

Issuance Date: June 15, 2008  
Effective Date: July 1, 2008  
Expiration Date: July 1, 2013

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
WASTE DISCHARGE PERMIT No. WA-000294-1

State of Washington  
DEPARTMENT OF ECOLOGY  
Olympia, Washington 98504-7600

In compliance with the provisions of  
The State of Washington Water Pollution Control Law  
Chapter 90.48 Revised Code of Washington  
and  
The Federal Water Pollution Control Act  
(The Clean Water Act)  
Title 33 United States Code, Section 1251 et seq.

Shell Oil Products US  
Puget Sound Refining Company  
PO Box 622  
Anacortes WA 98221

Facility Location:

South Texas Road, March Point  
Anacortes WA

Water Body I.D. No.:

WA-03-0020

Industry Type:

Petroleum Refinery

Receiving Water:

Fidalgo Bay  
Padilla Bay (several of the stormwater discharges)

Discharge Location:

Outfalls:

001 Latitude: 48° 30' 34" N Longitude: 122° 34' 36" W  
001A Latitude: 48° 28' 12" N Longitude: 122° 34' 09" W  
Stormwater Locations are listed in Section S1.F

is authorized to discharge in accordance with the special and general conditions which follow.

---

Carol Kraege, Supervisor  
Industrial Section  
Washington State Department of Ecology

## TABLE OF CONTENTS

SUMMARY OF PERMIT REPORT SUBMITTALS.....	5
<b>SPECIAL CONDITIONS</b>	
S1. DISCHARGE LIMITATIONS.....	7
A. Process Wastewater Discharges	
B. Mixing Zone Descriptions	
C. Ballast and Storm water Allocations (Outfall 001)	
D. Stormwater, Emergency Overflow Monitoring (Outfall 001A)	
E. Stormwater Benchmarks, Prohibitions, and Monitoring Requirements	
F. Firewater Testing	
S2. MONITORING REQUIREMENTS.....	14
A. Monitoring Schedule	
B. Sampling and Analytical Procedures	
C. Flow Measurement	
D. Laboratory Accreditation	
S3. REPORTING AND RECORDKEEPING REQUIREMENTS.....	16
A. Reporting	
B. Records Retention	
C. Recording of Results	
D. Additional Monitoring by the Permittee	
E. Notice of Noncompliance Reporting	
F. Other Noncompliance Reporting	
G. Maintaining a Copy of This Permit	
S4. OPERATION AND MAINTENANCE.....	19
A. Operations and Maintenance Manual	
B. Bypass Procedures	
C. Duty to Mitigate	
S5. APPLICATION FOR PERMIT RENEWAL.....	22
S6. FACILITY LOADING.....	22
A. Design Criteria	
B. Report	
C. Flow Measurement	
S7. NON-ROUTINE AND UNANTICIPATED DISCHARGES.....	24
S8. ACUTE TOXICITY.....	24
A. Effluent Limit for Acute Toxicity	
B. Monitoring for Compliance With an Effluent Limit for Acute Toxicity	
C. Response to Noncompliance With an Effluent Limit for Acute Toxicity	

D.	Sampling and Reporting Requirements	
S9.	CHRONIC TOXICITY .....	27
A.	Effluent Characterization	
B.	Sampling and Reporting Requirements	
S10.	OUTFALL EVALUATION .....	29
S11.	DIOXIN STUDY .....	29
A.	Wastewater Sampling	
B.	Dioxin Study Report	
S12.	PRIORITY POLLUTANT SCAN.....	30
S13.	POLLUTION PREVENTION PLANNING AND ACTIVITIES.....	30
A.	Pollution Prevention Plan Development and Implementation	
B.	Specific Plan Update Requirements	
C.	Storm water Inspections	
D.	Plan Evaluation and Biennial Reporting	
E.	Continuous Improvement	
S14.	DANGEROUS WASTES – PERMIT BY RULE REQUIREMENTS .....	33
S15.	CONSTRUCTION STORMWATER .....	33
1.	Authorization and Conditions to Discharge Construction Stormwater	
2.	Construction Stormwater Pollution Prevention Plans	
3.	Monitoring Requirements	
4.	Turbidity Monitoring	
5.	pH Monitoring	
6.	Site Log Book	
7.	Site Inspections	
	GENERAL CONDITIONS .....	39
G1.	SIGNATORY REQUIREMENTS.....	39
G2.	RIGHT OF INSPECTION AND ENTRY .....	40
G3.	PERMIT ACTIONS.....	40
G4.	REPORTING PLANNED CHANGES.....	41
G5.	PLAN REVIEW REQUIRED .....	41
G6.	COMPLIANCE WITH OTHER LAWS AND STATUTES.....	42
G7.	TRANSFER OF THIS PERMIT .....	42
G8.	REDUCED PRODUCTION FOR COMPLIANCE .....	42
G9.	REMOVED SUBSTANCES .....	43
G10.	DUTY TO PROVIDE INFORMATION.....	43
G11.	OTHER REQUIREMENTS OF 40 CFR.....	43
G12.	ADDITIONAL MONITORING.....	43
G13.	PAYMENT OF FEES.....	43
G14.	PENALTIES FOR VIOLATING PERMIT CONDITIONS .....	43



**SUMMARY OF PERMIT REPORT SUBMITTALS**

Refer to the Special and General Conditions of this permit for additional submittal requirements.

