

## APPENDIX D--RESPONSE TO COMMENTS

Public notice for issuance of the Shell NPDES Permit was published on September 14, 2007. Comments were received from RE Sources for Sustainable Communities, the Puget Soundkeeper Alliance, the Swinomish Tribe, the People for Puget Sound, and Shell.

Changes will be made to the permit, where appropriate, to improve clarity and address the comments. Changes made are discussed in this response to comments.

A copy of this response to comments is being sent to each individual who provided written comment. It includes Ecology's responses to written comments received. The original comment letters are available for public review at Ecology's office in Lacey.

### **Comments from RE Sources:**

#### 1. Comment:

*Condition S1A) Feedstock rate and effluent limits*

*The effluent limits are predicated on the anticipated throughput of 145,000 bbls/day. If this number should decrease by a significant percentage, such as by 10% or more, the effluent limits should also decrease. Please instate a mechanism by which the permit would be modified to reflect this possibility.*

Response: Tesoro was the first refinery permit to be issued during the 1998 cycle. It included production tiers. Following the issuance of that permit Ecology reviewed federal guidance and determined that we would no longer include tiers for production changes during the permit term unless production changed by at least 40%. No production tiers for production changes were included for subsequent refinery permits issued. We did include a tier for the BP (then Arco) NPDES permit for a decreased amount of production but only for the special circumstances related to the short-term decommissioned product pipeline. Ecology does not believe tiers for decreased production are necessary. Those circumstances are unlikely to happen and if they do occur for an extended amount of time, Ecology will respond by modifying the permit.

#### 2. Comment:

*Condition S1A) Hexavalent chromium limit.*

*As stated in the fact sheet, the hexavalent chromium limit is technologically based and is more stringent than the water quality based limit. This is true, however, at 3 MGD, the low end of normal flows. In fact, at the high end of normal flows, 7 MGD, it appears the limit of 50 ug/L of hexavalent chromium would translate into 2.9 lbs/day, a concentration greater than the federal effluent guideline of 1.71 lbs/day. As well, this value could be even higher in higher flow solutions as often encountered during the rainy season. In order to ensure that hexavalent chromium does not exceed the federal guidelines, please also institute a mass based limit equivalent to 50 ug/L (1.25 lbs/day).*

Response: Agreed. The federal guideline mass limit of 1.71 lbs/day has been added to the permit.

3. Comment:

*Condition SIC) Inconsistency between dry weather flow and stormwater calculation. Note that the calculation of dry weather flow resulted in a value of 3.5 MGD, and that calculations were made by excluding data “where rain fell within three and five days”. A number of inconsistencies and unanswered questions surround the method and value for the dry weather flow.*

- a. Was data excluded when it was within 3 days or 5 days of rainfall?*
- b. Please confirm. Was data for the dry weather calculation only excluded if the rainfall that occurred happened in the period preceded the data collection point?*
- c. Why is data excluded for a dry rainfall calculation when it is within 3 and 5 days, yet a stormwater allocation is allowed during the summer months if rain has fallen within the preceding ten days? These numbers should be the same.*
- d. The range of normal flows is given as 3-7 MGD (page 5, FS) and 3 MGD is the value used in the hexavalent chromium calculation (page 12, FS), yet the calculated dry weather flow is 3.5 MGD. Please explain or remedy the discrepancy.*
- e. What effect does throughput have on the dry weather flow calculation?*
- f. Should the dry weather flow in the current permit be less than what was calculated based on previous data because the amount of throughput is expected to decrease? If so, please remedy.*

Response: Dry weather flow is determined from average monthly flows thru the treatment system when no rain occurs (July, August, and September). Flows above this during rain events are considered stormwater flow. Ecology believes that 3.5 MGD is a good estimate based on the data reviewed. Also, this is most stringent. It must be understood that stormwater discharge quantities are determined by measuring the total discharge out the outfall and subtracting the dry weather flow. Thus greater dry weather flows equate to lower stormwater allocations. Ecology has actually tightened the federal standards for stormwater generally given to oil refineries nationwide by only allowing an allocation to be used when it has actually rained on site. Ecology believes that this better reflects the intent of the stormwater allocation. Dry weather flow in the current permit is the same as was calculated in the previous permit because the throughput decrease is negligible. Extremely decreased throughputs may result in lowered dry weather flows.

4. Comment:

*Condition SID) Emergency Overflow Monitoring  
Sampling is required only once per event, yet an event is not defined. An event could last from 2 hours to 48 hours, or more! Sampling should occur at least once every 24 hours, should an event last longer than 24 hours.*

Response: These events are extremely rare and event durations over 24 hours would be highly unlikely. Should an extreme event take place over longer durations, additional sampling could be required by an administrative order.

