieved of any requirement of this Order during the pendency of the dispute and remains responsible for timely compliance with the terms of the Order unless otherwise provided by Ecology in writing.

5.12 Reservation of Rights: Ecology reserves all rights to issue additional orders or take any action authorized by law in the event or upon the discovery of a release or threatened release of hazardous substances not addressed by this Order, upon discovery of any factors not known at the time of issuance of this Order, in order to abate an emergency, or under any other circumstances deemed appropriate by Ecology.

5.13 Ecology also reserves all rights regarding the injury to, destruction of, or loss of natural resources resulting from the release or threatened release of hazardous substances from the PSNS.

5.14 In the event Ecology determines that conditions at the PSNS are creating or have the potential to create a danger to the health or welfare of the people on the PSNS, or in the surrounding area or to the environment, Ecology may order the United States Navy to stop further implementation of this Order for such period of time as needed to abate the danger.

5.15 Transference of Property: No voluntary or involuntary conveyance or relinquishment of title, easement, leasehold, or other interest in any portion of the PSNS shall be consummated by the United States Navy without provision for continued implementation of all requirements of this Order and implementation of any remedial actions found to be necessary as a result of this Order.

5.16 Prior to transfer of any legal or equitable interest the United States Navy may have in the PSNS or any portions thereof, the United States Navy shall serve a copy of this Order upon any prospective purchaser, lessee, transferee, assignee, or other successor in such interest. At least thirty (30) calendar days prior to finalization of any transfer, the United States Navy shall notify Ecology of the contemplated transfer.

5.17 Compliance With Other Applicable Laws: All actions carried out by the United States Navy pursuant to this Order shall be done in accordance with all applicable federal, state, and local requirements.

VI. Satisfaction of this Order

6.1 The provisions of this Order shall be deemed satisfied upon the United States Navy's receipt of written notification from Ecology that the United States Navy has completed the remedial activity required by this Order, as amended by any modifications, and that all other provisions of this Order have been complied with.

VII. Enforcement

7.1 Pursuant to RCW 70.105D.050, this Order may be enforced as follows:

(a) The Attorney General may bring an action to enforce this Order in a state or federal court.

(b) The Attorney General may seek, by filing an action, if necessary, to recover amounts spent by Ecology for investigative and remedial actions and orders related to PSNS.


(c) In the event the United States Navy refuses, without sufficient cause, to comply with any term of this Order, the United States Navy will be liable for:

- (1) up to three times the amount of any costs incurred by the state of Washington as a result of its refusal to comply; and
- (2) civil penalties of up to \$25,000 per day for each day it refuses to comply.

(d) This Order is not appealable to the Washington Pollution Control Hearings Board. This Order may be reviewed only as provided under RCW 70.105D.060.

Effective date of this Order: May 15, 1992

Dated this 15 day of May, 1992.



Timothy A. Nord
Section Manager
Site Cleanup Section
Toxics Cleanup Program

APPENDIX A
PUGET SOUND NAVAL SHIPYARD
OPERABLE UNIT
REMEDIAL INVESTIGATION SCHEDULE

OPERABLE UNIT

DRAFT MANAGEMENT PLANS
DATE DUE TO ECOLOGY

1. OPERABLE UNIT A
SITE 3--EMPLOYEE PARKING LOT
FORMER LIQUID INDUSTRIAL WASTE DISPOSAL PITS.....JUNE 6, 1992
2. OPERABLE UNIT B
SITE 10 WEST, SITE NO. 2.....SEPTEMBER 4, 1992
3. OPERABLE UNIT C
SITE 1, SITE 10 CENTRAL, SITE 9A, SITE 10 EAST....DECEMBER 3, 1992
4. OPERABLE UNIT D
SITE 8--OLD UTILITIES BUILDING 106
BUILDING 106 TO DRYDOCK NO. 3.....MARCH 3, 1993
5. OPERABLE UNIT E
SITE 11, SITE 9B.....JUNE 1, 1993
6. OPERABLE UNIT F
SITE 7--OLD PLATING SHOP.....AUGUST 29, 1993
7. OPERABLE UNIT G
SITE 13--GROUNDWATER CONTAMINANT
& STORMWATER DRAIN SYSTEM REMEDIATION STUDY.....NOVEMBER 27, 1993
8. OPERABLE UNIT H
SITE 6--SEDIMENTS.....FEBRUARY 25, 1994

NOTE: ALL WORK TO BE PERFORMED WILL BE SUBMITTED TO ECOLOGY FOLLOWING
THE REVIEW PROCESS IN PARAGRAPH 4.11

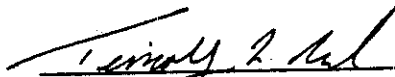
AMENDMENT NO. 1
ENFORCEMENT ORDER NO. DE 92TC-112
PUGET SOUND NAVAL SHIPYARD

The purpose of this amendment is to recognize and give affect to the provisions of the recently entered into Defense/State Memorandum of Agreement (DSMOA) and the DSMOA's funding mechanism the cooperative agreement.

Consequently, Enforcement Order No. DE 92TC-112 is hereby amended at Page 21, Section V. Terms and Conditions of Order, Subsection 5.3 Remedial Action Costs, by inserting the following language as the first paragraph:

Costs billed by Ecology pursuant to this Order shall be consistent with the provisions of the DSMOA entered into by the State of Washington and Department of Defense on February 3, 1994. In the event Ecology services/oversight activities are not fully funded by the DSMOA then the second paragraph of this subsection shall apply.

The effective date of this amendment shall be May 2, 1994.



TIMOTHY L. NORD, Manager
Site Cleanup Section
Toxics Cleanup Program
Washington State Department of Ecology

May 2, 1994
DATE