Permit Section	Submittal	Frequency	First Submittal Date
S3.A	Discharge Monitoring Report	Monthly	
S1.E	Reporting of stormwater sampling results	As necessary	
S3.E	Noncompliance Notification	As necessary	
S3._	Shellfish Protection	As necessary	
S4.A	Treatment System Operating Plan	1/permit cycle	180 days prior to expiration of the permit
S4.B	Reporting Bypasses	As necessary	
S5.	Application for Permit Renewal	1/permit cycle	180 days prior to expiration of the permit
S6.B	Design Capacity Report	1/permit cycle	With permit renewal application
S6.C	Flow Measurement Report	1/permit cycle	180 days prior to expiration of the permit
S7.	Unanticipated Discharge	As necessary	
S8.B	Acute Toxicity Compliance Monitoring Reports	Quarterly	Within 60 days of permit effective date/60 days after each subsequent sampling event
S8.C	Acute Toxicity: “Causes and Preventative Measures for Transient Events.”	As necessary	
S8.C	Acute Toxicity TI/TRE Plan	As necessary	
S9.A	Chronic Toxicity Characterization Data		Within 1 year of permit effective date/60 days after each subsequent sampling event
S10.	Outfall Evaluation	1/permit cycle	
S11.	Dioxin Study Report	1/permit cycle	With permit renewal application

Permit Section	Submittal	Frequency	First Submittal Date
S12.	Priority Pollutant Scan	Annually	Within 90 days of completed report
S13.A	P2 Planning Update	1/permit cycle	June 30 2009
S13.D	P2 Biennial Report	Every 2 Years	June 30, 2010
S14.	Dangerous Waste Summary	1/permit cycle	With permit renewal application
S15.2	Construction Stormwater P2	1/permit cycle	within 60 days of permit effective date
S15.2	Construction Stormwater Project Detail	As necessary	90 days prior to construction
G1.	Notice of Change in Authorization	As necessary	
G4.	Permit Application for Substantive Changes to the Discharge	As necessary	
G5.	Engineering Report for Construction or Modification Activities	As necessary	
G8	Notice of Permit Transfer	As necessary	
G21	Reporting Anticipated Non-compliance	As necessary	
G22.	Reporting Other Information	As necessary	

## SPECIAL CONDITIONS

### S1. DISCHARGE LIMITATIONS

In this permit the word “must” denotes an action that is mandatory and is equivalent to the word “shall” used in previous permits.

#### A. Process Wastewater Discharges

All discharges and activities authorized by this permit must be consistent with the terms and conditions of this permit.

The discharge of any of the following pollutants more frequently than, or at a level in excess of, that identified and authorized by this permit must constitute a violation of the terms and conditions of this permit.

Beginning on the effective date of this permit and lasting through the expiration date, the Permittee is authorized to discharge treated effluent at the permitted location subject to complying with the following limitations:

	Units	Effluent Limitations for Outfall 001	
		Average Monthly <sup>a</sup>	Maximum Daily <sup>b</sup>
Biochemical Oxygen Demand (5-day)	lbs/day	791	1448
Chemical Oxygen Demand	lbs/day	5453	10621
Total Suspended Solids	lbs/day	635	1005
Oil and Grease	lbs/day	233	432
Oil and Grease	mg/l	The concentration of oil and grease in the discharge must at no time exceed 15 mg/l, and must not exceed 10 mg/l more than three days per month.	
Phenolic Compounds	lbs/day	5.15	10.68
Ammonia as N	lbs/day	574	1263
Sulfide	lbs/day	4.24	9.39
Hexavalent Chromium		-----	0.050 mg/l and 1.71 lbs/day
Total Residual Chlorine	mg/l	0.38	0.81
Fecal Coliforms	organisms/ 100mls	200/100 mls average monthly limit, 400/100 mls maximum daily	
Temperature	°C	Daily grab or continuous recording. There is no limitation for this parameter. Information collected must be reported in the monthly DMR.	
Flow	MGD	Discharge flow volumes must be continuously recorded.	

	Units	Effluent Limitations for Outfall 001	
		Average Monthly <sup>a</sup>	Maximum Daily <sup>b</sup>
		There is no limitation for this parameter. The monthly average and maximum daily flow must be reported in the monthly DMR.	
Feedstock Rate barrels (bbls)	bbls per day	There is no limitation for this parameter. The monthly average must be reported in the monthly DMR.	
pH		<b>pH must be maintained within the range of 6.0 to 9.0. pH must be continuously recorded.</b> Excursions between 5.0 and 6.0, or 9.0 and 10.0 must not be considered violations provided no single excursion exceeds 60 minutes in length and total excursions do not exceed 7 hours and 30 minutes per month. Any excursions below 5.0 and above 10.0 are violations. The instantaneous maximum and minimum pH must be reported monthly. In the event of a failure of continuous monitoring equipment and upon this discovery, hourly grab samples will meet the frequency requirements or an alternative may be recommended subject to approval by the department.	

<sup>a</sup>The average monthly effluent limitation is defined as the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

<sup>b</sup>The maximum daily effluent limitation is defined as the highest allowable daily discharge. The daily discharge means the discharge of a pollutant measured during a calendar day. For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For other units of measurement, the daily discharge is the average measurement of the pollutant over the day. The pH must not be averaged.