5. Comment:

*Condition S1E3) Stormwater monitoring*

*Monitoring is only required annually. This is much too infrequent. Monitoring should be at least quarterly, as is the case with the industrial stormwater general permit.*

*In addition, stormwater monitoring is only required from Outfalls 2, 3, 5, and 6, which are stated to have industrial activity. The location of storage tanks, however, is not clear. Please clarify. The fact sheet (page 12) states that stormwater from the “tank farms” discharge to the clean water system. The permit, however, states that storage tank wastewater from oil, product and intermediate distillate storage tanks must be performed in a manner as to prevent wastewater from reaching the ground (page 31). If the tank farms contain these same storage tanks wherein wastewater must be drained, this area is clearly home to an industrial activity. Please ensure that stormwater from the storage tank area, where wastewater is drained, is monitored quarterly.*

Response: Recent sampling data from outfalls 2, 3, 5, and 6 indicate very low pollutant loads, and these outfalls drain areas that are near marginal industrial activities that historically do not release pollutants to the ground. Additionally, should monitoring indicate the presence of pollutants above the benchmark increased monitoring can be ordered. All stormwater from storage tanks is routed through the waste water treatment plant before discharge.

6. Comment:

*Condition S1E3 and E4) Monitoring and Response to Monitoring*

*The regime elucidated in the permit for stormwater pollutants that exceed benchmark values is thorough and should lead to decreased pollutant loads. According to the fact sheet, however, exceedances at Outfall 3 and 6 have already been observed for COD; likewise exceedances at Outfall 2/5 has been documented for TSS. For this reason, it is imperative to resample at these sites to determine whether these exceedances are continuing at the present time, so that efforts may be taken to correct them. Please institute quarterly sampling for Outfalls 2/5, 3 and 6 since annual sampling is not sufficient, especially when there are potential exceedances.*

Response: The source of TSS at outfall 2/5 was a gravel construction parking lot. This source was removed by paving the area. Further monitoring from 2002 to 2006 has confirmed greatly reduced TSS. Recent monitoring for COD at outfalls 3 and 6 also indicates great reductions in COD.

7. Comment:

*Condition S2A) Monitoring*

*Stormwater monitoring is missing from the monitoring schedule; at a minimum, it should be incorporated by reference as is the case with acute and chronic monitoring, etc.*

Response: Agreed. Stormwater monitoring has been added to the monitoring schedule.

8. Comment:

*Condition S3A) Reporting*

*It is not clear how and when the facility reports stormwater sampling. Is it part of the monthly discharge monitoring report? Reporting of stormwater sampling results is also not included in the "Summary of permit report submittals" (Page 5, Permit).*

Response: The completed sampling report must be submitted with the following monthly discharge report. This has been added to the submittal table.

9. Comment:

*Condition S6C) Flow Measurement*

*Please clarify that the goal of the flow measurement engineering study is to ensure that process water, recycle streams, and stormwater will be measured separately.*

Response: This study is intended to evaluate the feasibility of directly measuring flow thru treatment and stormwater flow.

10. Comment:

*Herring bioassay*

*There is no mention of the required bioassay in this permit. Please instate language regarding the required bioassay.*

Response: Herring bioassay studies and funding was implemented through an agreed order process by Ecology and several refineries including the Intalco smelter in Ferndale. This will not be a permit requirement. Whole Effluent Toxicity requirements are remained in the permit.

11. Comment:

*Spill Prevention*

*There is no mention of spill prevention training or procedures within this NPDES document. It may be part of the P2 program, but this is not readily apparent. Since Shell has had recent preventable oil spills (Ecology Press Release dated 9-24-07, "Weekend oil spills: Spill at Shell Puget Sound Refinery under investigation; Tulalip Tribe contains marina spill") it is imperative that additional measures, beyond corrosion inspection, be taken by Ecology to ensure that Shell Oil is responsibly managing its facility, pipelines, and transfer operations. Please instate specific training and procedural requirements designed to assist Shell to come into compliance and prevent future oil spills.*

Response: Spill prevention, training, and procedures are administered by Ecology's Spills Program. This is within their area of expertise and the program achieves more details on oil spill prevention than can be covered in an NPDES permit.

## **Comments from Puget Soundkeeper Alliance:**

### 1. Comment:

#### *Purpose of the Clean Water Act and NPDES Permits*

*Section 101 of the Clean Water Act set forth a national goal that the discharge of pollutants into the navigable waterways of the United States be completely eliminated by 1985, and an interim goal toward achieving this overall objective was that all waterways be fishable and swimmable by 1983. While federal and state agencies, industry and public interest organizations recognize that these goals were not met, the Department should remember that those goals have never been repealed, replaced or amended. Specifically, PSA would like to point out that the National Pollutant Discharge Elimination System (NPDES) clearly contains the word "elimination" as consistent with the goals of the Act. Every permit renewal gives the Department the opportunity to look at industrial processes of the applicant's facility, its compliance history, the quality of the water and the beneficial uses, and determine ways in which the Department can require the applicant to reduce or eliminate its pollution through the permitting process. PSA is concerned that instead of working toward these goals, Ecology continues to use the NPDES permitting process to perpetuate the status quo of water quality problems in Washington.*

Response: The goal of the act is elimination of pollutant discharges. Ecology is following EPA's approach to this goal by setting water quality and technically based limitations on discharges that prevent the pollution of receiving waters. Please refer to additional AKART information in the Fact Sheet (pgs. 9-10).

