RESPONSE TO COMMENTS

Puget Sound Naval Shipyard
NPDES Permit No. WA 000206-2

1) Comment

The permittee questioned the basis of water quality-based effluent limitations for metals in discharges 018 and 019.

Response

As stated in the fact sheet, most metals criteria for the protection of aquatic life included in Washington's water quality standards are based upon the dissolved form of the metal in receiving waters. NPDES regulation require that effluent limitations for metals be established in permits as total recoverable. According to Washington's water quality standards, the regulatory agency may apply the dissolved criteria directly as was done in the proposed permit, or utilize information (if it is available) about partitioning of these pollutants in the effluent after mixing in receiving waters.

At EPA's request, the permittee conducted monitoring of total recoverable and dissolved metals in the effluents (both 018 and 019) and in the receiving water. It was determined that the dissolved/total recoverable partitioning of metals in these discharges, which are predominately marine water, are nearly identical to Sinclair Inlet. Also, monitoring results again demonstrated that ambient background concentrations exceed water quality criteria for copper. EPA applied the determined partitioning ratio to the dissolved metals criteria-based effluent limitations to establish the total recoverable effluent limitations contained in the final permit. Attached to this fact sheet are the calculations for the copper limitations.

The additional monitoring also demonstrated that lead and zinc concentrations were well below the dissolved criteria and did not represent a reasonable potential to cause violations of water quality standards. Limitations for these metals were originally proposed because they have been found in commercial shipyard effluents. Limitations for these metals were therefore deleted from the permit. Although EPA is confident that the lead and zinc monitoring data provided by the permittee is of good quality, the permittee is required to conduct additional effluent and ambient metals analyses to verify that the monitoring was representative of existing conditions (which may vary tidally and seasonally) and current discharges.

EPA used a flow of 2.8 mgd in calculating the proposed copper load limitations for outfall 019. The final permit includes limitations for this parameter based on a corrected flow rate of 5.2 mgd. EPA used the corrected flow of 2.8 mgd for discharges

from outfalls 018, 018A and 096, collectively, for calculating mass based limitations.

2) Comment

The permittee requested that chemical specific and whole effluent toxicity testing be rotated between 018, 018A and 096.

Response

Discharge from outfalls 018 and 018A are reportedly used alternately to discharge the same effluent. Therefore, the permittee may sample the discharge from whichever outfall is being used at the time of sampling. Discharge 096 has not been characterized to the extent of 018 and 019. Also, outfall 096 discharges from drydock areas which are no longer routed to 018 or 018A and the effluent may be different. Therefore, monitoring of discharge 096 must be sampled independently as required in the permit.

3) Comment

The permittee requested that metals limitations not be established in the permit which are below analytical detection levels and also below the concentrations that are amenable to effective treatment.

Response

The limitations included in the final permit are above detection levels achievable by EPA approved testing methods. The permittee may utilize any EPA approved method for effluent analyses including metals or Oil and Grease provided that the method achieves the minimum analytical sensitivity required in the permit.

4) Comment

The permittee requested that pH monitoring not be required in outfalls 018 and 019.

Response

Discharges from these outfalls are approximately two-thirds sea water which infiltrate into the drydocks. It is unlikely that any significant change in pH will occur because of the natural buffering of the marine water. Therefore, pH monitoring is not being required for these discharges.

5) Comment

The permittee requested to increase Oil and Grease monitoring of 018 and 019 to weekly.

Response

The requested increase in frequency for monitoring Oil and Grease is included in the final permit.

6) Comment

The permittee is considering installation of diffusion structures on outfalls 018 and 019 to enhance mixing within the authorized mixing zones and requested a permit reopener that would allow corresponding changes in the mixing zone size.

Response

Such a reopener is not necessary to propose future changes to the permit to address a significant change in quality, quantity or location of the discharge. Any future permit change must be accomplished through formal permit reissuance or modification procedures which would include public notice action.

7) Comment

The permittee requests that the flow limit for outfall 021 (treated steam plant discharge) be increased to 0.17 mgd from 0.13 mgd. Increases to loading limitations for TSS and Oil and Grease for this outfall were requested to correspond to higher flow from the treatment plant.

Response

The limitations for outfall 021 were increased as requested. No adverse impact to receiving water should occur as a result of increased flow from this outfall.

8) Comment

The permittee request that the permit clarify that effluent limitations for cooling tower blowdown also apply to the diesel generator system.

Response

The permit has been clarified to apply metals limitations to both the air compressor and diesel generator cooling tower blowdown prior to mixing with other wastestreams.