**B. Mixing Zone Descriptions**

The maximum boundaries of the mixing zones for outfall #001 are defined as follows:

**1. Chronic Mixing Zone**

WAC 173-201A-100(4)(b)(i) specifies mixing zones must not extend in any horizontal direction from the discharge ports for a distance greater than 200 feet plus the depth of water over the discharge ports as measured during mean lower low water (MLLW). Given a MLLW water depth of 40 feet (12.2 meters) for the Permittee's outfall, the horizontal distance therefore is 240 feet (73.2 meters). The mixing zone is a circle with radius of 240 feet (73.2 meters) measured from the center of each discharge port. The mixing zone extends from the seabed to the top of the water surface. Chronic aquatic life criteria and human health criteria must be met at the edge of the chronic zone.

**2. Acute Mixing Zone**

WAC 173-201A-100(8)(b) specifies that in estuarine waters a zone where acute criteria may be exceeded must not extend beyond 10% of the distance established for the maximum or chronic zone as measured independently from the discharge ports. The acute mixing zone is a circle with radius of 24 feet (7.3 meters) measured from the

center of each discharge port. The mixing zone extends from the seabed to the top of the water surface. Acute aquatic life criteria must be met at the edge of the acute zone.

	Available Dilution
Acute Aquatic Life Criteria	<b>62</b>
Chronic Aquatic Life Criteria	<b>127</b>
Human Health Criteria - Carcinogen	<b>152</b>
Human Health Criteria - Non-carcinogen	<b>127</b>

C. Ballast and Storm water Allocations (Outfall 001)

The permittee is authorized to discharge additional amounts of the following parameters, based on storm water and ballast water flow through Outfall No. 001. Ballast water amounts must be determined by gauging the ballast water storage tanks. **The average dry weather flow is hereby established as 3.5 MGD. During the summer months of June through October the permittee must only be allowed to claim the storm water allocation for the maximum daily value when it can be demonstrated that measurable rainfall occurred at the refinery site during the previous ten calendar days.** The storm water flow rate must be determined as the difference between total measured effluent through Outfall No. 001, and the sum of ballast water plus the average dry weather flow rate. The maximum daily storm water allocation must only be granted for those storm water flow days when the base limits from S1. above are exceeded.

Parameter	Ballast Water Allocation: Outfall #001		Storm water Allocation: Outfall #001	
	Average Monthly	Maximum Daily	Average Monthly	Maximum Daily
	Pounds/Million Gallons/Day			
Biochemical Oxygen Demand (5-day)	210	400	220	400
Chemical Oxygen Demand	2000	3900	1500	3000
Total Suspended Solids	170	260	180	280
Oil and Grease	67	126	67	130
Phenolic Compounds	-----	-----	1.4	2.9

**Storm water flow** is equal to the amount of flow in excess of the established dry weather flow. **For the months of June through October, qualifying storm water flow days** are only those days when measurable rainfall occurred at the refinery site during the previous 10 calendar days.

**Average Monthly Stormwater Allocation** (AMSWA) is defined as the sum of measured storm water flows from qualifying storm water flow days divided by the number of qualifying days times the average monthly allocation for that parameter.

The **Total Average Monthly Limitation (T)** is the sum of the base average monthly limit (B) (listed in Condition S1. A) plus the Average Monthly Stormwater Allocation. **T = B + AMSWA** (An example calculation is shown in Appendix B.)

**D. Stormwater, Emergency Overflow Monitoring (Outfall 001A)**

Beginning on the effective date of this permit, the Permittee is authorized to discharge storm water and/or treated wastewater from **Outfall 001A** during extreme rainfall events that exceed the capacity of the retention ponds. The storm water and/or treated waste water must be monitored for the parameters at the frequencies listed below. Unless an emergency situation occurs, the Permittee must notify Ecology prior to the discharge event. In an emergency situation, the Permittee must notify Ecology within **24 hours** of the onset of the discharge.

The discharge must not violate Chapter 173-201A WAC -- Water Quality Standards for Surface Waters of the State of Washington. The sum total of all discharges must not violate limits specified in condition S1 of this permit.

**Monitoring for Outfall 001A**

Parameter	Monitoring Frequency	Sample Type <sup>a, b</sup>
<b>pH</b>	Once/event	Composite
<b>Total Suspended Solids</b>	Once/event	Composite
<b>Chemical Oxygen Demand</b>	Once/event	Composite
<b>Oil &amp; Grease</b>	Once/event	Grab
<b>Lead</b>	Once/event	Composite
<b>Zinc</b>	Once/event	Grab
<b>Volatile Organics<sup>c</sup></b>	Once/event	Grab
<b>Phenols</b>	Once/event	Composite
<b>Flow measurement</b>	Once/event	Engineering Estimate

<sup>a</sup> The storm water and/or waste water samples must be collected from the outfall or from an on-line stormdrain access point nearest the outfall terminus.

<sup>b</sup> Composite samples must be collected with a composite sampler or as a combination of: a minimum of one sample aliquot per hour of discharge for the entire discharge (or at minimum, for the first three hours of discharge).

<sup>c</sup> Volatile organics must include benzene, naphthalene, 1,2,4-trimethylbenzene, isopropylbenzene, p-isopropylbenzene, ethylbenzene, propylbenzene, 1,3,5-trimethylbenzene, toluene, and total xylenes.

E. Stormwater Benchmarks, Prohibitions, and Monitoring Requirements

1. Authorized Stormwater and Non-Stormwater Discharges

Beginning on the effective date of this permit and lasting through its expiration date, the Permittee is authorized to discharge both stormwater and conditionally approved non-stormwater discharges (Non-Routine Discharges, Condition S7.) from Outfalls 002-015 to waters of the state. All discharges and activities authorized by this permit must be consistent with the terms and conditions of this permit.