### 2. Comment:

#### *Stormwater Benchmarks*

*The draft permit adopts benchmarks from Ecology's Industrial Stormwater General Permit (ISGP) for several parameters for which effluent limitations have not been set. Among these parameters is copper, which has a benchmark of 63.6 ug/L under the existing ISGP. It is anticipated that the new 2007 Draft ISGP, scheduled to be released this month, will drastically reduce the copper benchmark. This change is proposed in light of new information demonstrating adverse impacts to threatened and endangered fish from very low concentrations of this metal. Ecology should specifically state that changes in the ISGP's benchmarks will trigger a modification of those in Shell Oil Product's permit.*

Response: Agreed. The ISGP benchmark change of 20 µg/L for copper has been updated on page 11 in the permit.

### 3. Comment:

#### *Stormwater Monitoring*

*The permit fact sheet (p.14) indicates that Outfalls 017 – 025 were included for monitoring in previous permits in case of spills from pipelines. Since 2006, Shell has had numerous problems with spills from their oil transfer pipelines and has been under an Ecology administrative order since Feb. 28, 2007. During inspections, Ecology spill prevention*

*engineers found that external pipeline corrosion has weakened portions of the three-mile long oil transfer lines that run between the refinery's tanks and the dock where oil is transferred to and from oil tankers and fuel barges. Because of the recent spill activity, Ecology should require quarterly monitoring of all outfalls with pipelines in the drainage, including Outfalls 004, 014, and 017-025.*

*Condition S1.E requires Shell to conduct stormwater monitoring at Outfalls 002/005, 003, and 006 only on an annual basis. Stormwater data is known to be highly variable and there is inherent uncertainty in its interpretation. It is unlikely that an annual sample would give an accurate assessment of site discharge characteristics. Facilities permitted under the existing ISGP are required to monitor each quarter. Although data from the previous permit indicates that pollutant concentrations in stormwater runoff from the areas drained by the outfalls are lower than some Ecology and EPA stormwater benchmarks, this was not true for TSS and COD, and stormwater was not monitored for zinc in the previous permit (fact sheet, p. 13). PSA suggests that the monitoring points identified in the permit have increased frequency of stormwater monitoring from annually to quarterly for all parameters. At a minimum, the permit should require quarterly stormwater monitoring for TSS, COD, and zinc.*

Response: There have been no recent major spills in the vicinity of outfalls 004, 014, and 017-025. In addition outfalls 016-025 are not under the control of the permittee, and as such are not required to be listed under Shell's permit. The prevention, inspection, and regulation of pipelines and spills to water are addressed through the Spills Program at Ecology, and not through NPDES permitting. Spills Program indicates significant effort and improvements continue to be made with regard to Shell's over water pipelines during and since the 2007 order.

Historic stormwater data from outfalls 002/005, 003, and 006 has been stable and below benchmarks. Past TSS issues at 002 were transient in nature and have been corrected (contractor parking lot improvements). Stormwater monitoring for outfalls 002/005, 003, and 006 will be increased should benchmarks be routinely exceeded. These outfalls are only marginally associated with industrial activity and present only a very small possibility of pollutant discharge. See also response to Comment 5 from RE Sources above.

4. Comment:

*Visual Monitoring*

*Condition S1.E requires Shell to conduct visual monitoring at the time each annual sample is collected. Condition S13.C indicates only two stormwater inspections are required per year: once during the wet season and once during the dry season. This inspection frequency appears inadequate. For example, facilities permitted under the existing ISGP must do visual monitoring at least quarterly. Visual inspections are a simple, inexpensive way to ensure BMPs are properly implemented and effective. Ecology should require visual monitoring at least on a quarterly basis.*

Response: See response to Comment 3 above.

5. Comment:

*Stormwater Pollution Prevention Plan*

*PSA supports the provision making the Ecology-approved stormwater pollution prevention plan (SWPPP) an enforceable component of Shell Oil Products' permit. However, we are somewhat bewildered by the permit's provision for incorporating facility-specific BMPs at a later date (Condition S13). As the permit initially identifies required BMPs, it would seem that replacing or amending these in a later-approved separate document would effect a permit modification without compliance with the public notice and participation provisions of WAC 173-220-290. The permit should indicate that any facility-specific BMPs will be incorporated through a formal permit modification after public notice and opportunity for participation.*

Response: Permits routinely require the submission of reports to be approved by the Department as part of the legally enforceable regulation of dischargers. The submission and approval of these reports are not considered permit modifications.

