RESPONSE TO COMMENTS
FORT LEWIS NPDES PERMIT NO. WA-0021954

Background

On August 28, 2009, the EPA public noticed a draft National Pollutant Discharge Elimination System (NPDES) permit for the Solo Point Wastewater Treatment Plant, Joint Base Lewis McChord, which is operated by the U.S. Department of Defense, Department of Army. The public comment period ended on November 12, 2009. The EPA received comments on the draft NPDES permit from Joint Base Lewis McChord, the Alliance for Clean Water, a private citizen, and the City of Lakewood. Subsequently, in accordance with the Endangered Species Act and at the request of US Fish and Wildlife and NOAA's National Marine Fisheries Service, EPA entered into a period of formal consultation over the permitting action. Formal consultation with USFWS was concluded upon their issuance of a Biological Opinion in March 2010. NOAA issued their Biological Opinion on January 30, 2012. The following is the EPA's response to comments received during the public comment period. Also included are details about new permit terms that resulted as an outgrowth of ESA formal consultations.

Comments Received from the Permittee (Fort Lewis)

Comment 1

Section I, Subsection B, #1, Table 1, page 7, Row1, Flow: The draft permit utilizes a average monthly flow limit of 7.0 million gallons per day (MGD). The EPA Fact Sheet provided with the draft permit incorrectly states on Page 8, Table 2 that the previous monthly design flow of 7.6 million gallons per day (MGD. The 1998 Fort Lewis submittal for permit reauthorization also cites the 7.6 MGD value for average design flow, No design flow was requested in the 2008 submittal for permit renewal and none was provided. Request the 7.6 MGD value utilized in the 2004 permit also be utilized in the 2009 permit as the plant design has not changed since issuance of the 2004 permit.

Response 1

The design flow was changed to 7.0 MGD based on an engineering report prepared for Fort Lewis by Gray & Osborne Engineers in April 1992 entitled, *Sewage Treatment Plant Study, Part II: Performance and Capacity Study*. The report states, "The Fort Lewis Sewage Treatment Plant is a 7.0 MGD secondary treatment facility consisting of the following major processes: primary clarification, trickling filtration, secondary clarification and chlorination."

This report was supplied to EPA by Fort Lewis during the preparation of the 2009 draft permit and the 7.0 MGD number was also cited by Fort Lewis staff in an e-mail to EPA (on 11/14/2008) when EPA asked about the design flow provided in the application. The engineering report was considered a primary source, whereas permits are secondary sources. Unless there is reason to doubt the engineering report or the reading thereof, the design flow of 7.0 MGD will remain in the 2009 permit. **However, Table 2 of the Fact Sheet will be changed to indicate that the previous permit stated the design flow was 7.6 MGD.**

Comment 2
Section I, Subsection B, #1, Table 1, page 7, Row 2, Biochemical Oxygen Demand (BOD): per Comment 1 above, please revise the average monthly and average weekly loading limits for BOD to 1902 pounds/day and 2852 pounds per day, respectively.

Response 2
The mass loading for BOD will not change (see response to comment C1 above).

Comment 3
Section I, Subsection B, #1, Table 1, page 7, Row 3, Total Suspended Solids (TSS): per Comment 1 above, please revise the average monthly and average weekly loading limits for TSS to 1902 pounds/day and 2852 pounds per day, respectively.

Response 3
The mass loading for TSS will not change (see response to comment C1 above).

Comment 4
Section I, Subsection B, #1, Table 1, page 7, Row 6, pH: The technology-based effluent limits for pH range for municipal wastewater treatment plants stipulated in federal regulations is 6.0 to 9.0 standard units. Request that the pH range of 6.0 to 9.0 standard units be stipulated in the permit.

Response 4
The effluent limit for pH in the prior (2004) permit is 6.0 to 8.5. The EPA cannot revise the limit to be less stringent due to the antibacksliding provision at Section 402(o) of the Clean Water Act to which no apparent exception is applicable in this case.

Comment 5
Section I, Subsection B, 1, Table #1, page 7, Row, 7, Total Petroleum Hydrocarbons (THP): the draft permit stipulates monthly influent, effluent and sludge monitoring for TPH and sets a maximum effluent daily limit of 10 milligrams per liter (mg/L). The table below show analytical TPH data from 2004 to 2007 for influent and effluent at the WWTP. Based on the data presented, TPH is not a significant issue with influent or effluent quality. Management of petroleum is more appropriately accomplished via a pretreatment program as stipulated in Section II, Subsection A of the draft permit. Also, the Fact Sheet states that the EPA does not intend to regulate sludge under this permit and will issue a sludge-only permit at a later date. Please revise the TPH monitoring requirement to stipulate quarterly effluent sampling with a 10mg/L limitation and delete references to influent and sludge sampling.

Fort Lewis Wastewater Treatment Plant Analytical Results
(all results in mg/L)

	TPH-Diesel Range		**TPH-Diesel Range**		**TPH-Gasoline Range**	
Date	Influent		Effluent		Influent	Effluent
	Diesel	Lube Oil	Diesel	Lube Oil		
7-Dec-04			ND	1.3		
8-Nov-05			ND	0.78		
21-Jun-06			0.78	2.01		
2-Aug-06			ND	0.65		
11-Sep-06	ND	2.2	ND	ND	ND	ND
11-Oct-06	0.35	2.69	ND	0.96	0.6	ND
1-Nov-06	0.2	1.19	0.12	0.59	0.2	ND
4-Dec-06	1.82	0.72	0.73	0.36	0.26	ND
3-Jan-07	ND	0.99	ND	0.58		
7-Feb-07	2.09	2.09	0.15	0.63		

6-Mar-07	0.35	0.56	0.37	0.5		
3-Apr-07	0.323	2.51	ND	0.757		
8-May-07	0.18	ND	ND	ND		
5-Jun-07	ND	3.05	ND	ND		
2-Jul-07	0.151	ND	ND	ND		
5-Aug-07	1.38	0.928	ND	0.637		
5-Sep-07	0.773	3.46	0.19	ND		
2-Oct-07	0.574	1.8	0.26	ND		
6-Nov-07	2.92	1.43	0.221	ND		
4-Dec-07	16.14	11	ND	ND		

Response 5

The EPA recognizes that typical TPH concentrations in wastewater at Fort Lewis are low. However, Solo Point has produced biosolids with high enough TPH content to indicate that low TPH concentrations at the plant may also be of concern. Furthermore, the State of Washington's hazardous waste program has indicated large amounts of diesel were seen in oil water separators at Fort Lewis during previous inspections. A history like this led to the decision to introduce additional TPH monitoring.

The value of 10 mg/L was identified as a reasonable technology-based effluent limit as it is generally attainable by conventional oil skimming methods or a submerged overflow.EPA noted that analogous Ecology guidance for cleanup sites directs the cleanup sites to achieve a TPH-D (diesel-range) limit of 10 mg/L for indirect discharges to publicly-owned treatment works.

Though it lacks accompanying analytical method and quality assurance information, the TPH data submitted with this comment could make the case for a more stringent performance-based effluent limit for TPH. The performance-based effluent limit determined using the above data per EPA Technical Support Document guidance would be a TPH limit of 3.9 mg/L (max daily). EPA will consequently reevaluate the 10 mg/L limit after sufficient TPH data is collected during this permit cycle using proper sampling and quality assurance procedures. **The permit will clarify that TPH monitoring required by this permit must be analyzed using the NWTPH-Gx and NWTPH-Dx analytical methods** (ensuring that instruments are calibrated to JP-8 fuel type and that the integration range is limited to avoid double-counting - e.g. to avoid counting volatiles in the semivolatile range and vice versa). Finally, it should be noted that as a government entity Fort Lewis is welcome to contract out TPH analysis to Manchester Laboratory.

The EPA would also like Fort Lewis to evaluate the potential role for overflow alarms for critical oil/water separators (those associated with wash racks, in particular) as a potential means for preventing future petroleum-related wastewater and biosolids incidents at Fort Lewis. This action is being considered for a future permit per Section 308 of the Clean Water Act [text underlined for emphasis], which states that "Whenever required to carry out the objective of this chapter, including but not limited to (1) developing or assisting in the development of any effluent limitation, or other limitation, prohibition, or effluent standard, pretreatment standard, or standard of performance under this chapter; (2) determining whether any person is in violation of any such effluent limitation, or other limitation, prohibition or effluent standard, pretreatment standard, or standard of performance; (3) any requirement established under this section; or (4) carrying out sections 305, 311, 402, 404 (relating to State permit programs), 405, and 504 of this title - (A) the Administrator shall require the owner or operator of any point source to (I) establish and maintain such records, (ii) make such reports, (iii) install, use, and maintain such monitoring equipment or methods (including where appropriate, biological monitoring methods), (iv) sample such effluents (in accordance with such methods, at such locations, at such

intervals, and in such manner as the Administrator shall prescribe), and (v) provide such other information as he may reasonably require." This equipment installation requirement may in the future be placed in a special condition according to guidance in the U.S. EPA NPDES Permit Writer's Manual (EPA-833-B-96-003) which states on page 137 that, "The purpose of special conditions is to encourage the permittee to undertake activities designed to reduce the overall quantity of pollutants being discharged, or to reduce the potential for discharges of pollutants. There are many different reasons to incorporate special conditions into a permit including… to incorporate preventative requirements, such as requirements to install process control alarms, containment structures, good housekeeping practices, etc."