Discharges must not cause or contribute to a violation of Surface Water Quality Standards (Chapter 173-201A WAC), Ground Water Quality Standards (Chapter 173- 200 WAC), Sediment Management Standards (Chapter 173-204 WAC), and human health-based criteria in the National Toxics Rule (40 CFR 131.36). Discharges that are not in compliance with these standards are prohibited.

2. General Prohibitions

The Permittee must manage all stormwater discharges to prevent the discharge of crude, synthetic or processed oil, or oil-containing products as identified by an oil sheen.

3. Monitoring Requirements

Beginning on the effective date of this permit, the Permittee must monitor stormwater from outfalls 002/005, 003, and 006, for the parameters listed in the following table.

**Monitoring for Outfalls 002/005, 003 and 006**

Parameter	Benchmark Value	Monitoring Frequency	Sample Type
COD	---	annually	Grab
TSS	25 mg/L	annually	Grab
Oil and Grease	15 mg/L	annually	Grab
Total Zinc	117 µg/L	annually	Grab
Total Copper	20 µg/L	annually	Grab
Total Lead	81.6 µg/L	annually	Grab
Hardness	NA	annually	Grab
pH	6-9 SU	annually	Grab
Visual Monitoring as described below			

The permittee must:

- Collect samples that are representative of the flow and characteristics of the discharge.
- Visually monitor the discharge at the time of sample collection. Visual monitoring must include observations of the presence of floating materials, visible sheen, discoloration, turbidity, odor, etc. in the stormwater discharge.
- During each sample collection evaluate whether or not stormwater best management practices established by the Pollution Prevention Plan are in place and/or are being followed.
- Submit evaluations and visual monitoring observations with the Discharge Monitoring Report.

The Permittee is not required to sample outside of regular business hours (Monday-Friday, 8:00 to 5:00) or during unsafe conditions. The sampling of the commingled streams of 002 and 005 will meet the monitoring requirement for these two outfalls.

Dry weather observations must note the presences of non-stormwater discharges to the stormwater system that are not authorized by this permit. Any non-stormwater discharges not otherwise authorized must be reported to Ecology per Permit Condition S3.E.

#### 4. Response to Monitoring Results Above Benchmark Values

Each time that sampling results are above a benchmark value or outside the benchmark range for pH, the Permittee must take the following actions:

- a. 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.
- b. Identify the possible sources of stormwater contamination from industrial activity that are causing or contributing to the elevated levels of the benchmark parameter.
- c. Investigate and select all applicable and appropriate options for capital BMPs and operational source control BMPs to reduce stormwater contamination below benchmark values. Any elevated COD or TSS levels attributable to vegetative or naturally-occurring conditions do not require additional BMPs.
- d. Within 60 days of receipt of sample results complete/implement the additional operational source control BMPs identified in subsection c above.

- e. Within 6 months of receipt of sampling results complete installation/construction of the additional capital BMPs identified in subsection c above. If additional time is needed for construction the permittee must submit to Ecology a schedule for review and approval.
- f. Include a brief summary of inspection results and remedial actions taken with the monitoring report for the time period in which sample results were above benchmark values.

5. Monitoring for Other Stormwater Outfalls

Before the expiration of this permit, the Permittee must monitor stormwater from outfalls 004 and 009 - 015, for the parameters listed in the following table. In the event of oil or hazardous substance spills in the vicinity of these outfalls, increased monitoring will be required.

**Monitoring for Outfalls 004 and 009 - 015**

Parameter	Monitoring Frequency	Sample Type
COD	1/permit cycle	Grab
TSS	1/permit cycle	Grab
Oil and Grease	1/permit cycle	Grab
Total Zinc	1/permit cycle	Grab
Total Copper	1/permit cycle	Grab
Total Lead	1/permit cycle	Grab
Hardness	1/permit cycle	Grab
pH	1/permit cycle	Grab

The permittee must:

- Collect samples that are representative of the flow and characteristics of the discharge.
- Visually monitor the discharge at the time of sample collection. Visual monitoring must include observations of the presence of floating materials, visible sheen, discoloration, turbidity, odor, etc. in the stormwater discharge.
- Submit evaluations and visual monitoring observations with the permit renewal application.

F. Firewater Testing

The permittee is authorized to bypass Outfall 001 and discharge treated effluent via the dockside firewater system, should such a discharge be required to test the fire suppression system. The permittee is required to meet the discharge requirements for Outfall 001 as listed above. The permittee must report any firewater testing on the monthly discharge monitoring report. The permittee must report the incident's duration and an estimated flow volume.

**S2. MONITORING REQUIREMENTS**

The Permittee must monitor in accordance with the following schedule:

A. Monitoring Schedule

Category	Parameter	Units	Sample Point	Minimum Sampling Frequency	Sample Type
Wastewater Effluent	Biochemical Oxygen Demand (5-day)	lbs/day	Exit of final pond	Once per week	24 hour composite
Wastewater Effluent	Chemical Oxygen Demand	lbs/day	Exit of final pond	Once per day	24 hour composite
Wastewater Effluent	Total Suspended Solids	lbs/day	Exit of final pond	Once per day	24 hour composite
Wastewater Effluent	Oil and Grease	lbs/day	Exit of final pond	Once per day	grab
Wastewater Effluent	Oil and Grease	mg/l	Exit of final pond	Once per day	grab
Wastewater Effluent	Phenolic Compounds	lbs/day	Exit of final pond	Once per week	24 hour composite
Wastewater Effluent	Ammonia as N	lbs/day	Exit of final pond	Three times per week	24 hour composite
Wastewater Effluent	Sulfide	lbs/day	Exit of final pond	Once per week	grab
Wastewater Effluent	Hexavalent Chromium	mg/l	Exit of final pond	Twice per year	24 hour composite
Wastewater Effluent	Total Residual Chlorine	mg/l	Exit of final pond	Once per day	grab
Wastewater Effluent	Fecal Coliforms	organisms/ 100mls	Exit of final pond	Once per week	grab
Wastewater Effluent	Flow	MGD	Exit of final pond	Continuous	