9) Comment

The frequency of whole effluent toxicity (WET) testing of outfalls 018, 018A, 096 and 019 were omitted from the permit.

Response

The frequency of monitoring in the final permit specifies that WET testing be conducted quarterly on 24-hour composite samples to characterize these effluents for both acute and chronic toxicity. This frequency is consistent with the testing frequency required of other (commercial) shipyard operations within Puget Sound by the Washington Department of Ecology.

10) Comment

The permittee requested that the permit allow that no additional WET testing dilutions are required if the NOEC was determined to be 100 percent effluent. A 100 percent effluent NOEC means that there is no observed effect on test organisms in undiluted effluent.

Response

EPA has changed the final permit to accommodate this request.

11) Comment

The permittee requested that certain outfalls designated for stormwater monitoring be changed because of the presence of combined sewer overflow (CSOs) from the City of Bremerton. The potential influence of Bremerton's CSOs wastes on stormwater from the shipyard would undermine the purpose of stormwater monitoring.

Response

Outfalls which serve as City CSOs were exchanged with other outfalls which are representative of stormwater runoff from similar areas within the shipyard. The number of outfalls required to be monitored by the final permit is consistent with the number included in the proposed permit.

12) Comment

The permittee requested that proposed requirements for establishing best management practices (BMPs) for the shipyard be changed. Specifically, the permittee proposes to utilize Ecology's BMP guidance document for shipyards to format PSNS BMPs. A draft BMP document was submitted to EPA.

Response

In the final permit, EPA has changed the requirement for development of a document which summarizes all shipyard operating directives. These directives, taken collectively, presently constitute the shipyard's BMPs. The final permit requires submittal to EPA (within three months) of a BMP document developed in accordance with the BMP criteria specified in the permit.

13) Comment

The permittee expressed concern that it will be difficult to conduct stormwater monitoring after a "significant rainfall event" as defined in the permit. The difficulty is magnified because the sampling will also have to be conducted at low tide. These conditions greatly restrict the times when representative stormwater samples may be collected.

Response

The definition of a significant rainfall event was taken directly from federal stormwater regulations and EPA is unable to make discretionary changes to this definition. However, EPA understands the logistical problems associated with the required monitoring and will take these difficulties under consideration if monitoring cannot be conducted exactly as specified in the permit. The shipyard is expected to make the best reasonable effort to comply with stormwater monitoring requirements of the permit.

14) Comment

The permittee requested that the due date for submittal of discharge monitoring information be changed from the 15th to the 20th day of the month.

Response

This permit requirement was not changed as a matter of policy and regulation.

15) Comment

The permittee requested that condition IV.G.1. be changed to specify that only measurable spill events be reported within 24 hours.

Response

The final permit was edited regarding spill events requiring 24-hour notification.

16) Comment

The permittee requested that reference to civil liabilities for noncompliance with the permit be deleted because EPA cannot apply civil penalties to another federal agency.

Response

The provision in the permit is a general condition which is included in all permits issued by EPA. It should be noted that although EPA may not presently be able to assess penalties for violations of a permit issued to another federal entity, such penalties may be sought under citizen suit provisions of the Clean Water Act.

17) Comment

Some concerns were expressed about the possible presence of pollutant parameters in discharges from the drydocks that are not regulated in the permit by effluent limitations. Levels of chemical oxygen demand (COD), ammonia and biological oxygen demand (BOD) were reported in the application at levels which may indicate that these parameters and/or other pollutants may be present in the discharge. The commenter speculated that infiltration of contaminated groundwater into the drydocks may be a source of these pollutants. Concern was also expressed that most of the parameters listed in the application were reported by the permittee as "believed absent".

Response

The application included monitoring information characterizing the effluent(s). The permittee indicated that analyses were conducted for parameters reported as "believed absent" on the application. However, the level of detection required by the EPA form were not sufficient to determine potential impacts to water quality criteria for some pollutants.

EPA evaluated all available information during development of the draft permit and did not rely solely upon data from the application. The permittee conducted additional monitoring and provided test results at EPA's request during permit development. The additional monitoring was collected utilizing more sensitive analytical techniques.

Discharges 018 and 019 are approximately two-thirds marine water which continuously seeps into the graving docks at PSNS. COD analyses of marine waters (according to EPA approved methods) requires compensation for salinity effects and results of this test are often erratic. Some chemists recommend that total organic carbon is a better indicator of organics in marine waters

than COD. BOD test results are also often affected by marine water.

In addition to the effluent limitations included in the final permit, the permittee is required to conduct additional chemical specific analyses and whole effluent toxicity testing of drydock discharges. EPA will evaluate these test results and determine if additional limitations or other requirements are necessary to protect water quality.