Sludge monitoring will remain a requirement in the permit per CWA Section 308, as explained above (see also comment 9 below for more information).

Comment 6

Section I, subsection B, #1, Table 1, pages 7 & 8, Rows 8 through 12: please provide a rationale for increasing the sampling frequency for total nitrogen from semi-annually to monthly, and adding total phosphorous to the effluent sampling list. Footnote "h" states that the nutrient sampling parameters are continued from the previous permit and the frequency was increased to monthly "per Ecology policy". The previous permit stipulated total nitrogen sampling only and no rationale is provided for adding total phosphorous. Ecology policy should not be a rationale for increased sampling and analyses.

Response 6

Washington State's Puget Sound is a priority watershed for EPA, and as such it has been the site of a number of EPA-funded research activities such as Ecology's South Puget Sound Dissolved Oxygen Study (which was partially funded by a grant from EPA's National Estuary Program). The need for this study became evident when, in their 2008 Water Quality Assessment, Ecology found 24 locations in South Puget Sound that were impaired due to a lack of dissolved oxygen. The South Puget Sound Dissolved Oxygen Study evaluated a number of different sources for nitrogen, as nitrogen is the main pollutant responsible for low dissolved oxygen levels in this environment. The study included Solo Point as one of 29 municipal wastewater treatment plants that discharge nitrogen into South Puget Sound. The early findings of the study include the following: "On an annual basis, rivers and wastewater treatment plants south of the Tacoma Narrows sent roughly equal amounts of nitrogen into the South Sound. However, in September 2007 – a critical period for dissolved oxygen concentrations - wastewater treatment plants south of the Tacoma Narrows contributed four times more nitrogen to South Puget Sound than the rivers. In looking at the entire study area, which reaches to just south of Edmonds, wastewater treatment plants contributed more than ten times more nitrogen than the rivers."

Given these findings, the fact that Fort Lewis is a major discharger in South Puget Sound, and the fact that both nitrogen and phosphorus contribute to a loss of dissolved oxygen in receiving waters, EPA determined that the Fort should be required to conduct monitoring of nutrient species in their effluent to better characterize their loadings throughout the year. Under the authority of Clean Water Act Section 308, this increased monitoring has been included in the draft permit. The frequency corresponds with a similar effort underway at Ecology, which will be requiring Puget Sound dischargers to increase monitoring of nutrients (nitrate and nitrite, total Kjeldahl nitrogen (TKN), ammonia, and total phosphorus) in order to inform future studies that may ultimately lead to a water quality-based effluent limit (WQBEL) or Total Maximum Daily Load (TMDL) if necessary to protect this vital waterway. Based on the above discussion, EPA determined that Ecology's monitoring schedule was prudent under the circumstances and appropriate for Solo Point, as well.

Comment 7

Section I, Subsection B, #1, Table 1, page 8, Row 13: No rationale is provided for stipulation chemical oxygen demand (COD) sampling. Please remove this stipulation from the permit or provide a sampling rationale.

Response 7

Chemical Oxygen Demand (COD) is a nonconventional pollutant associated with, among other things, aircraft deicing. This sampling was added to the pretreatment monitoring requirements given the potential for residual deicers to enter the sewer system via airfield operations associated with Fort Lewis (e.g. McChord Air Force Base operations). While BOD monitoring can effectively detect the presence of deicing fluid, EPA had selected COD for regulation and not BOD5 alone for reasons discussed in the Proposed Rule "Effluent Limitation Guidelines and New Source Performance Standards for the Airport Deicing Category"[1]. Specifically:

> •While both of these parameters are good indicators of the glycol-based oxygen demand component of deicing stormwater, COD will also capture the oxygen demand from nitrogen and other organic components of the stormwater that may not be represented in a BOD5 result;
> •COD analyses are simple to conduct and can be measured in real time compared to a 5-day test for BOD;
> •COD eliminates the need to consider receiving water temperature when evaluating water quality concerns; and
> •Toxic ADF additive compounds in deicing stormwater may have a negative and variable affect on the acclimation of the active cultures used in BOD analysis, making the method less robust than COD analysis for these wastewaters.

Note that categorical pretreatment standards are self-implementing and they must be followed even if not explicitly referenced in a permit (40 CFR 403.6(b)).

The COD monitoring in the draft permit was intended to establish a baseline COD concentration and to screen separately for increases above baseline that may indicate the need for further pretreatment controls at the airfield (per CWA Section 308). However in response to this comment EPA has reconsidered the role of monthly COD monitoring for this purpose and has concluded that the impacts of deicing fluids on water quality can more directly be assessed by monitoring the main ingredient of deicer formulations, either ethylene or propylene glycol. This is the same approach used at Seattle-Tacoma International Airport. Consequently, **the permit will be changed to require once a week ethylene and propylene glycol monitoring during the winter months (December - February) to monitor active deicing events.**

Fort Lewis should also review deicing best management practices (BMPs), updating BMPs as necessary in light of EPA's 2009 draft categorical deicing effluent limitation guidelines and developments in the area of aircraft deicing ELGs **(**http://epa.gov/guide/airport/Airport_TDD_Proposed_2009.pdf). BMP recommendations presented in a recent paper, *Aircraft Deicing; Regulatory Implications and Best Management Practices*, can also provide useful guidance for evaluating deicing BMPs at a military installation (http://www.esympo.com/2008/Proceedings/09/docs/115-2009.doc). This document was prepared by Dr. Larry Isaacs at the Air Force Center for Engineering and the Environment in Brooks City-Base, Texas and Mr. Ben Recker with Tetra Tech in Santa Maria, California. The paper was

[1] "Effluent Limitation Guidelines and New Source Performance Standards for the Airport Deicing Category; Proposed Rule." Federal Register 74 (28 August 2009): 44689-44690. Print.

prepared for the military to review current regulations impacting aircraft and airfield deicing/anti-icing operations and to review BMPs that can be implemented at the installation level such as the use of glycol recovery vehicles and centralized deicing pads. This information is pertinent to the Solo Point NPDES permit insofar as deicing fluids and related liquids used in the operation and maintenance of aircraft can enter the collection system and ultimately reach the treatment plant.

Comment 8

Section I, Subsection B, #1, Table 1, page 8, Row 16, Whole Effluent Toxicity (WET) Testing: Sample Frequency indicates that acute and chronic testing is to be staggered by one month (Acute January 2013 and Chronic February 2013). Please clarify the rationale for this scheduling stipulation.

Response 8

Typically sampling for WET testing purposes is timed to catch the maximum seasonal variation within a year. For example, if the sampling frequency is twice per year, these are taken one in the summer and the other in the winter. However, the offset between the winter Acute (in this case January) and the winter Chronic (February) tests should have been offset by more than a single month so that a toxicity test is conducted once per quarter. This toxicity monitoring arrangement is in accordance with 40 CFR 122.21(j)(5)(iv)(A) below.

> 40 CFR 122.21(j)(5)(iv): Each applicant required to perform whole effluent toxicity testing pursuant to paragraph (j)(5)(ii) of this section must provide: (A) Results of a minimum of four quarterly tests for a year, from the year preceding the permit application; (B) Results from four tests performed at least annually in the four and one half year period prior to the application, provided the results show no appreciable toxicity using a safety factor determined by the permitting authority.

In response to this comment, the final permit is changed to the following WET testing schedule: Acute - January & July 2013, and **Chronic – April & October 2013**.

Comment 9

Section I, Subsection B, #1, Table 1, page 8, Rows 17 and 18: The proposed influent, effluent and sludge sampling described here is a pretreatment component of the draft permit. However, the Fort Lewis pretreatment program requires sampling at industrial user locations and subsequent sampling of influent at the QQTP for the specified pretreatment parameters is redundant. Please remove the requirement for quarterly sampling of influent. Also, the Fact Sheet states that the EPA does not intend to regulate sludge under the permit and will issue a sludge-only permit at a later date. Since the facility has regulatory coverage under the statewide general biosolids permit BA-0021954 the sludge sampling requirements are not appropriate for this permit. Please remove the requirement for quarterly sampling of sludge. Quarterly effluent sampling will document the effectiveness of the pretreatment program. Also, please note in the final permit that the quarterly TPH sampling described in Comment 5 above will also meet the PFH pretreatment parameter requirements.

Response 9

Monitoring *both* upstream Significant Industrial User (SIU) locations and treatment plant influent is not uncommon in pretreatment programs. EPA does not consider monitoring both locations a redundant exercise in part because collection systems can be complex with many points of entry, both planned and unplanned. For this reason, it cannot be assumed that the sum of data collected from the SIU locations will provide a full accounting of influent constituents as direct characterization of the influent would.