Category	Parameter	Units	Sample Point	Minimum Sampling Frequency	Sample Type
Production**	Feedstock Rate	Barrels/day		Daily	
Wastewater Effluent	pH	Standard Units	Exit of final pond	Continuous	
For facilities which continuously monitor and record pH values, the number of minutes the pH value was below or above the permitted range must be recorded for each day and the total minutes for the month reported, the durations when values were above and below the permitted range must be reported separately. The instantaneous maximum and minimum pH must be reported monthly.					
Wastewater Effluent	Temperature	°C	Exit of final pond	Continuous or Daily grab	
Storm Water Monitoring		See Permit Condition S1.E			
Acute Toxicity Monitoring		See Permit Condition S5			
Chronic Toxicity Monitoring		See Permit Condition S6			
Priority Pollutants		See Permit Condition S3.A.			
Human Health Criteria Monitoring		See Permit Condition S3.B.1			

\* Continuous means uninterrupted - except for brief lengths of time for calibration, power failure, or for unanticipated equipment repair or maintenance. Sampling must be taken hourly when continuous monitoring is not possible.

\*\* There is no limitation for this parameter. The monthly average must be reported in the monthly DMR.

#### B. Sampling and Analytical Procedures

Samples and measurements taken to meet the requirements of this permit must be representative of the volume and nature of the monitored parameters, including representative sampling of any unusual discharge or discharge condition, including bypasses, upsets, and maintenance-related conditions affecting effluent quality.

Sampling and analytical methods used to meet the monitoring requirements specified in this permit must conform to the latest revision of the *Guidelines Establishing Test Procedures for the Analysis of Pollutants* contained in 40 CFR Part 136.

#### C. Flow Measurement

Appropriate flow measurement devices and methods consistent with accepted scientific practices must be selected and used to ensure the accuracy and reliability of measurements of the quantity of monitored flows. The devices must be installed, calibrated, and maintained to ensure that the accuracy of the measurements are consistent with the accepted industry standard for that type of device. Frequency of calibration must be in conformance with manufacturer's recommendations and at a minimum frequency of at least one calibration per year. Calibration records must be maintained for at least three years.

D. Laboratory Accreditation

All monitoring data required by the Department must be prepared by a laboratory registered or accredited under the provisions of, *Accreditation of Environmental Laboratories*, Chapter 173-50 WAC. Flow, temperature, settleable solids, conductivity, pH, turbidity, and internal process control parameters are exempt from this requirement. Conductivity and pH must be accredited if the laboratory must otherwise be registered or accredited. The Department exempts crops, soils, and hazardous waste data from this requirement pending accreditation of laboratories for analysis of these media.

**S3. REPORTING AND RECORDKEEPING REQUIREMENTS**

The Permittee must monitor and report in accordance with the following conditions. The falsification of information submitted to the Department must constitute a violation of the terms and conditions of this permit.

A. Reporting

The first monitoring period begins on the effective date of the permit. Monitoring results must be submitted monthly. Monitoring data obtained during each monitoring period must be summarized, reported, and submitted on a Discharge Monitoring Report (DMR) form provided, or otherwise approved, by the Department. **In addition, a summary sheet, listing daily results for the parameters tabulated in Special Condition S1, including MDLs, and QLs (when applicable), shall be submitted to the Department.** DMR forms must be postmarked or received no later than the 15th day of the month following the completed monitoring period, unless otherwise specified in this permit. Priority pollutant analysis data must be submitted no later than forty-five (45) days following the monitoring period. Unless otherwise specified, all toxicity test data must be submitted within sixty (60) days after the sample date. The report(s) must be sent to the Department of Ecology, Industrial Section, PO Box 47706, Olympia, Washington 98504-7706.

All laboratory reports providing data for organic and metal parameters must include the following information: sampling date, sample location, date of analysis, parameter name, CAS number, analytical method/ number, method detection limit (MDL), laboratory practical quantitation limit (PQL), reporting units, and concentration detected. Analytical results from samples sent to a contract laboratory must have information on the chain of custody, the analytical method, QA/QC results, and documentation of accreditation for the parameter.

Discharge Monitoring Report forms must be submitted monthly whether or not the facility was discharging. If there was no discharge during a given monitoring period, submit the form as required with the words "no discharge" entered in place of the monitoring results.

B. Records Retention

The Permittee must retain records of all monitoring information for a minimum of three (3) years. Such information must include all calibration and maintenance records and all original recordings for continuous monitoring instrumentation, copies of all reports and plans required by this permit, site logs, inspection reports/checklists and records of all data used to complete the application for this permit. This period of retention must be extended during the course of any unresolved litigation regarding the discharge of pollutants by the Permittee or when requested by the Director.

C. Recording of Results

For each measurement or sample taken, the Permittee must record the following information: (1) the date, exact place, method, and time of sampling or measurement; (2) the individual who performed the sampling or measurement; (3) the dates the analyses were performed; (4) the individual who performed the analyses; (5) the analytical techniques or methods used; and (6) the results of all analyses.