**Comments from the Swinomish Tribe:**

1. Comment:

*The refinery should be ordered to replace their current "multi-port" outfalls with single, non-bifurcated pipes with one port at the end. When monitoring the outfalls occurs, the monitoring should be done directly at the end of the outfall pipe, not allowing for a mixing zone. Current mixing zone policy encourages extended outfalls with multiple ports or bifurcated pipes to allow for large mixing zones rather than improving treatment technologies and implementing much aggressive source control in order to reduce toxic pollution. People for Puget Sound has studied mixing zones in the Puget Sound and recommend that mixing zones for toxic bioaccumulative chemicals be phased out in the Puget Sound basin in order to eliminate releases of toxic chemicals as a key strategy towards the goal of restoring the health of the Sound by 2020 (PFPS, in preparation).*

Response: Monitoring at the exit of submerged outfalls is not technically feasible due to the hydraulic limitations of under water sampling. Samples of effluent must be obtained prior to discharge in order to capture a pure effluent representation that has not become mixed with receiving water. The permit authorizes an acute and a chronic mixing zone around the point of discharge as allowed by Chapter 173-201A WAC, *Water Quality Standards for Surface Waters of the State of Washington*. The critical discharge condition is often pollutant-specific or water body-specific. Critical conditions are broadly defined in Ecology's Permit Writer's Manual in Table VI-2 on page VI-25 and in Table VII-2 on page VII-12 (available at <http://www.ecy.wa.gov/biblio/92109.html>). You may review the specific dilution modeling information in Ecology's Industrial Section's files located at the office in Lacey. The Department of Ecology reviewed the information about discharge characteristics, receiving water characteristics, and the discharge location. Based on this information, Ecology concludes this discharge has no reasonable potential to cause the loss of sensitive or important habitat, substantially interfere with existing or characteristic uses, result in damage to the ecosystem, or adversely affect public health. The size of the mixing zone (in the form

of the dilution factor) was minimized by the use of design criteria with low probability of occurrence. For example, the reasonable potential analysis used the expected 95<sup>th</sup> percentile pollutant concentration, the 90<sup>th</sup> percentile background concentration, and the centerline dilution factor.

2. Comment:

*Monitoring outfall effluent for toxics should be enacted by an independent, third-party, not the refinery or WADOE. Allowing the refinery to self-monitor for chemicals of concern and report monitoring results has not resulted in objective results, particularly in light of their actions, or rather non-actions toward maintenance and operation of other environmental safeguards such as the marine oil transfer pipelines. These non-actions demonstrate that their priorities are not on environmental protection. We strongly advise requiring third party, independent monitoring under Department of Ecology oversight, paid for by the refinery. As lab analyses are the most expensive part of monitoring and the permit already requires use of independent labs, hiring a consulting firm to collect the samples, and keep a database open to public enquiry, will not substantially increase the costs. The consulting firm should also be responsible for determining the optimal times for sample collection, ensuring collection of samples during the dry season, wet season, and storm events.*

Response: The facility is regularly inspected and sampled by Ecology verifying the facilities sampling results. Additionally, the facility's laboratory undergoes accreditation from Ecology to see that proper procedures are used. For some parameters, third party vendors are used and paid for by the facility.

3. Comment:

*The current permit does not monitor for PAHs, even though oil refineries are known to be major sources of these contaminants and PAHs have been associated with this refinery's outfall area. According to the fact sheet, PAHs were not found above detection limits; however, data from the WADOE, WADNR, other government agencies and the Swinomish Tribe demonstrate bioaccumulation of PAHs in sediment and shellfish in the water and on the tidelands surrounding the March Point refineries (Johnson, Serdat et al. 1997; Johnson 1999; Long, Hameedi et al. 1999; Johnson 2000a; Johnson 2000b; Boettner 2002; Donatuto 2003, SITC 2006). The presence of PAHs is cause for concern, and the source is yet unknown; therefore, we recommend including quarterly, extended list PAH monitoring from the outfalls, enacted by an independent consulting firm. Testing for the extended list of PAHs will help fingerprint some of the contaminants and help determine the source of the contamination, refinery or otherwise.*

Response: Yearly testing for the entire suite of regulated pollutants including PAHs is required in the permit.

4. Comment:

*Dioxin should be monitored once a year, not once a permit cycle. Dioxins/-furans have been detected in the local shellfish (Yake, Singleton et al. 1998; Johnson 1999; Johnson 2000b;*

*SITC 2006), therefore it is a chemical of concern. Although dioxin has not been sourced to the refinery to date – probably due to lack of analysis at low detection limits, it is known that the refinery does emit dioxins. In addition, the refinery should monitor for the suite of dioxins/-furans and not just the one indicator compound.*

Response: The previous permit included a Dioxin Study requirement. The results of this study indicate no consistent, measurable source of dioxin or congeners could be found. The proposed permit requires sampling of the likeliest source streams during the most critical times to detect dioxin and/or its congeners. Dioxin and/or its congeners have not been detected in the effluent discharge.

5. Comment:

*In lieu of employing Washington State water quality criteria, we recommend the use of California's water quality criteria. The Washington State water quality standards have not been updated in many years, long past the required tri-annual review. The California standards are more current, reflecting newer, more accurate data.*

Response: Comment noted and passed on to Ecology's Water Quality Program, Standards Review Section. The State of Washington may only enforce its own water quality standards. These are at least as stringent as the Federal Standards.