Note that the difference between treatment plant influent loads and SIU loads for each pollutant of concern (POC) is a measure of the "uncontrolled load" considered during a thorough Headworks Analysis (HWA).

It is furthermore entirely appropriate to include supplemental sludge monitoring requirements in this permit. Coverage under a statewide general biosolids permit does not preclude the addition of sludge monitoring in a federally-issued NPDES permit. In 1989, 40 CFR Part 501 was published to set a regulatory framework for states seeking delegated authority to implement a biosolids program under permits in compliance with Section 402 of the CWA. At present, Washington State is not one of the few states to have received authorization by EPA for biosolids permitting. Their general permit is consequently not an acceptable replacement for a federally-issued sludge permit required per 40 CFR 503. Furthermore, Sections 308 and 402 of the CWA provide the basis for including sludge requirements in NPDES wastewater permits to collect information useful for determining what type of controls are necessary for the sludge permit, to help EPA develop regulations for sludge, and/or for other purposes that will enable EPA to carry out its functions under the Clean Water Act. In short, EPA has the authority to divide sludge information collection requirements and sludge management controls between NPDES wastewater and sludge-only permits if it finds it necessary to do so.

Comment 10
Section I, Subsection B, 1, Table 1, page 9, Rows 17 and 18, footnote "d": this stipulates that sampling events must be rotated annually or quarterly (e.g.first quarter sample Monday, second quarter sample Tuesday, etc). Please revise to state that sampling will be conducted during normal operating conditions on weekdays only.

Response 10
Sampling language will be revised to state that routine sampling shall occur during normal operating hours.

Comment 11
Section I, Subsection B, 1, Table 1, page 9, Rows 17 and 18, Footnote "e": the sample type stipulated for priority pollutant metals, TPH and cyanide in the table is "composite", however footnote "e" stipulates a minimum of 4 separately analyzed grab samples. These are mutually exclusive and sampling and analyzing 4 separately analyzed grab samples. These are mutually exclusive and sampling and analyzing 4 separate grab samples from a single day seems excessive. Please revise to stipulate composite sampling.

Response 11
Per 40 CFR 403 (Appendix E), grab samples must be used for pH, cyanide, total phenols, oil and grease, sulfide, and volatile organic compounds. Properly taken grab samples minimize changes in chemistry and provide the most accurate measurement of toxicity. Grab samples can be taken quickly with a minimum of equipment, sealed in a container with no void space, cooled to 4º C, and taken directly to the lab for testing. **In this permit, TPH and cyanide must be monitored using grab samples.**

For all other pollutants, 24-hour composite samples are to be used unless an alternative is authorized by EPA. **This permit will allow for 24-hr composite sampling of priority pollutant metals.**

Some composite sampling methods require that a series of grabs be taken in order to develop the composite, so the sampling requirements in the draft permit are not necessarily mutually exclusive. The

sampling requirements are, however, potentially confusing as currently written. **Rows 17 and 18, the footnotes, and subsequent language in Section I will be edited to clarify the sampling methods required for priority pollutant metals, TPH, and cyanide.**

Regarding the view that four grab samples within 24 hours is excessive, note that standard EPA Region 10 permit language for pretreatment facilities stipulates eight grab samples in a 24-hour period for cyanide. However, a basis for lowering the number of required grab samples may be seen in 40 CFR 403.12, which states that, "for sampling required in support of baseline monitoring and for 90-day compliance reports…, a minimum of four (4) grab samples must be used for pH, cyanide, total phenols, oil and grease, sulfide and volatile organic compounds for facilities for which historical sampling data do not exist; for facilities for which historical sampling data are available the Control Authority may authorize a lower minimum." Also, Region 10's Manchester Laboratory indicated that there is some amount of flexibility in the number of grab samples necessary for accurate cyanide monitoring. Consequently, **the final permit will require that cyanide grab samples shall consist of a minimum of two samples collected at intervals of 15 minutes or greater within a 24-hour period (with the maximum of the two values reported). Pursuant to the permit, TPH grab samples must consist of one sample set (one grab for TPH-Gx and one grab for TPH-Dx).**

In all cases, analytical protocols must follow 40 CFR 136. TPH sampling and analytical guidance can be found in Analytical Methods for Petroleum Hydrocarbons (Ecology Publication No. 97-602, June 1997). Questions about 40 CFR 136 and standard analytical methods should be directed to Region 10's Manchester Laboratory.

Comment 12
Section I, Subsection B, page 9, #3: per comment 4 above please revise the stipulated pH range from 6.0 to 8.5 standard units to 6.0 to 9.0 standard units.

Response 12
Please see response to comment 4 above.

Comment 13
Section I, Subsection B, page 9, #4: the removal requirements for BOD and TSS are stipulated at 85% ("the monthly average effluent concentration must not exceed 15% of the monthly average influent concentration"). This is an increase from the previous permit, where a removal requirement of 80% was stipulated. Fort Lewis supports the increased removal requirement for BOD and TSS; however, the 85% removal requirement may not be achievable in high-precipitation winter months. The following table shows the monthly average BD removal for the term of the previous permit.

Date	Monthly Average BOD Removal	Date	Monthly Average BOD Removal	Date	Monthly Average BOD Removal
1/31/2004	89%	**1/31/2006**	**80%**		
2/28/2004	89%	**2/28/2006**	**83%**		
3/30/2004	90%	3/30/2006	85%	1/31/2008	88%
4/30/2004	89%	4/30/2006	89%	2/28/2008	88%
5/30/2004	91%	5/30/2006	91%	3/60/2008	91%
6/30/2004	91%	6/30/2006	87%	4/30/2008	92%
7/30/2004	93%	7/30/2006	90%	5/30/2008	93%
8/30/2004	92%	8/30/2006	91%	6/30/2008	92%
9/30/2004	91%	9/30/2006	90%	7/30/2008	91%
10/30/2004	92%	10/30/2006	89%	8/30/2008	90%
11/30/2004	91%	11/30/2006	86%	9/30/2008	92%

12/30/2004	91%	**12/30/2006**	**83%**	10/30/2008	91%
1/31/2005	88%	**1/31/2007**	**77%**	11/30/2008	87%
2/28/2005	92%	2/28/2007	86%	12/30/2008	86%
3/30/2005	92%	**3/30/2007**	**84%**	1/31/2009	86%
4/30/2005	92%	4/30/2007	85%	2/28/2009	88%
5/30/2005	90%	5/30/2007	87%	3/30/2009	90%
6/30/2005	91%	6/30/2007	91%	4/30/2009	93%
7/30/2005	92%	7/30/2007	89%	5/30/2009	90%
8/30/2005	91%	8/30/2007	91%	6/30/2009	88%
9/30/2005	91%	9/30/2007	92%	7/30/2009	88%
10/30/2005	94%	10/30/2007	91%	8/30/2009	90%
11/30/2005	90%	11/30/2007	93%		
12/30/2005	88%	12/30/2007	90%		

During the term of the previous permit, the WWTP would have failed the 85% removal requirement five times, as shown in bold in the above table. All of these events correspond to winter months where inflow and infiltration (I&I) rates are at their highest. Fort Lewis currently has an ongoing program to address I&I at locations across the installation and the annual I&I reports submitted to EPA document these efforts. The upcoming creation of Joint Base Lewis-McChord will result in the addition of the 4,616 acre McChord installation to Army operational control. Due to the project programming and funding timelines, it may be several years before I&I control can occur on the McChord segment of the joint base. Accordingly, Fort Lewis requests a two-year moratorium on the 85% removal requirement for BOD and TSS for the winter months (November through March) and substitution of the 80% removal requirement. The 85% removal requirement for BOD and TSS would be in effect for the other months of the year at the date the draft permit becomes final.

Response 13

EPA is required to include the more stringent of technology-based or water-quality based effluent limits in a NPDES permit. Here, 40 CFR Part 133 establishes technology-based effluent limits for POTWs. EPA cannot grant a compliance schedule for technology-based effluent limits (see 40 CFR 122.47). As such, EPA cannot agree to the proposed two-year moratorium on BOD and TSS percent removals. The final permit will include the 85% removal provision and this provision will go into effect upon the effective date of the permit.

Comment 14

Section I, Subsection B, page 9, #6: Method Detection Limits: the Quality Assurance Plan (QAP) stipulated in Section II, Subsection F will determine Method Detection Limits (MDL's) for the required analyses. The specific language in subsection B, #6 should be deleted and the subsection should simple reference the QAP to be developed under the stipulation of Section II, subsection F.