D. Additional Monitoring by the Permittee

If the Permittee monitors any pollutant more frequently than required by this permit using test procedures specified by Condition S2. of this permit, then the results of this monitoring must be included in the calculation and reporting of the data submitted in the Permittee's DMR.

E. Notice of Noncompliance Reporting

The permittee must take the following action upon violation of any permit condition: Immediately take action to stop, contain, and cleanup unauthorized discharges or otherwise stop the noncompliance and correct the problem and, if applicable, immediately repeat sampling and analysis. The results of any repeat sampling must be submitted to Ecology within 30 days of sampling.

1. Immediate Noncompliance Notification

Any discharge of untreated wastewater must be reported immediately to the Department of Ecology's Regional Office 24-hr. number 425-649-7000 .

Any failure of the disinfection system, and any collection system overflows which may reach surface waters or any plant bypass discharging to a shellfish area must be reported immediately to the Department of Ecology and the Department of Health, Shellfish Program.

The Department of Ecology's Northwest Regional Office 24-hr. number is 425-649-7000. The Department of Health's Shellfish number is 360-236-3330 (business hours) or (360) 786-4183 (24 hours).

The permittee must also notify the Industrial Section permit manager by telephone for any of the above situations. Outside of normal working hours, a voice mail notification to the Industrial Section permit manager or their designated backup will meet this requirement.

## 2. Twenty four hour Noncompliance Notification

The permittee must report the following occurrences of noncompliance by telephone, to Ecology's Industrial Section, within 24 hours from the time the Permittee becomes aware of any of the following circumstances:

- a. any noncompliance that may endanger health or the environment, unless previously reported under subpart 1. above,
- b. any unanticipated **bypass** that exceeds any effluent limitation in the permit (See Part S4.B., "Bypass Procedures");
- c. any **upset** that exceeds any effluent limitation in the permit (See G.15, "Upset");
- d. any violation of a maximum daily or instantaneous maximum discharge limitation for any of the pollutants in Section S1.A. of this permit; or
- e. any overflow prior to the treatment works, whether or not such overflow endangers health or the environment or exceeds any effluent limitation in the permit.
- f. anytime construction stormwater discharges **exceed or are equal to 250 NTU**.

## 3. Report Within Five Days

The Permittee must also provide a written submission within five days of the time that the Permittee becomes aware of any event required to be reported under subparts 1 or 2, above. The written submission must contain:

- a. a description of the noncompliance and its cause;
- b. the period of noncompliance, including exact dates and times;
- c. the estimated time noncompliance is expected to continue if it has not been corrected;
- d. steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance; and
- e. if the non compliance involves an overflow prior to the treatment works, an estimate of the quantity (in gallons) of untreated overflow.

## 4. Waiver of Written Reports

Ecology may waive the written report required in subpart 3 above on a case-by-case basis upon request if a timely oral report has been received.

## 5. Report Submittal

Reports must be submitted to the address in S3. (“REPORTING AND RECORDKEEPING REQUIREMENTS”).

### F. Other Noncompliance Reporting

The permittee must report all instances of noncompliance, not required to be reported immediately or within 24 hours, at the time that monitoring reports for S3.A ("Reporting") are submitted. The reports must contain the information listed in paragraph E3 above. Compliance with these requirements does not relieve the Permittee from responsibility to maintain continuous compliance with the terms and conditions of this permit or the resulting liability for failure to comply.

The spill of oil or hazardous materials **must** be reported in accordance with the instructions obtained at the following website:

<http://www.ecy.wa.gov/programs/spills/other/reportaspill.htm>

### G. Maintaining a Copy of This Permit

The permittee must keep a copy of the following documents at the permitted facility and be made available upon request to Department of Ecology inspectors. Copies of the construction permit documents required by Permit Condition S16 must be available at the construction site.

- Permit
- Permit coverage notifications
- Stormwater Pollution Prevention Plan (SWPP)
- Site log books and inspection reports/checklists

## S4. OPERATION AND MAINTENANCE

The Permittee must, at all times, properly operate and maintain all facilities or systems of treatment and control (and related appurtenances) which are installed to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems, which are installed by a Permittee only when the operation is necessary to achieve compliance with the conditions of this permit.

### A. Operations and Maintenance Manual

The Operations and Maintenance Manual must be kept available at the permitted facility and all operators must follow the instructions and procedures of this manual.

In addition to the requirements of WAC 173-240-150(1) and (2), the O&M Manual must include:

1. Emergency procedures for plant shutdown and cleanup in event of wastewater system upset or failure.
2. Wastewater system maintenance procedures that contribute to the generation of process wastewater
3. Any directions to maintenance staff when cleaning, or maintaining other equipment or performing other tasks which are necessary to protect the operation of the wastewater system (e.g. defining maximum allowable discharge rate for draining a tank, blocking all floor drains before beginning the overhaul of a stationary engine.)