6. Comment:

*The consulting firm who does the monitoring should be in charge of keeping the records. These records should be kept for the entire length of the permit period, not just 3 years, so that they may be reviewed before the next permit is written. In addition, these records should be available for public view since they reflect compliance, or noncompliance, with an NPDES permit.*

Response: Ecology has sampling records going back at least 5 years in our office (further in archives). These are available for public review. Additionally, the facility's sampling records are inspected by Ecology at least once per year.

7. Comment:

*The proposed permit does not specify how often acute toxicity testing would occur. We recommend twice a year for acute toxicity testing-once in the dry season and once in the wet season, ideally during an initial storm event. Again, an independent contractor, not the refinery, should do the testing and the timing of the testing.*

Response: Acute testing is required quarterly as stated in paragraph 2 of section S8.B, page 25 of the permit.

8. Comment:

*In section G2 regarding “right of inspection”—24 hour notice of inspection is sufficient.*

Response: Most inspections occur without notice. These are referred to as “unannounced inspections”.

9. Comment:

*In Appendix C of the chemical analyses, methyl-mercury should be included (CVAA EPA 7471), as well as speciated arsenic (the new EPA mass balance method). It is important to determine what components of mercury and arsenic the refinery is releasing because some are toxic and others are not, therefore determining the methyl-mercury component and the toxic arsenic component is key to determining whether the environment is being protected.*

Response: Although not specifically stated Ecology regards any mercury or arsenic found in the effluent to be in its most toxic form. This conservative approach is used by the Department for most of its work protecting the environment. Further detailed/speciated sampling may only show non-detects and are very difficult to obtain, as is the case with arsenic. Mercury is rarely detectable in this discharge, and as such finding methyl-mercury there would be extremely difficult. Also, methyl-mercury occurs mainly in anaerobic environs, not typically in aerated wastewaters that occur at Shells’ facility.

10. Comment:

*The permit requires that any refinery activity that may introduce toxic chemicals into the waterway must first be processed in the wastewater treatment plant. The refinery has recently begun using water hoses to spray down train cars filled with coke. The idea is to get the coke dust off the cars before the train leaves, but the water that runs off the cars is filled with coke dust and it is not directed into wastewater treatment. We recommend that the permit require that the water be directed into wastewater treatment because the coke dust is laden with many toxic chemicals.*

Response: The wash-water runoff is collected in a sump and pumped to a clear water tank and then reused for cutting the solid coke with a water lance. As a current standard operating practice employed by Shell, any wash-water that escapes this system is routed to the treatment system.

11. Comment:

*The permit should include a robust sediment and biota monitoring requirement that includes the entire shoreline around the refinery with samples collected in a grid pattern. These samples would compliment Ecology’s Fidalgo Bay sampling but should be paid for by the refinery. Adequate sensitive laboratory detection limits should be required and these samples should be collected quarterly, based on a schedule determined by Ecology, not the discharger.*

Response: Shell has sampled the sediments at the discharge point in the 1990's and again in the early 2000's. Ecology completed some sediment sampling in 1989 and 1995. Only the 1992 study showed sediment quality standard chemistry hits.

The methods for sampling sediments have changed over time to better reflect the actual quality of the sediments. The 1992 study completed did not use the more recently developed sampling procedures. It was because of the lessons learned through the early studies completed by the large industries in the state that Ecology changed their sediment monitoring sampling recommendations. The most recent study had no sediment quality standard hits.

The sediment unit recommended additional sediment sampling. We reviewed their analysis and the characteristics of the discharge and determined it was not necessary to resample sediment during this permit cycle and that we plan to require sampling in the next permit cycle. At that time we will consider requiring benthic analysis in addition to chemical sampling.

The Department of Health Office of Toxic Substances published a report in May of 1996 entitled "Puget Sound Ambient Monitoring Program: 1992 and 1993 Shellfish Chemical Contaminant Report". Tissue samples from native littleneck shellfish from 19-20 sites were collected in 1992 – 1993 and were analyzed for toxic constituents. The sample sites were chosen because of their proximity to potential effects from human activity. Those toxics included 6 metals, phenols, substituted phenols, low and high molecular weight aromatics, chlorinated aromatic hydrocarbons, chlorinated semi-volatiles, halogenated ethers, phthalates, nitrogen compounds, PCB's, pesticides, and miscellaneous compounds. A collection point was located off of March Point. The metals monitored for included arsenic, cadmium, copper, lead, mercury and zinc. The metals levels in the shellfish tissue collected off of March Point were at low levels slightly above or below the average metals concentration from all of the sample stations. Several organics were detected at low levels within the March Point tissue samples. The organic compounds detected included 2-methyl phenol, benzoic acid, benzyl alcohol, and di-n-butyl phthalate. Laboratory method blank samples were found to be contaminated with 2 organic compounds one of which was di-n-butyl phthalate. A total of 9 organic compounds were detected with varying degrees of consistency in the tissue collected from the 20 sample locations. Benzoic acid was detected in tissue form each sample location. Health screening values were compared to the tissue concentrations at each location. Health screening values were not exceeded at the March Point sampling location.