Response 14

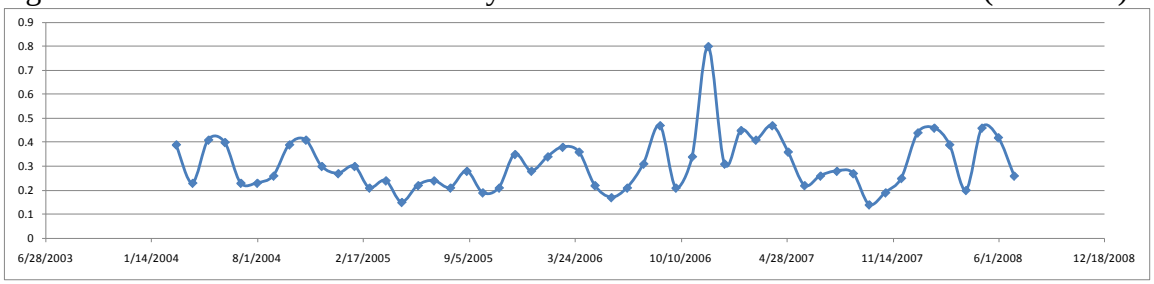
The EPA Region 10 standard practice is to specify MDLs in the permit to provide a benchmark for lab performance. Because a variety of things can cause a real MDL to differ from the idealized statistical calculation underlying MDLs identified in a permit (such as unforeseen matrix effects beyond a lab's control), EPA permits also include language allowing flexibility for the permittee to propose substitute MDLs as long as the request is in writing and is approved by EPA. This flexible language is also in the draft Fort Lewis permit. Alternative MDLs are determined per 40 CFR 136 Appendix B. The Fort can obtain new MDLs by request if necessary.

Comment 15
Section I, Subsection B, page 10, #7, first sentence: The permit limitations for total residual chlorine (TRC) are 0.36 mg/L average monthly and 0.50 mg/L for maximum daily. Daily TRC concentrations for 2007 and 2008 for the WWTP ranged from 0.10 mg/L to 0.34 mg/L. Requiring a MDL of 0.010 mg/L seems excessively low and would serve no purpose for evaluation the actual discharge of chlorine. Request that the MDL for chlorine be revised to 0.10 mg/L.

Response 15
Because the proposed value is also less than the permit limit for TRC **EPA agrees to revise the chlorine MDL to 0.10 mg/L.**

All testing and analysis must follow the requirements of 40 CFR Part 136.

Figure c15: Solo Point DMR Summary for Effluent Total Residual Chlorine (2/04-6/08)



Comment 16
Section I, Subsection B, page 10, #7, second sentence: The sentence states "The final effluent limits for TRC are below detection limits using EPA approved analytical methods…" This statement is in error, the final effluent limits are 0.36 mg/L and 0.50 mg/L and are well above detection limits. Request deletion of this entire section, it does not appear relevant to the Solo Point WWTP.

Response 16
The section will be removed (see response to comment 15).

Comment 17
Section I, Subsection B, page 11, #9, a), c), h), and i): please remove all influent sampling requirements from the permit. The Fort Lewis pretreatment program conducts monitoring and enforcement at each Industrial User location, per Comment 20 below. Subsequent influent monitoring at the WWTP is redundant. Effluent monitoring for the pretreatment-targeted compounds is appropriate.

Response 17
Please refer to response to comment 9 above.

Comment 18
Section I, Subsection B, page 11, #9, e), iii): per Comment #9 above revise the TPH effluent sampling frequency to quarterly for the entire term of the permit.

Response 18
Please refer to response to comment 5 above.

Comment 19

Section I, Subsection B, page 11, #9, d) and f): please remove all sludge sampling requirements from the permit. The Fact Sheet states that the EPA does not intend to regulate sludge under this permit and will issue a sludge-only permit at a later date. Also, the facility has coverage under the statewide general biosolids permit BA-0021954. Accordingly, sludge sampling requirements are not appropriate for this permit.

Response 19

As a general practice, EPA Region 10 separates wastewater and sludge permitting. The factsheet states that EPA intends to issue a sludge-only permit to this facility at a later date. However the factsheet immediately goes on to say, "This permit also contains requirements for sewage sludge monitoring and record keeping. This information will be used to update local limits and is required by 40 CFR 503. The focus on TPH monitoring is a response to previous impacts to biosolids by petroleum products that passed through the treatment works at levels of concern to EPA and others..." In other words, EPA found reason to include sludge monitoring and recordkeeping requirements in this permit (pretreatment verification, a history of contaminated biosolids, etc). See response to comment 9 above regarding EPA's authority to include sludge language in NPDES permits.

Comment 20

Section II, Subsection A, Pretreatment, page 15: As a federally-owned treatment works (FOTW) the Fort Lewis WWTP is not required to implement a pretreatment program. The proposed language in the draft permit for pretreatment is excessively specific for a WWTP permit. Please revise this section to read:

> "A. Pretreatment, 1, Implementation: The permittee must implement a pretreatment program for the Solo Point WWTP that incorporates all discharging entities (Fort Lewis, McChord AFB, American Lake Veteran's Administration Hospital, Madigan Army Medical Center and Camp Murray) in accordance with 40 CFR 402. The pretreatment program must include the following program components:
>
> - Implementation of a punitive Fort Lewis Army Pretreatment Regulation;
> - Industrial User (IU) survey to identify and characterize all IU dischargers;
> - Development and implementation of a pretreatment database;
> - Permitting system to regulate and monitor IUs;
> - Inspection program to complete annual (minimum) IU inspections and sampling and semi-annual inspections and sampling for Categorical Industrial Users (CIU);
> - Regulatory reporting.
>
> This pretreatment program must be implemented within 1 year of the effective date of the permit and reporting requirements for the pretreatment program will commence at that date."

Accordingly, the Schedule of Submissions for pretreatment related programs should be revised to 180 days for submission of a Fort Lewis pretreatment regulation and the annual report and user survey updates will be submitted annually thereafter.

Response 20

EPA agrees to modify the schedule of submissions to 180 days for submission of the pretreatment regulation (the local sewer use ordinance), with annual reports and user survey updates submitted annually thereafter.

However, EPA does not believe that the purpose for introducing pretreatment at Fort Lewis would be served by generalizing the language to the extent requested. The pretreatment procedures submitted by Fort Lewis are modeled on 40 CFR Part 403, and EPA's standard pretreatment language is based on the same. EPA believes that the specificity of the pretreatment language included in the draft permit is essential. If there is a specific requirement Fort Lewis believes cannot be met under Army regulations, the Fort is encouraged to discuss this with EPA.

Comment 21
Section II, B, Sewage Sludge Management, page 20: Delete the second and third sentences of this section. The EPA had stated that this permit will not regulate sludge and that a sludge-only permit will be issued at a later date. This sludge-only permit is the appropriate document to stipulate sludge sampling.

Response 21
EPA does not agree with the implication that all sludge activities must be regulated by a separate, single permit. Given the unique history of petroleum-impacted biosolids at Solo Point, EPA decided to use its authority under Section 308 of the CWA to include sludge monitoring language in this permit. See also responses to comments 9 and 19 above.

Comment 22
Section II, C, Effluent Mixing Study, page 20: EPA has stipulated a mixing zone for the WWTP outfall in Section I, C, Mixing Zone authorization and thus no mixing zone study is required. Request that this draft permit requirement be deleted.

Response 22
EPA intends to keep the mixing zone condition in the permit. Per CWA Section 308, permits may require a variety of information necessary for making water quality determinations, including mixing data, effluent data and ambient receiving water data. The previous permit cited an acute dilution factor (DF) of 175 and chronic DF of 975. EPA believes that those dilution values were unusually high, particularly with respect to other nearby Puget Sound dischargers. At EPA's request, Fort Lewis provided an old mixing study titled, *Transport and Dilution of Effluent Discharged from the Tatsolo Point Wastewater Treatment Plant* (November 1996). The 1996 study did not appear to support the high dilution values used in the previous permit; consequently EPA chose a conservative set of dilution factors from the study in an effort to avoid overstating available dilution.

EPA subsequently provided a copy of the mixing study to Ecology as part of the certification process under Section 401 of the Clean Water Act. After reviewing the available information, Ecology indicated that a mixing study update would be required for certification, citing limitations of the 1996 model. The Washington Administrative Code provides the legal basis for allowing mixing zones in Puget Sound (WAC 173-201A). A discharge to waters of the State of Washington, requires Ecology approval. EPA is required to include in a NPDES permit any condition that a State sets forth in a CWA 401 certification (see 33 U.S.C. 1341(d)).

Note that preparing an updated mixing study could benefit the discharger, as EPA used conservative dilution factors for Solo Point after the basis for the previous dilution factors was not found in the 1996 mixing report. Available dilution in the receiving water is likely greater than that estimated for calculations in this permit. The study will also improve effluent limit calculations in future discharge

permits by more accurately quantifying available dilution. In any case, a condition requiring a new mixing study will be needed in order to obtain approval from Ecology for a mixing zone in this permit.

Comment 23
Section II, D, Surface Water Monitoring, page 22: Fort Lewis objects to the inclusion of this requirement in the permit. Any useful water quality characterization of the receiving body (Puget Sound) would involve a very high level of effort and expense. Such a study is outside the mission of the Department of Defense. Puget Sound is a complex marine environment, subject to major tidal movements four times a day. To characterize its water quality would involve years of sampling a multiple locations all over the Sound, at various depths, times and seasons. Fort Lewis submits that a proper characterization, one that would be useful for permit decisions, is the mission of the Washington State Department of Ecology.