As mentioned in the fact sheet, evaluation of groundwater contamination and subsequent cleanup (if determined necessary) is being addressed under the State Toxic Cleanup Program and federal Superfund program. Also, monitoring of stormwater is anticipated to provide information as to whether storm sewers are discharging groundwater contaminants.

18) Comment

It was recommended that 24-hour composite samples of drydock discharges be required because of changes in activities which might occur during the course of a day.

Response

The final permit requires monitoring for metals and whole effluent toxicity be collected by composite sampling.

19) Comment

The permittee states that there may be some small discharges of noncontact cooling water through various stormwater drains other than 018, 018A, 019 and 096. These discharges are reported to be of potable water quality and potentially contain small amounts of heat.

Response

EPA does not anticipate that such discharges, as represented by the permittee, pose any threat to water quality. These discharges are authorized under permit part I.A.1.a as potable water. However, the permittee is required to identify and evaluate all discharges through the stormwater system (per the stormwater pollution prevention plan) and implement best management practices to control pollutants, including heat, discharging through these outfalls.

20) Comment

The shipyard presently cannot consistently meet the copper limitations contained in the final permit. The shipyard

requested that a schedule, including interim limitations, be established for achieving compliance with copper limitations.

Response

Water quality standards adopted by Washington include provisions (Chapter 173-201A-160(4) WAC) for establishing schedules in permits for water quality-based permit limitations. These standards require that interim limitations be established for the period of time that compliance with the water quality criteria is deferred. Therefore, interim copper limitations have been established in the permit which represent the reasonable minimization of copper discharges through implementation of existing best management practices. The interim limitations are applicable according to the schedule for achieving final compliance as established in the permit. The final compliance date is specified as December 31, 1996.

The permit may be modified according to procedures specified in 40 CFR 122.62 (which includes public notice action) if changes to effluent limitations or the compliance schedule are subsequently requested by the permittee and determined necessary by EPA.

21) Comment

The permittee is concerned that the permit language specifying monitoring of outfall 096 would require reconfiguration of drydock piping so that this outfall may be sampled even if a discharge is not occurring.

Response

The permit expresses no such expectations regarding piping changes. EPA anticipates the permittee will make every reasonable effort to obtain samples in accordance with permit requirement if a discharge occurs during the specified sampling periods (ie. daily, weekly, monthly or quarterly). If a discharge from an outfall has not occurred. then the permittee should note that on the discharge monitoring report form.

22) Comment

The permittee requested that requirements for free available chlorine be deleted from the permit.

Response

This limitation was based upon federal effluent guidelines for the Steam Electric Point Source Category applicable to discharges from outfall 021. The limitations and monitoring requirements are consistent with the existing permit, with the exception that the permittee is not required to monitor unless use of chlorine

at the steam plant is resumed. Existing requirements for this pollutant parameter are continued in this permit.

23) Comment

The permittee expressed concern that permit language establishing mixing zones implies that future changes to state water quality standards would automatically apply to the shipyard, without a formal modification of the permit.

Response

The permittee is authorized to discharge in accordance with effluent limitations, monitoring requirements and other conditions of the permit. These conditions apply until the permit is formally reissued or modified. Water quality standards are used as a basis for establishing permit requirements. Any changes that may occur in water quality standards after the effective date of this permit, will be addressed in the next formal action on this permit.

24) Comment

The permittee pointed out that many elements of the shipyard's BMPs and the stormwater pollution prevention plan (SWPPP) will likely be identical. The permittee requests that the permit clarify they be allowed to combine the similar portions of these plans.

Response

The permittee may specify the same practice(s) in both documents where a practice satisfies the requirements for development of BMPs and the SWPPP.

25) Comment

The permittee wanted EPA to clarify that requirements to collect samples which are representative of the volume and nature of the discharge (part IV.A.) do not contradict requirements which specify sampling by grab samples.

Response

It is EPA's obvious expectation that a permittee shall collect samples which are representative of their discharge(s). For those samples which have been designated in the permit to be collected as grab, EPA believes such sampling shall result in representative results.

26) Comment

Ecology was concerned that human health criteria were not specifically addressed in the fact sheet discussion.

Response

In section 3.c. of the fact sheet, EPA states that discharges in compliance with effluent limitations and other terms and conditions of the permit are not anticipated to cause any violations of the state's water quality standards (WQS). Human health criteria are part of Washington's WQS since promulgation by EPA of the National Toxics Rule. This fact sheet statement regarding anticipated impacts on WQS was intended to apply to all criteria, including those for protection of human health.