A study was conducted by Ecology in 1999 and reported in Publication No. 00-03-008 published in May of 2000. The conclusions of the report were that results showed little or no evidence of significant contamination. Slight elevations in several chemicals, including lead, tributyltin, DDT compounds, and PAH, were observed in areas known or suspected to have sources of these compounds. The Washington State Department of Health reviewed the data and concluded that most chemicals including the PAHs were at levels below human health concerns. Thus no negative human health effects were to be expected. The PAH compounds detected in the March Point area indicated they were from combustion sources.

The shellfish studies conducted indicate there is no need for additional sampling related to the potential discharge of PAHs from the refineries and subsequent potential health effects. Ecology does not require monitoring of the biota within or outside the mixing zone. Ecology depends on established water quality standards to determine whether or not an effluent will cause toxic effects. Aquatic water quality standards were based on aquatic species toxicity testing. The human health criteria are federal standards designed to protect human health from potential toxic effects due to the ingestion of fish and shellfish.

Ecology's Water Quality Program briefly considered downstream shellfish testing when a policy was developed for implementing the federally mandated human health criteria. Because of the costs and the potential impacts on very small dischargers it was decided to depend on effluent monitoring to determine compliance. Ecology considers the aquatic water quality standards and the human health criteria to be protective. Ecology may consider downstream shellfish monitoring in the future for individual permits after an acceptable indicator species has been identified and baseline data have been established.

### **Comments from People for Puget Sound:**

1. Comment:

***Sediment study.** We are surprised that a sediment study has not been required for this facility's outfalls. Ecology is putting significant resources into studying Fidalgo Bay and we feel that a comprehensive study of the entire March Point Shoreline and adjacent nearshore that is impacted by the outfalls should be conducted by the discharger. This study should be conducted in a coordinated fashion with Ecology's study so that a robust dataset is produced.*

Response: See response to Comment 11 from the Swinomish Tribe above.

2. Comment:

***Phthalates.** In addition to a sediment study, a major effort should be conducted to determine the sources of phthalates that have been found in past studies in the sediments near the outfalls.*

Response: Comment noted. At this time phthalates are not a regulated compound in waste waters. Any newly created regulations applicable to these and other compounds will be implemented into the permit as soon as possible. Also, see response to Comment 11 from the Swinomish Tribe above.

3. Comment:

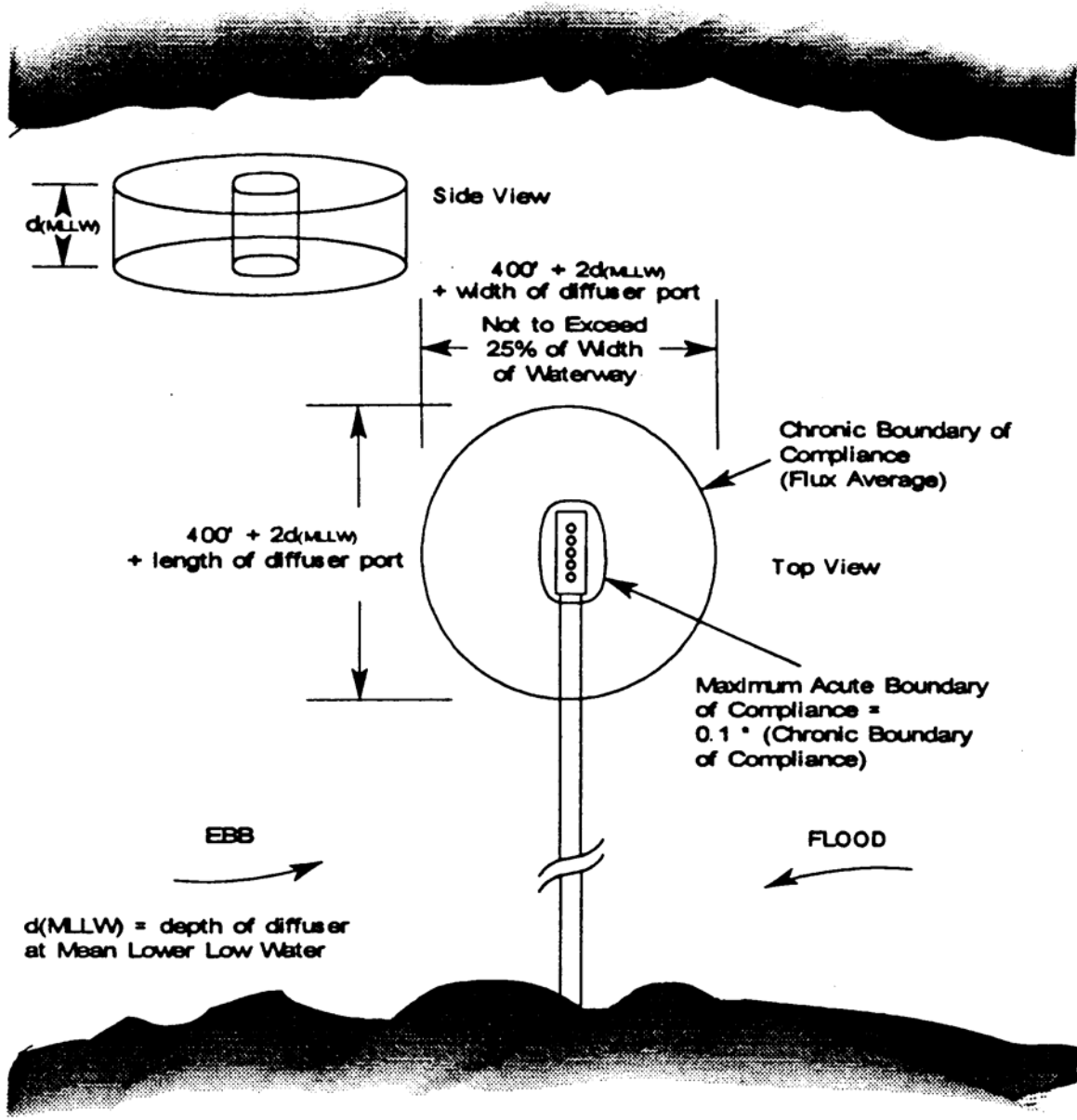
***Incomplete descriptions.** Mixing zone descriptions in permit are incomplete. Outfall descriptions in Fact Sheet are incomplete. In our recent mixing zone study, we determined that a number of permits/fact sheets did not include adequate description of mixing zones or outfalls. In order for the public to fully understand the configuration of the mixing zones for*