Response 23
The responsibility for monitoring of rivers, lakes, bays, wetlands, estuaries, and nearshore marine waters falls *primarily* on the states. However EPA regularly requires permittees to characterize their receiving water when the necessary information is not available. EPA has required ambient monitoring of minor (defined as <1 MGD) wastewater treatment facilities in the past, and believes that a major federal facility can be equally up to the task. In the case of Solo Point, state ambient metals information was not available for the discharge area according to the comprehensive Environmental Information Management (EIM) database (http://apps.ecy.wa.gov/eimreporting/Search.asp) maintained by Ecology. This information is useful for water quality calculations that determine if there is a reasonable potential for a discharge to cause or contribute to an excursion above applicable standards at the edge of the mixing zone. Ambient receiving water data is also useful for determining appropriate local limits in a pretreatment program.

However, EPA reconsidered the necessity of ambient monitoring and decided to remove the reference to receiving water monitoring from the permit at this time for the following reasons:

1.) In this case additional background concentration data would be unlikely to change the outcome of reasonable potential calculations (which are used to determine the necessity of effluent limits for given parameters). Even assuming unusually high ambient metals concentrations and redoing the reasonable potential calculations did not result in a need for corresponding effluent limits.

2.) Of the metals, a mixing zone was found necessary only for copper, zinc, and nickel. Nickel concentrations at the point of discharge were less than the acute water quality standard, as well. In any case, none of these parameters were present in sufficient quantities to require effluent limits.

3.) This development would not alter the effects determinations in the associated Biological Evaluation as the proposed ambient metals monitoring was not used as a basis for those determinations.

Comment 24
Section II, F, Quality Assurance Plan (QAP), 1, page 24: Please delete reference to “receiving waters”.

Response 24
EPA will not include an ambient monitoring requirement in the permit at this time (see response to comment #23 above). While EPA may be placing a lower priority on ambient metals monitoring in the new permit, all other permit-related sample collection and analysis activities must still be addressed in a QAP that follows EPA-approved QA/QC and chain-of-custody procedures as described in Requirements for Quality Assurance Project Plans (EPA/QA/R-5) and Guidance for Quality Assurance Project Plans

(EPA/QA/G-5). Necessary QA content is identified in EPA Document QA/G-5 (http://www.epa.gov/QUALITY/qs-docs/g5-final.pdf) and is outlined below:

A. Project Management
- A1 Title and Approval Sheet
- A2 Table of Contents
- A3 Distribution List
- A4 Project/Task Organization
- A5 Problem Definition/Background
- A6 Project/Task Description
- A7 Quality Objectives and Criteria for Measurement Data
- A8 Special Training Needs/Certification
- A9 Documents and Records

B. Data Generation and Acquisition
- B1 Sampling Process Design (Experimental Design)
- B2 Sampling Methods
- B3 Sample Handling and Custody
- B4 Analytical Methods
- B5 Quality Control
- B6 Instrument/Equipment Testing, Inspection, and Maintenance
- B7 Instrument/Equipment Calibration and Frequency
- B8 Inspection/Acceptance of Supplies and Consumables
- B9 Non-Direct Measurements
- B10 Data Management

C. Assessment/Oversight
- C1 Assessments and Response Actions
- C2 Reports to Management

D. Data Validation and Usability
- D1 Data Review, Verification, and Validation
- D2 Verification and Validation Methods
- D3 Reconciliation with User Requirements

Comment 25
Section II, F, Quality Assurance Plan (QAP), 3, page 24: Section III, C, Monitoring Procedures, page 27 of the draft permit stipulates monitoring procedures per 40 CFR 136. Accordingly, Item 3 of this Section II, Quality Assurance Plan is redundant and should be deleted.

Response 25
Reference to an alternative format will be deleted.

Comment 26
Section II, F, Quality Assurance Plan (QAP), 3, page 24: Section III, C, Monitoring Procedures, page 27 of the draft permit

Response 26
Item 3 details the necessary information for an adequate QAP, a subset of which is identification of the 40 CFR 136 method intended for use to meet the monitoring requirements of the permit. Other information required by item 3 and not specifically available by referencing 40 CFR 136 includes

sampling location maps for all monitoring required by the permit, sampling and analysis training records for staff (how and when staff are being trained to collect, prepare, and analyze samples so that accurate data can be obtained), outside laboratory information such as for Manchester Lab if they were to conduct TPH-Gx and TPH-Dx analyses on behalf of the Solo Point laboratory, and so on. The QAP is intended to be a reference for laboratory staff, and demonstrates that adequate consideration of the requirements of 40 CFR 136 has been made. This is not a redundant permit condition.

Comment 27
Section II, F, Quality Assurance Plan (QAP), 3, page 24: Section III, C, Monitoring Procedures, page 27 of the draft permit stipulates monitoring procedures per 40 CFR 136. Accordingly, Item 3 of this Section II, Quality Assurance Plan is redundant and should be deleted.

Response 27
The EPA permits for discharges into waters under the jurisdiction of Washington State must not cause a violation of the State's water quality standards (CWA Section 301(b)(1)(c); 40 CFR Part 122.4(d); 40 CFR Part 122.44(d)(1)). These standards include the Sediment Management Standards (SMS), which were promulgated in part under the authority of Washington's Water Pollution Control Act (Chapter 90.48 RCW). For sediment in marine environments, the SMS include numeric criteria for 47 chemicals or chemical groups and narrative criteria for chemicals not on the list. Puget Sound is a compromised receiving environment with known sediment impacts, and the 1995 Baseline Sediment Monitoring Report for Fort Lewis indicated the presence of phthalates in several sediment samples taken in the vicinity of the outfall.

The 1995 sediment monitoring event involved 14 monitoring sites near the main outfall and 1 site at a reference location in Carr Inlet. Chemical analysis and biological tests were performed on sediment samples from the top two centimeters of sediment. The chemical concentrations met the Sediment Management Standards criteria for all SMS chemicals except bis(2-ethylhexyl)phthalate. Fourteen of the fifteen samples had concentrations above the criteria, including the sample from the reference site. However, both chemical analysis *and* biological effects tests are used to evaluate compliance with sediment standards. All fifteen samples passed three biological tests and were therefore seen as having met applicable Sediment Management Standards. Because the results of biological effects tests can override preliminary chemical concentration results, EPA reconsidered the inclusion of sediments monitoring in this permit and **subsequently removed the requirement from the permit.** Ecology did not object to this action.

Comment 28
Section II, G, Marine Sediment Monitoring, 1, page 24: submittal of a Sediment Sampling and Analysis plan for Ecology review and approval is not appropriate for an EPA-regulated permit. Please revise the sediment monitoring requirement to incorporate federal regulations and guidance.

Response 28
Sediment Sampling and Analysis Plans (SAP) must be reviewed for consistency with sediment monitoring plans for other areas of Puget Sound where sediments are impacted by a discharge. EPA does not currently have sediments staff in place to perform this sort of review. However, as explained in the response to comment 27 above, **this condition will be removed** in light of EPA's decision to remove the sediment monitoring requirement.

Comment 29
Section II, G, Marine Sediment Monitoring, 2, page 24: the Schedule of Submissions on page 2 of the draft permit stipulates that a sediment sampling and analysis plan is required within 180 days of the permit's effective date and that the actual analysis is to be completed within 180 days of submittal of the plan. Please revise this section to match the Schedule of Submissions.

Response 29
In light of EPA's decision to remove the sediments monitoring requirement, references to sediments monitoring in the Schedule of Submissions will be removed. See response to comments 27 and 28 above.

Comment 30
Section II, H, Operation and Maintenance Plan, page 25: As this is a new requirement please extend the stipulated completion date for the Operations and Maintenance Plan update to 1 year.

Response 30
The completion date will be extended as requested.

Comment 31
Section II, J, Feasibility Study and Engineering Report, page 25: Please delete this requirement from the permit. Completion of a Feasibility Study is a component of installation management and not an appropriate requirement of an NPDES permit. Notice to EPA of any proposed changes to the WWTP will be provided via the provisions of the draft permit Section IV, Compliance Responsibilities, J, Planned Changes.

Response 31
This provision was a condition of the State's 401 Certification. As such, pursuant to CWA Section 401(d), EPA is required to include the condition in the permit.