The following information must be summarized in the initial chapter of the O&M Manual. This chapter must be entitled the "Treatment System Operating Plan." For the purposes of this NPDES permit, a Treatment System Operating Plan (TSOP) is a concise summary of specifically defined elements of the O&M Manual. The TSOP must not conflict with the O&M Manual and must include the following information:

1. A baseline operating condition, which describes the operating parameters and procedures, used to meet the effluent limitations of S1 at the production levels used in developing these limitations.
2. In the event of production rates, which are below the baseline levels used to establish these limitations, the plan must describe the operating procedures and conditions needed to maintain design treatment efficiency. The monitoring and reporting must be described in the plan.
3. In the event of an upset, due to plant maintenance activities, severe stormwater events, start ups or shut downs, or other causes, the plan must describe the operating procedures and conditions employed to mitigate the upset. The monitoring and reporting must be described in the plan.
4. A description of any regularly scheduled maintenance or repair activities at the facility which would affect the volume or character of the wastes discharged to the wastewater treatment system and a plan for monitoring and treating/controlling the discharge of maintenance-related materials (such as cleaners, degreasers, solvents, etc.).

An updated Treatment System Operating Plan must be submitted to the Department with the application for renewal 180 days prior to expiration of the permit. This plan must be updated and submitted, as necessary, to include requirements for any major modifications of the treatment system.

**B. Bypass Procedures**

Bypass, which is the intentional diversion of waste streams from any portion of a treatment facility, is prohibited, and the Department may take enforcement action

against a Permittee for bypass unless one of the following circumstances (1, 2, or 3) is applicable.

1. Bypass for Essential Maintenance without the Potential to Cause Violation of Permit Limits or Conditions.

Bypass is authorized if it is for essential maintenance and does not have the potential to cause violations of limitations or other conditions of this permit, or adversely impact public health as determined by the Department prior to the bypass. The Permittee must submit prior notice, if possible, at least ten (10) days before the date of the bypass.

2. Bypass Which is Unavoidable, Unanticipated, and Results in Noncompliance of this Permit.

This bypass is permitted only if:

- a. Bypass is unavoidable to prevent loss of life, personal injury, or severe property damage. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass.
  - b. There are no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, stopping production, maintenance during normal periods of equipment downtime (but not if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance), or transport of untreated wastes to another treatment facility.
  - c. The Department is properly notified of the bypass as required in condition S3E of this permit.
3. Bypass which is Anticipated and has the Potential to Result in Noncompliance of this Permit.

The Permittee must notify the Department at least thirty (30) days before the planned date of bypass. The notice must contain (1) a description of the bypass and its cause; (2) an analysis of all known alternatives which would eliminate, reduce, or mitigate the need for bypassing; (3) a cost-effectiveness analysis of alternatives including comparative resource damage assessment; (4) the minimum and maximum duration of bypass under each alternative; (5) a recommendation as to the preferred alternative for conducting the bypass; (6) the projected date of bypass initiation; (7) a statement of compliance with SEPA; (8) a request for modification of water quality standards as provided for in WAC 173-201A-110, if an exceedance of any water quality standard is anticipated; and (9) steps taken or planned to reduce, eliminate, and prevent reoccurrence of the bypass.

For probable construction bypasses, the need to bypass is to be identified as early in the planning process as possible. The analysis required above must be considered during preparation of the engineering report or facilities plan and plans and specifications and must be included to the extent practical. In cases where the probable need to bypass is determined early, continued analysis is necessary up to and including the construction period in an effort to minimize or eliminate the bypass.

The Department will consider the following prior to issuing an administrative order for this type bypass:

- a. If the bypass is necessary to perform construction or maintenance-related activities essential to meet the requirements of this permit.
- b. If there are feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, stopping production, maintenance during normal periods of equipment down time, or transport of untreated wastes to another treatment facility.
- c. If the bypass is planned and scheduled to minimize adverse effects on the public and the environment.

After consideration of the above and the adverse effects of the proposed bypass and any other relevant factors, the Department will approve or deny the request. The public must be notified and given an opportunity to comment on bypass incidents of significant duration, to the extent feasible. Approval of a request to bypass will be by administrative order issued by the Department under RCW 90.48.120.

C. Duty to Mitigate

The Permittee is required to take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.

**S5. APPLICATION FOR PERMIT RENEWAL**

The Permittee must submit an application for renewal of this permit 180 days prior to expiration date of this permit.

**S6. FACILITY LOADING**

A. Design Criteria

Flows or waste loadings of the following design criteria for the permitted treatment facility must not be exceeded:

Parameter	Design Quantity
Instantaneous peak flow into API	7000 gpm
BOD influent loading to Bioreactor	9900 lbs./day

## B. Report

With the permit renewal application, the Permittee must submit an analysis to the Department that compares current conditions within the refinery to the predicted design capacity of the wastewater treatment system, as determined in the approved “Wastewater treatment Plant Treatment Efficiency Study and Engineering Report” submitted February 2004. The analysis must also predict the next permit term’s production increases, any foreseeable new loadings to the wastewater treatment plant and the resultant impacts to the wastewater treatment system capacity. The report must include a discussion of any production increases, changes to crude oil supply sources, modifications to process units, changes in additives, or additional sources of wastewater, etc., that could potentially cause a change in wastewater characteristics.

If predicted waste loads exceed approved design capacities, the Permittee must update the engineering report for the wastewater treatment system by planning for any new or upgraded treatment facilities needed to treat expected increases in waste loads. The permittee must submit this update at least one hundred eighty (180) days prior to the planned start of construction unless Ecology approves a shorter submittal time frame. The permittee must prepare the update in accordance with Chapter 173-240 WAC and the update must include, at minimum, the following elements:

1. Design and performance flow, and loading capacity of the overall system-- specifically, TSS, BOD, and COD loading capacity must be determined. Flow data must be presented in terms of average dry weather flow, average monthly flow of the maximum month, and peak hourly flow. If flow-monitoring data is not available for wastewater streams, then the permittee must provide an estimate (with the method used for estimation).
2. Define the basic design data and sizing calculations for each unit in the wastewater treatment system. Clarifier information should include detention times, overflow rates, solids and weir loading rates, volume and depth. Activated sludge basin information must include hydraulic detention time, volumetric loading, MLSS, F:M ratio, return ratio, and sludge residence time. Information for settling ponds must include solids loading rates, volume, and retention time. The permittee must provide this information for design criteria parameters – BOD and TSS, and oil and grease, where applicable.