*this facility, we request that a diagram be included in the permit that shows the mixing zone shapes and relationships to the shoreline. In addition, we request that a diagram of the outfalls (including length of diffusers and location of ports) and a plan view map of all outfalls be included in the Fact Sheet.*

Response:

A plan view of the outfall/diffuser/mixing zone is presented below:

- d is defined as the water depth (40 ft). MLLW is the medium-low low tide level.
- The inner circle surrounds the diffuser which is 200 ft long.
- The scale below is skewed; the radius of the outer circle is a maximum of 240 ft. from all points of the diffuser.
- The diffuser is approximately 3600 ft from the nearest shore.



4. Comment:

**Ballast Water Discharge.** *It is unclear from the permit description as to the source of the ballast water, how long it is held and if it is treated to remove any possible invasive species.*

Response: Ballast water is rarely (less than one time per year) taken into the refinery. Its source is crude oil transport ships. It is treated within the facilities treatment system before discharge. Part of the treatment system includes chlorination to remove harmful biota.

5. Comment:

**Meeting water quality standards (D. Stormwater, Emergency Overflow Monitoring (Outfall 001A)).** *The permit states: "The discharge must not violate Chapter 173-201A WAC -- Water Quality Standards for Surface Waters of the State of Washington." It is not clear, from the monitoring that is required, how Ecology will determine that water quality (or sediment quality) standards will be met. Discrete, infrequent water quality samples taken from stormdrains will not prove that water and sediment standards are met in the adjacent waters. We suggest that sediment samples from within the stormdrains should be collected. In addition, phthalates should be required to be analyzed as past evidence shows that phthalates are a potential problem at this facility.*

Response: Sediment standards apply to the waters of the state and samples from storm drains may not be relevant to those standards. Protection of water quality standards is assured through a reasonable potential analysis, conducted by Ecology, that compares discharge concentrations to water quality standards.

6. Comment:

**Sampling storms outside of business hours.** *It is unreasonable to assume that water quality is being protected if storm samples are only collected during business hours. Storms are not limited to that timeframe. Automatic collectors should be placed in strategic locations so that samples can be collected at the appropriate times within storms, regardless of human operator hours. These types of samplers are in operation elsewhere and are reasonable requirement for this major facility.*

Response: The stormwater sampling protocols were taken from the Washington's General Stormwater permit, developed by the water quality program. These protocols were developed for use throughout the state and provide for the samples representative quality. Automatic samples are very difficult to maintain and are highly unreliable or inaccurate for this application.

7. Comment:

**Unclear directive.** *The statement: "Conduct an inspection of the drainage area for the affected outfall as promptly as possible, but no later than two weeks after receipt of sampling results," is unclear. Ecology should specifically state what is required during this*

*inspection. Is the discharger meant to just look at the surface of the water? What specifically must be observed and reported.*

Response: This inspection provides additional coverage of the drainage to ensure no foreign matter or streams are entering.

8. Comment:

***Bioaccumulation testing.*** *The acute and chronic toxicity tests required in the permit are inadequate to determine the bioaccumulative nature of the toxic chemicals associated with this facility. We request that the discharger be required to conduct bioaccumulation tests (such as placement of shellfish in cages for a standard length of time (1 month or longer)) at the outfalls and also be required to assess biotic community health in the vicinity of the outfalls.*

Response: Whole Effluent Toxicity testing is provided by law in this state, and is highly regarded throughout the rest of the US. Also see response to Comment 11 from the Swinomish Tribe above for in-situ bioassays.