EPA also believes it prudent to include this permit condition for several reasons beyond the fact of it being a requirement for 401 certification from Ecology. These reasons include the BOD5 loading limitations described in the factsheet (BOD5 loading arguably already exceeds 85% of the facility planning value), recent scientific evidence of the connection between Solo Point nutrient loading and dissolved oxygen impacts in South Puget Sound, the Army's plans to grow the population base at Fort Lewis (as discussed in the DEIS with concerns being raised by the City of Lakewood), the presence of aging equipment at the treatment plant, and so on. EPA also disagrees with the general statement that this permit condition is not an appropriate requirement of an NPDES permit. Facility planning requirements are a standard part of EPA Region 10 permits issued in the State of Washington. The standard permit language requires the development of a facility plan and schedule within one year from the date of the first exceedence of 85% of the facility planning values ("planning values" include annual average data for flow, BOD5 loading, and TSS loading). Furthermore, EPA is aware that Fort Lewis has already begun work on a feasibility study that evaluates treatment options for Solo Point (including potential expansion or modification of the plant or rerouting flows for treatment elsewhere). EPA believes that the permit condition in question is an important step forward in this planning process that has already begun.

Note that the "Engineering Report" required by the permit should take the form of a "facility plan" in accordance with the guidelines set by 40 CFR 35.917-1 (Content of Facilities Plan). **The permit will be updated to note this section as a reference.**

Comment 32
Section II, K, Emergency Response and Public Notification Plan, 2, page 26: written notification to Ecology is inappropriate for an EPA-regulated permit.

Response 32
The Emergency Reponse and Public Notification Plan is a recently-added EPA Region 10 permit condition. The requirement to provide additional notification to a State or Tribal agency under this condition comes from the EPA Region 10 permit template language. While EPA does not agree that state notification is inappropriate, **reference to Ecology will be removed from this condition.**

Comment 33
Section III, B, Reporting of Monitoring Results: page 27: the second sentence of this section stipulates that DMR's must be postmarked by the 10th day of the following month. The Schedule of Submissions on Page 2 stipulates that the DMR's must be postmarked by the 15th day of the following month. Given that EPA is mandating daily sampling of effluent, please revise the permit to stipulate that DMR's must be postmarked by the 15th day of the following month.

Response 33
Permit will be revised to stipulate postmarking by the 15th day of the following month.

Comment 34
Section III, B, Reporting of Monitoring Results: submittal of monthly monitoring results to Ecology is not appropriate for an EPA-issued permit. If Ecology wishes to request this information they may do so; however, stipulation submission of results to Ecology in the permit is not appropriate.

Response 34
This EPA permit language is not unique to Fort Lewis. For example, the current Puget Sound Naval Shipyard permit (which became effective in April 1994) requires that copies of DMRs submitted to EPA are also sent to Ecology. In spite of the precedent for this requirement of federal facilities**, EPA agrees to remove this reference to copying Ecology directly on DMR data.**

Comment 35
Section III, F, Retention of Records, page 28: the reference to Ecology in the last sentence of this section is not appropriate for an EPA-regulated permit. Time frames for records retention should be stipulated by EPA.

Response 35
The reference to Ecology will be removed from the final sentence of this section.

Comment 36
Section III, J, Notice of New Introduction of Toxic Pollutants, page 30: there is no Ecology Director of Water and Watersheds. Please remove reference to Ecology from this sentence.

Response 36
While the sentence includes the conjunction "and", it was not meant to imply that a Director of the Office of Water and Watersheds also resides at Ecology. There is some regulatory overlap between federal water quality and state hazardous waste programs when it comes to changes in the character of pollutants introduced to a treatment plant that discharges to state waters. For example, the absence of pretreatment puts Fort Lewis at risk for a violation of Washington State Dangerous Waste Regulations and the Federal Facility Compliance Act of 1992 should a discharge to the FOTW of constituents other than sewage occur. EPA believes it is important to keep this section unchanged given its relevance to the authorized Washington State RCRA program which maintains an interest in the nature of pollutants potentially being discharged to Puget Sound. Note also that there is precedent for requiring a federal facility to notify the environmental regulatory agency in the state in which they reside about the introduction of new toxics.

Comment 37
Section IV, J, Planned Changes, page 34: delete reference to Ecology in first sentence.

Response 37
Because the State of Washington has a direct stake in Fort Lewis operations through state hazardous waste regulations (as they relate to the pretreatment program) and the state biosolids program, EPA believes it is important to keep this section unchanged. If a permittee intends to modify a treatment facility such that the quantity and/or quality of wastewater and/or biosolids would be impacted, it is more than a common courtesy to notify the state environmental regulatory agency of the planned change. Note that referencing a state agency in this permit condition is not unique to Fort Lewis as a federal facility (Fort Lewis is not being singled out).

Comment 38
Section IV, K, Anticipated Non-Compliance, page 35: delete reference to Ecology in first sentence.

Response 38
The EPA believes that it is prudent to notify the state environmental regulatory agency when impacts to water quality may result from an anticipated non-compliance. EPA and the State of Washington share responsibilities for the protection of Puget Sound. This requirement is not unique to the Fort Lewis permit. Other federal facilities in Washington have a similar permit condition requiring basic notification of such events to the state environmental regulatory agency.

Comment 39
Section V, C, Duty to Provide Information: delete reference to Ecology in this section. Modifying, revoking, reissuing or terminating this permit is the role of EPA, not Ecology.

Response 39
The Duty to Provide Information section is not intended to cede authority for modifying, revoking, reissuing or terminating this permit to the State of Washington. The purpose of this condition in the permit is to note that the permittee must furnish to EPA or Ecology, upon request, copies of records required to be kept by this permit and to do so in a timely manner. **However, EPA will remove some of the references to Ecology to avoid confusion on this point.**

Comment 40
Section V, E, Signatory Requirements, page 35: delete references to Ecology.

Response 40
The references to Ecology will be removed from this section.

Comment 41
Section V, L, Reopener: this section is confusing. The EPA has previously stated that this permit will not regulate sludge – however this section refers to sludge use and disposal under the permit. Please clarify.

Response 41
The section comes from 40 CFR 122.44(c) and was added to the standard permit template to point out to permittees that NDPES permits can be reopened and modified to address sludge problems. See also the response to comment 9 above for more regarding the use of sludge language in this permit.

Comments Received from Alliance for Clean Water

Comment 1
Reduce TPH limit to 1 ppm (1 mg/L) from 10 mg/L on basis that 1ppm is the mandatory clean-up level under CWA/WDOE and require composite sampling methods.

Response 1
The introduction of a numerical concentration limit in the draft permit is stricter than the previous narrative limit, which merely prohibited a sheen. Tracing the origin of a sheen dispersed on the receiving water is difficult to do with absolute certainty. A numerical limit provides compliance inspectors with a straightforward quantitative measure upon which to base any enforcement action. The basis for recommending a TPH limit of 10 mg/L is given above in the response to comment #5 by Fort Lewis. The TPH limit will be reevaluated during the next permit cycle using TPH data collected as required by this permit to determine if a more stringent limit is appropriate.

Observed concentrations from composite sampling may be lower than actual concentrations due to the volatilization of lighter fractions of total TPH over time during the sample collection. Grab samples, when taken correctly; prevent this systematic loss of sample. Consequently the sampling method required by the permit remains unchanged.

Comment 2
C2. Require frequent testing for ANY and ALL possible pollutants utilized or possibly within the WWTP service area.

Response 2

EPA believes that the permit's monitoring regime is sufficient and that testing for "any and all" possible pollutants is not necessary or reasonable.

EPA requires that wastewater effluent is fully characterized and that this data is disclosed with the permit application. Doing so and obtaining a resulting permit "shields" the facility with regard to the pollutants resulting from facility processes, waste streams and operations that have been clearly identified in the permit application process. Comment #C3 below further clarifies the "shield" aspect of permit coverage. Inadequate effluent characterization or incomplete reporting of pollutants in a permit application is understood to leave a permittee vulnerable to enforcement action. Using effluent

monitoring data provided with the permit application, EPA identified pollutants of concern and included effluent limits in the new permit where the results of reasonable potential calculations indicated they were necessary.

As a candidate for a new pretreatment program, Fort Lewis also underwent an assessment beyond that usually required of permit applicants. This evaluation occurred as part of the development of its local limits, a process that included canvassing all industrial sources within the collection area (including McCord AFB) to obtain a representative list of pollutants that the Solo Point treatment plant could expect to see under normal operations at Fort Lewis. This list of pollutants helped form the basis of the pretreatment monitoring requirements in the permit. In other words, due diligence was performed by Fort Lewis and their consultants to identify pollutants of particular concern to the Solo Point FOTW.

Furthermore, full priority pollutant scans are required during every permit cycle. These scans help EPA identify any new contaminants of concern that may need an effluent limit in the next permit cycle.

Whole effluent toxicity scans are also required during every permit cycle to evaluate the discharge for its aggregate toxic effect on sensitive species in the receiving water.

For these reasons, EPA believes that the permit as written adequately addresses pollutants present in the Solo Point discharge.

Comment 3

Note that any substance not listed with a clear limit in the permit is not allowed to be found at any level in the sludge or effluent of the Solo Point WWTP finding such substances will be deemed a violation of the NPDES permit.

Response 3

On July 1, 1994 EPA issued a memorandum entitled "Policy Statement on Scope of Discharge Authorization and Shield Associated with NPDES Permits." What follows is an excerpt from the memo that addresses this comment.