None of the data evaluated during development of this permit indicate the presence of pollutants in PSNS discharges at concentrations which threaten to cause violations of WQS for human health. PCBs were considered the pollutant with the greatest potential to be present, but were not detected in monitoring of discharges. PSNS is required by the permit to conduct monitoring to further characterize discharges for pollutants identified by Ecology's Toxic Cleanup Program and the Superfund Site Investigation Report. Results of this monitoring will be evaluated for potential water quality impacts with regard to all WQS, including human health criteria.

27) Comment

The permittee questioned the basis and authority for the permit requirement that discharges of bilge and ballast water from vessels undergoing service within the shipyard be treated for removal of oil and grease.

Response

The permittee has developed and implemented various procedures for controlling pollutant discharges as shipyard specific operating directives. Such directives, taken collectively, constitute existing BMPs for controlling pollutant discharges from the shipyard. 40 CFR 122.44(k) authorized the establishment of BMPs into NPDES permits.

The PSNS operating directive pertaining to bilge and ballast water specifies that these wastewaters will be treated to remove oil and grease prior to discharge. EPA determined this directive was an appropriate BMP for controlling probable pollutants in such discharges and therefore included it as a permit requirement. EPA also determined that the NPDES exclusion in 40 CFR 122.3 does not apply to discharges from vessels undergoing

maintenance or repairs within the shipyard because such vessels are not engaged in "normal operation".

The shipyard has the flexibility under the permit's language to modify (improve) BMPs without prior EPA consent. Again, it is EPA's intent that this BMP be applied to vessels which are not in service while undergoing repair and/or maintenance by the shipyard.

Water Quality Calculation for PSNS Permit

Copper

12 data points

for ND values used 1/2 detection level (1.8 ug/l) = 0.9 ug/l to determine average ($\bar{X}$).

for dissolved metal
$\bar{X}$ = 4.21 ug/l

std. dev. (r) = 3.15

Coef. of variation (CV) = $\sqrt{r}/\bar{X}$ = 0.42

ratio of dissolved metal to total recoverable (using $\bar{X}$) = 0.32

at 95% confidence level Z = 2

$X = \bar{X} + rZ$ = 10.52 ug/l [This is the background concentration calculated at the 95% confidence level which is to be applied as the WQ criteria according to State WQS.]

plug into WQConc calc. program	30-day avg.	Daily Max
	6.15 ug/l	10.51 ug/l
To translate DM to TRM apply DM/TRM ratio		
(limitation)/0.32 =	19.24 ug/l	32.88 ug/l

Copper tot recovered

Water Quality Base.. Permits: Chemical Specific Permit Limits
(based on EPA 440/4-85-032. LOTUS Worksheet WQBP-CON.WK1)

INPUT **********

1. Water Quality Standards/Criteria (Concentration)	
Acute (one-hour) Criteria	32.880
Chronic (n-day) Criteria ....no chronic criteria	1000.000
2. Upstream Receiving Water Concentration	
Upstream Concentration for Acute Condition (1Q10)	32.880
Upstream Concentration for Chronic Condition (7Q10)	0.000
3. Dilution Factors (1/{Effluent Volume Fraction})	
Acute Receiving Water Dilution Factor at 1Q10	2.000
Chronic Receiving Water Dilution Factor at 7Q10	4.000
4. Coefficient of Variation for Effluent Concentration (use 0.6 if data are not available)	0.420
5. Number of days (n1) for chronic average (usually four or seven; four is recommended)	4
6. Number of samples (n2) per month to base permit on	4

OUTPUT **********

1. Z Statistics	
LTA Derivation (99%tile)	2.326
Daily Maximum Permit Limit (99%tile)	2.326
Monthly Average Permit Limit (95%tile)	1.645
2. Calculated Waste Load Allocations (WLA's)	
Acute (one-hour) WLA	32.880
Chronic (n1-day) WLA	4000.000
3. Back-Calculation of Long Term Averages (LTA's)	
Sigma (same for acute and chronic)	0.4031
Mu for Acute WLA	2.5553
Mu-n1 for Chronic WLA	7.8108
Mu for Chronic WLA	7.7512
LTA for Acute (one-hour) WLA	13.9652
LTA for Chronic (n1-day) WLA	2521.0420
Most Limiting LTA (minimum of acute and chronic)	13.9652
4. Derivation of Permit Limits From Limiting LTA	
Mu for daily maximum permit limit	2.5553
Mu-n2 for monthly average permit limit	2.6150
Sigma^2-n for monthly avg permit limit	0.0432
Daily Maximum Permit Limit	32.880
Monthly Average Permit Limit	19.235

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