9. Comment:

***Dioxin Study (S11).*** *We applaud Ecology for requiring this study but we feel there is urgency in determining the sources of pollutants to Fidalgo Bay. This study should be required to be completed and reported within one year, rather than in five years.*

Response: See response to Comment 4 from the Swinomish Tribe above.

10. Comment:

***Specific date ranges.*** *The Fact Sheet should provide the specific dates for 001 (and other outfalls) for annual average flow. The statement that it is the "permit term" is not helpful as the permit expired a year ago. It would be more helpful to give the specific dates for which each factor is determined.*

Response: The specific dates are January 2002 through March 2007.

11. Comment:

***Stormwater outfalls have mixed material.*** *Because wastewater constituents are included in outfalls numbered 003-006, these outfalls should have permit limits. We believe these fall under wastewater NPDES requirements and thus should be regulated as such.*

Response: These are stormwater drainages with little to no associated industrial activity or constituents. As such, these do not fall under NPDES permit limiting requirements.

12. Comment:

**Wastewater characterization.** *We request that the wastewater characterization table be revised to include the exact date ranges for the samples analyzed, the number of samples for each constituent, the maximum concentration, the average concentration, the status of the constituent (i.e., total or dissolved), the detection limits, and the method for handling non-detects in determining averages. In our recent mixing zone study, we found that wastewater characterization tables for NPDES permits/fact sheets in Washington were not fully descriptive and that more complete and standardized tables would be helpful for public review.*

Response: Comment noted. The table is intended to provide a qualitative view of the wastewater for the general public. The data listed is the highest reported concentration within the files and applications available to Ecology. Further review of the application data and other study reports, that may be at Ecology, are always available for the public. In conjunction with the Governors Plain Talk initiative the fact sheet was created to be read by the general public.

13. Comment:

**Leaking ponds.** *Last summer I observed the holding ponds for this facility and noticed that some of them showed signs of leaks. Therefore, we request that Ecology conduct a similar inspection of this facility and if leak evidence is found, require better containment structures.*

Response: Agreed. Ecology schedules Water Quality inspections 3 times per year. Additional inspections are also performed by Ecology and other regulatory agencies that could reveal pond leaks.

14. Comment:

**Inadequate rationale.** *The Fact Sheet as an argument that the mixing zone is minimalized, states "Ecology minimizes the size of mixing zones by requiring dischargers to install diffusers when they are appropriate to the discharge and the specific receiving waterbody." The installation of diffusers is a method to enlarge mixing zones. If an outfall does not have a diffuser then the allowed mixing zone would be smaller.*

Response: Agreed. A diffuser, as the name suggests, is installed to disperse the effluent over a greater area at lower concentrations, this is particularly useful for reducing any temperature impacts. See also response to comment 1 from the Swinomish Tribe.

15. Comment:

**Arsenic.** *This facility discharges arsenic at levels that may impact human health via seafood consumption. We believe that background sources of arsenic are not relevant to the situation of a discharge such as this and therefore the facility should have a limit for arsenic.*

Response: Evaluating arsenic analysis is complicated because it is the inorganic form only that is of concern. Refer to the Fact Sheet page 31 for further discussion about arsenic. For the

reasons set forth there, Ecology is not proposing limits for arsenic during this permit term. Evaluation of compliance with human health criteria will be an ongoing activity and the Department's current position may change in the future depending on effluent characteristics.

**Comments from Shell:**

1. Comment:

*Page 2, Table of Contents, Section S3: Item F is missing from the Table of Contents.*

Response: Agreed. Correction made to permit.

2. Comment:

*Page 3, Sections S13, S14 and S15 require capitalization.*

Response: Agreed. Correction made to permit.

3. Comment:

*Page 5, Summary of Permit Report Submittals, Item S9A: Under the column entitled "First Submittal Date", Item S9A suggests that chronic toxicity testing begin within 90 days of the effective date of the permit. This is in conflict with the actual section text where testing is specifically required to begin within 1 year of the permit effective date. Please change Page 5 to reflect the 1-year date.*

Response: Agreed. Correction made to permit.

4. Comment:

*Page 6, Summary of Permit Report Submittals, Items S12, S13A and S13D: The submittal dates for this section conflict with dates sited within the permit text.*

Response: Agreed. Correction made to permit. Summary table entries have been changed to be consistent with the permit text.

5. Comment:

*Page 6, Item S14, Summary is mis-spelled in the title.*

Response: Agreed. Correction made to permit.

6. Comment:

*Page 32, Section D, Paragraph 3: Reference to condition S.10.A should refer to condition S.13.A.*

Response: Agreed. Correction made to permit.

7. Comment:

*Page 33, Section S15, Item 1: Stormwater outfall 006 need to be added to the list of approved outfalls.*

Response: Agreed. Correction made to permit.

8. Comment:

*Page 35, Items 3 & 4: The facility requests that Ecology allow for either turbidity NTU or TSS monitoring as our lab is certified to run TSS testing.*

Response: The benchmark has been established in NTU units. TSS is comparable but does not lend itself to direct conversion under all circumstances. For the sake of simplicity, at this time, the NTU units will remain the sole turbidity parameter for stormwater in the permit.