> *A permit provides authorization and therefore a shield for the following pollutants resulting from facility processes, waste streams and operations that have been clearly identified in the permit application process when discharged from specified outfalls:*
>
> *1) Pollutants specifically limited in the permit or pollutants which the permit, fact sheet, or administrated record explicitly identify as controlled through indicator parameters. Of course, authorization is only provided to discharge such pollutants within the limits and subject to the conditions set forth in the permit;*
>
> *2) Pollutants for which the permit authority has not established limits or other permit conditions, but which are specifically identified as present in facility discharges during the permit application process; and*
>
> *3) Pollutants not identified as present but which are constitutes of waste streams, operations or processes that were clearly identified during the permit application process. The permit, of course, may explicitly prohibit or limit the scope of such discharges.*
>
> *…Notwithstanding any pollutants that may be authorized pursuant to subparts 1 and 2 above, an NPDES permit does not authorize the discharge of any pollutants associated with waste streams,*

operations, or processes which existed at the time of the permit application and which were not clearly identified during the application process.

Comment 4
Require regular testing of all influent, sludge, and effluent from the WWTP for [suggests spectrum of parameters and sampling protocol].

Response 4
Ongoing pretreatment monitoring of influent, effluent, and sludge is required in the permit for parameters confirmed present following priority pollutant effluent scans, as well as TPH and other parameters of particular interest. The ongoing pretreatment sampling frequencies were approved by the EPA Region 10 pretreatment coordinator. The sampling frequencies also happen to be consistent with recommendations contained in Ecology's July 2006 Permit Writer's Manual (Publication Number 92-109) for trickling filter plants with > 2.0 MGD average design flow. EPA believes that the proposed permit includes sufficient testing requirements.

Comment 5
Require that a qualified, independent contractor perform the requested testing.

Response 5
Fort Lewis is required to follow EPA-approved analytical methods, to maintain an up-to-date Quality Assurance Plan covering all sampling procedures required by the permit, and to report their results in DMRs that are signed under penalty of law as being accurate and representative. Periodic compliance inspections also provide an opportunity for split sampling to evaluate the performance of the Solo Point lab against that of an outside lab. EPA is not requiring that an independent laboratory conduct analysis on behalf of Fort Lewis at this time.

Fort Lewis is encouraged to obtain accreditation through the Region 10 environmental laboratory, Manchester Lab. This program sets the standard for environmental laboratories in Region 10 that seek to provide consistently accurate and defensible analytical data.

Comment 6
Make the results of testing available for public review via the EPA website.

Response 6
Test results taken as required by this permit will continue to be public information freely accessible via FOIA request or online via the Envirofacts PCS database**. Similarly, sample results from compliance inspections are available via FOIA request.
**http://oaspub.epa.gov/enviro/pcs_det_reports.detail_report?npdesid=WA0021954

Comment 7
Note that refusal to mandate ongoing TPH testing is a violation of the Clean Water Act which has a zero-tolerance level for allowable discharge of oil.

Response 7
In fact, the permit does require ongoing TPH testing. Monthly monitoring for the first year and quarterly thereafter. It is true that the Clean Water Act prohibits the discharge of oil (CWA Section 311); however the CWA does not mandate testing frequencies. EPA believes that the proposed testing

protocol is adequate in conjunction with periodic compliance inspections. By far the most important mechanism for addressing TPH in Fort Lewis wastewater will be the new pretreatment program included in the permit. This permit will establish permanent, ongoing TPH monitoring at Fort Lewis as part of the pretreatment program.

Comment 8
Note that the details of the historical TPH contamination of biosolids should be provided in the fact sheet.

Response 8
The 2006 biosolids contamination incident is discussed in the fact sheet as a contributing factor leading to a Memorandum of Understanding between Fort Lewis and Ecology. This background is provided to explain the introduction of the pretreatment program proposed in this permit. It is not within the scope of the fact sheet to extensively detail the 2006 incident beyond what is necessary to justify the requirements of the permit.

Comment 9
Note that the failure of the fact sheet to disclose historic and on-going releases of dangerous/hazardous wastes in to Puget Sound accounts for the draft permit's "negligible testing requirements and lack of oversight".

Response 9
It is not within the scope of the fact sheet to detail historical releases beyond what is necessary to justify the requirements of this permit. EPA is familiar with the account of historical JP-8 release discussed in the comments from the Alliance for Clean Water, and believes that the draft permit responds adequately via expanded monitoring requirements, a new TPH limit, a new pretreatment program, and several additional new permit requirements intended to improve and protect water quality in Puget Sound. That said, if there is specific information about illegal activities occurring at Fort Lewis (when, where, who, and so on) that threaten water quality, please contact EPA's Office of Compliance and Enforcement.

Comment 10
Suggest that EPA delegate permitting authority for Fort Lewis to the Department of Ecology.

Response 10
Currently the State of Washington does not have the NPDES authority for federal facilities. Until the State seeks and is granted that authority, the EPA will be the permitting authority.

Comments Received From Individual Citizen

Comment 1
Why the delay between the permit expiration and new draft being issued?

Response 1
The delay is due to permit complexity, EPA workload, and a lengthy review process required by Section 7 of the Endangered Species Act of 1973.

More specifically on the last point, as a federally-issued permit, this NPDES permit for Solo Point necessitates an accompanying Biological Evaluation (BE) or Biological Assessment (BA) to evaluate

the potential for the discharge to impact threatened or endangered species and critical habitat in the receiving water. In addition to a new permit and factsheet, a BE was prepared for Solo Point. Among the conclusions in the BE, EPA determined that the Solo Point discharge was not likely to negatively impact bull trout in the receiving water. In June 2009, the BE was submitted to the US Fish and Wildlife Service and NOAA Fisheries for review. In January 2010, USFWS indicated that it sought to enter formal consultation over the BE with EPA. Formal consultation is a lengthier process of Section 7 review which is triggered when there is a non-concurrence by either USFWS or NOAA Fisheries on the effects determinations of a BE. The reviewers at USFWS disagreed with the effects determination for bull trout due to a concern over a spatial overlap of the chronic mixing zone with critical habitat for the fish. Later in January 2010, NOAA Fisheries also made it known that they required more information in order to concur with the findings of the BE. At the time of responding to these public comments, EPA has received a Biological Opinion (BO) from USFWS concluding the period of formal consultation for the BE with their agency. In response to NOAA's request for additional information, EPA prepared a BE Addendum and is currently awaiting NOAA's response.

In addition to the lengthy Section 7 process, this permit reissuance is more complex than issuances have been in the past for reasons including the introduction of a new pretreatment program at Fort Lewis, which entails a review of more submittals than is typical. These submittals included a local limits study, significant industrial user survey, enforcement response plan, interlocal agreement, demonstration of authority to implement the pretreatment program, pretreatment procedures, and so on.

Comment 2
Parameters of the permit, i.e. flow inf/eff and pH, should be continuously graphed and recorded on charts and exceptions to the permit noted on the DMR.

Response 2
This recommendation may be prudent from an operational standpoint, but it is not something typically required in an NPDES permit. EPA believes that the monitoring schedules as stated in the permit are adequate. Regarding excessive flows, EPA must be notified in the event of an anticipated or unanticipated bypass. Failure to do so is a violation of the permit.

Comment 3
"@ above example: Plant Design 7.6 mgd with a 10 mgd peak or sustained flow the design flow is exceeded and the treatment is reduced as to how long the duration of flow lasts at flows above the design 7.6 mgd flow rate."

Response 3
Refer to comment C2 above. Also note that bypass language is already included in the permit, including text in sections III.I. Public Notification, III.G. Twenty-four Hour Notice of Noncompliance Reporting, and IV.G. Bypass of Treatment Facilities. These permit conditions are included to address the kinds of problems alluded to in this comment.

Comment 4
High rate flows exceeding the design of the plant should be noted on the DMR with notice of durations.

Response 4
The permit does not regulate flows. However, the permit includes conditions related to the bypass of flow (the intentional diversion of waste streams from any portion of the treatment facility) including

several requirements related to the reporting and sampling of such flows (see IV.G. Bypass of Treatment Facilities; and II.J. Emergency Response and Public Notification Plan; and III.A. Representative Sampling (Routine and Non-Routine Discharges); and III.G. Twenty-four Hour Notice of Noncompliance Reporting; and III.I. Public Notification).

Comment 5
"Suspect sampling S.O.P.s by certified Operators need to be spelled out by EPA and or Ecology – this would include pH's – oily traces (TPH) and be noted on the monthly DMR."

Response 5
As noted in permit condition III.C. Monitoring Procedures, monitoring procedures must be consistent with the requirements of 40 CFR 136. As noted in permit condition II.F. Quality Assurance Plan, a QAP must be developed that will cover the standard procedures for all monitoring required by this permit. The QAP must be made available to compliance inspectors upon request, and can be audited at any time by EPA to ensure that the provisions in the QAP are adequate and consistent with applicable regulations and standard practices.

Comment 6
Discharge to the State receiving water should be the primacy of Ecology. If not, why not? Receiving water sampling procedures are vague.

Response 6
Because Solo Point discharges to the Puget Sound, EPA evaluates the discharge for compliance with the State of Washington's water quality standards. Furthermore, because of the discharge location Ecology is the 401 certification authority for this permit. The 401 certification process gives the State a significant voice in the development of this permit. However, Fort Lewis is also a federal facility. Washington State does not have NPDES authorization for federal facilities; consequently it is EPA's responsibility to implement the Clean Water Act through the NPDES program. The receiving water sampling procedures may be considered vague because the permit was not the intended forum for working through the details of an ambient monitoring program. That task was instead left to be spelled out in a separate plan (see response to comment 24 above).

Comment 7
TPH sampling of effluent as well as influent sources should be taken as an aliquot from the 24-hr composite samples. Weekly samples for TPH should be taken until a reasonable baseline is established – grab samples are not representative samples of this plant with suspect oil/diesel noted in the system.

Response 7
According to Manchester Laboratory scientists, TPH sampling should be done using the grab sampling method. This eliminates the systematic loss of volatile fractions of petroleum product that would occur within the headspace of a 24-hr composite container. Furthermore, composite sampling would provide too much opportunity for the loss of some heavier, non-volatile fractions as they adhere to the sampler tubing and side walls.

The introduction of a successful pretreatment program is the best tool available for preventing a repeat of the fuel discharges of recent years. However EPA is adding conditional monitoring frequency language to the permit for TPH (see response to Fort Lewis comment #5 above).

Comment 8
Sludge samples must be taken and correspond with routine 24-hour composite samples with approximately 30 day detention time in digester for TPH.

Response 8
Agreed. Note that this comment is addressed at a number of points in the permit including: a.) footnote "g" at the end of Table 1: Effluent Limitations and Monitoring Requirements, b.) Section I.B.9.f. Sludge Sampling and Reporting, and c.) Section II.C. Sewage Sludge Management.

Comment 9
All sludge leaving the S.T.P. must be sampled by plant certified operators and be recorded on the DMR for TPH (% polymer?; heavy metals) with "chain of custody" requirement for ultimate disposal ramifications clearly illustrated.

Response 9
Chains of custody and other sample handling requirements are stipulated in 40 CFR 503 regulations and are legally binding on a sludge-producing facility even in the absence of a permit.

Comment 10
In house sampling protocol and S.O.P.s for sampling; complete with chain of custody requirements need to be submitted to EPA and DOE.

Response 10
Refer to response to comment C5 above.

Comment 11
Responsible operator in charge needs to sign or initial the DMR for all permit parameters including extraneous or suspect samplings.

Response 11
Per permit condition I.B. Reporting of Monitoring Results, "The permittee must sign and certify all DMRs, and all other reports, in accordance with the requirements of Part V.E. of this permit ("Signatory Requirements"). The permittee must submit the legible originals of these documents to the Director, Office of Compliance and Enforcement". Part V.E. of the permit goes on to state that all reports required of a federal agency by its permit (of which DMRs are one type) must be signed by a principal executive officer or ranking elected official or a duly authorized representative of the same. The permit continues by specifying what constitutes a "duly authorized representative" including that such an individual must have "responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager… superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company".

Comment 12
"Source Point Sampling @ discharge to State receiving waters needs to be: at above below the diffuser also at high tide slack tide and lo tide with water column parameters that are pertinent to this point. Bottom sediment/dredge samples need to be taken and submission of all these and protocols duly noted on the monthly DMR."

Response 12
Refer to response to comment C6 above. Note also that a sediment sampling and analysis plan would have been required prior to sediments monitoring, however, EPA has concluded that further sediment monitoring at Fort Lewis will not be required in this permit cycle following a further review of historical sediment bioassay results.

Comment 13
Since no sampling of this source point has been done, a reasonable suggestion would be to require this be done within 30 days of permit issuance and again within 6 months or seasonal requirements for the first 2-yr period.

Response 13
See response to C12 above.

Comment 14
This Comment has been paraphrased. The change in dewatering method (i.e. the introduction of a belt filter press) constitutes introduction of a "new waste stream". Comment proceeds to recommend specific modifications to the solids sampling protocol.

Response 14
EPA does not believe that the change in dewatering method is sufficient to cause a redefinition of this wastestream. However, EPA concurs that the new treatment technology necessitates the use of a new sampling protocol to ensure that sludge sampling is representative. Furthermore, Fort Lewis is required by this permit to provide EPA with details about the new sampling process on an updated Form 2S within six months of the permit effective date. Form 2S is the Application for Coverage required by permit condition II.C. Sewage Sludge Management. The current biosolids application on file at EPA Region 10 describes the old method of drying sludge and no longer reflects biosolids management practices at Fort Lewis.

Comment recommends a number of additional parameters for sludge monitoring, including pH and percent polymer.

Some parameters, such as pH and percent polymer, are process-related and are needed by the facility to support proper operations. Other parameters, such as TPH and those required by the pretreatment program, are needed by EPA to establish compliance with applicable water quality standards and to inform the development of effluent limits for future permits, if necessary. The final permit will continue to make that distinction.

Comment goes on to indicate a 50% reduction in drying bed capacity from original bed capacity.

40 CFR 503 regulations provide the basis for requiring sufficient sludge holding capabilities to provide a 90-day storage contingency in the event that the primary sludge management method fails (40 CFR 503.5(a)).

The Permit will clarify for Fort Lewis that the condition II.C. Sewage Sludge Management requirement for an update of their most recent sludge application submitted to EPA (and dated June 16, 2006) can be met one of three ways:

1.) By submitting an updated version of Ecology's Application for Coverage Under the Statewide General Permit for Biosolids Management, which has been accepted at EPA Region 10 in lieu of Form 2S as a matter of practice;
2.) By providing completing Form 2S; or
3.) By submitting a letter that includes at least the following information:
    a. A process flow diagram illustrating the new dewatering process and demonstrating that no mixing occurs before distribution of the finished biosolids content;
    b. Representative sludge sampling points; and
    c. An updated 90-day contingency plan taking account changes in biosolids storage capacity (drying beds).

Comment states that grease detritus has been stored in and mixed with sludge, causing a spontaneous combustion event.

Mixing classified biosolids (such as Class A sludge) with other material post-treatment requires the reclassification of the biosolids mixture and may jeopardize the previous classification (40 CFR 503.10(g)).

The biosolids permit application required by II.C. Sewage Sludge Management must include a sketch indicating the solids waste cycles (40 CFR 122.21(q)(6)).

Spontaneous combustibility would bring such sludge into the category of a hazardous waste, with the associated regulatory framework (40 CFR Part 503.4; 40 CFR Part 261.21(a)(2)).

Comment 15
Permit is correct in stating State Certification is now required for process operators. This requirement should be mandatory for the "Responsible Operator in Charge" of this facility as well.

Response 15
The permit condition in question, Proper Operation and Maintenance, does make certification mandatory for the operator in charge of the facility.

Comment Received from the City of Lakewood

Comment 1
The City of Lakewood expressed interest in the draft NPDES permit as it relates to a broader pattern of physical development for Fort Lewis. In particular, Lakewood representatives noted that population information prepared by the Fort as part of the Draft Environmental Impact Statement (DEIS) for the Fort Lewis Army Growth and Force Structure Realignment does not appear to correspond with population information provided to EPA as part of the NPDES permit application (Form 2A).

Response 1
Because the population information included in Form 2A has been called into question, **EPA has decided to remove the population reference in the factsheet** to avoid creating confusion in the public record. The EPA relies on the accuracy of information provided in Form 2A, and defers to the Army in the matter of accurately accounting for the population associated with Fort Lewis.

In general, discharge limitations are based on several variables including design flow, current effluent concentrations, and available dilution. The effluent limits themselves do not directly incorporate estimates of future population growth. However, if it is known that a significant increase in influent loading is imminent and that it would push a facility close to its design capacity (e.g., hydraulic capacity or BOD5 capacity), EPA might increase pressure on the facility to expand or upgrade existing facilities to prepare for the growing needs of its service area.

The existing BOD5 loading limitations at Solo Point, which were discussed in prior comments, contributed to EPA's decision to include a permit condition that would lay the groundwork for an upgrade to or replacement of the current treatment plant. This permit condition is Section II. I. Feasibility Study and Engineering Report. The preparation of these documents is also an important step in planning for the increase in troop levels (as detailed in the DEIS) and the anticipated increase in demand for wastewater treatment services.

NOAA National Marine Fisheries (Additions to Permit Resulting from ESA Formal Consultation)

The U.S. Fish and Wildlife Service issued a Biological Opinion regarding this permitting action on March 4, 2010. The National Oceanic and Atmospheric Administration's (NOAA) National Marine Fisheries Service issued a Biological Opinion regarding this permitting action on January 30, 2012. Terms and Conditions from the NOAA BioOp resulted in the addition of the following items to the permit:

1. Added PBDE monitoring and reporting requirements; and
2. Added habitat survey/report requirements.