## C. Flow Measurement

The permittee must submit an engineering report with cost estimates **by January 30 2012** for Ecology review and approval. The engineering report must include an evaluation of flow measurement options through both the process wastewater treatment system and the stormwater system and provide a construction schedule for the chosen feasible and approved alternative. Flow monitoring must be located within the process wastewater treatment system such that the measured flow is not impacted by recycle streams.

## **S7. NON-ROUTINE AND UNANTICIPATED DISCHARGES**

- A. Beginning on the effective date of this permit, the Permittee may discharge non-routine wastewater on a case-by-case basis if approved by the Department. Prior to any such discharge, the Permittee must contact the Department and **at a minimum** provide the following information:
1. The nature of the activity that is generating the discharge.
  2. Any alternatives to the discharge, such as reuse, storage, or recycling of the water.
  3. The total volume of water expected to be discharged.
  4. The results of the chemical analysis of the water. The water must be analyzed for all constituents limited for the Permittee's discharge. The analysis must also include hardness, any metals that are limited by water quality standards, and any other parameter deemed necessary by the Department. All discharges must comply with the effluent limitations as established in Condition S1. of this permit, water quality standards, sediment management standards, and any other limitations imposed by the Department.
  5. The date of proposed discharge and the rate at which the water will be discharged, in gallons per minute. The discharge rate must be limited to that which will not cause erosion of ditches or structural damage to culverts and their entrances or exits.
  6. If the proposed discharge is to a municipal storm drain and is approved by the Department, the Permittee must notify the municipality of the discharge.
- B. The discharge cannot proceed until the Department has reviewed the information provided and has authorized the discharge. Authorization from the Department will be by letter to the Permittee or by an Administrative Order.

## **S8. ACUTE TOXICITY**

### **A. Effluent Limit for Acute Toxicity**

**The effluent limit for acute toxicity is no acute toxicity detected in a test concentration representing the acute critical effluent concentration (ACEC).**

The ACEC means the maximum concentration of effluent during critical conditions at the boundary of the zone of acute criteria exceedance assigned pursuant to WAC 173-201A-100. The zone of acute criteria exceedance is authorized in Section S1.B. of this permit. The ACEC equals 1.6 % effluent.

In the event of failure to pass the test described in subsection B. of this section for compliance with the effluent limit for acute toxicity, the Permittee is considered to be in

compliance with all permit requirements for acute whole effluent toxicity as long as the requirements in subsection C. are being met to the satisfaction of the Department.

**B. Monitoring for Compliance With an Effluent Limit for Acute Toxicity**

The Permittee must conduct monitoring to determine compliance with the effluent limit for acute toxicity. The acute toxicity tests must be performed using at a minimum 100% effluent, the ACEC, and a control. Acute toxicity testing must follow protocols, monitoring requirements, and quality assurance/quality control procedures specified in this Section. Testing must begin within 60 days of the permit effective date. A written report must be submitted to the Department within 60 days after the sample date. The percent survival in 100% effluent must be reported along with all compliance monitoring results.

Compliance monitoring must be conducted quarterly using each of the species and protocols listed below on a rotating basis:

1. Fathead minnow, *Pimephales promelas* (96-hour static-renewal test, method: EPA-821-R-02-012).
2. Daphnid, *Ceriodaphnia dubia*, *Daphnia pulex*, or *Daphnia magna* (48-hour static test, method: EPA-821-R-02-012). The Permittee must choose one of the three species and use it consistently throughout effluent characterization.

The Permittee is in violation of the effluent limit for acute toxicity in subsection A. and must immediately implement subsection C. if any acute toxicity test conducted for compliance monitoring determines a statistically significant difference in survival between the control and the ACEC using hypothesis testing at the 0.05 level of significance (Appendix H, EPA/600/4-89/001). If the difference in survival between the control and the ACEC is less than 10%, the hypothesis test must be conducted at the 0.01 level of significance.

**C. Response to Noncompliance With an Effluent Limit for Acute Toxicity**

If a toxicity test conducted for compliance monitoring under subsection B. determines a statistically significant difference in response between the ACEC and the control, the Permittee must begin additional compliance monitoring within one week from the time of receiving the test results. This additional monitoring must be conducted weekly for four consecutive weeks using the same test and species as the failed compliance test. For intermittent discharges, testing must be conducted on the next four discharge events using the same test and species as the failed compliance test. Testing must be conducted using a series of at least five effluent concentrations and a control in order to be able to determine appropriate point estimates. One of these effluent concentrations must equal the ACEC and be compared statistically to the nontoxic control in order to determine compliance with the effluent limit for acute toxicity as described in subsection B. The discharger must return to the original monitoring frequency in subsection B. after completion of the additional compliance monitoring.

If the Permittee believes that a test indicating noncompliance will be identified by the Department as an anomalous test result, the Permittee may notify the Department that the compliance test result might be anomalous and that the Permittee intends to take only one additional sample for toxicity testing and wait for notification from the Department before completing the additional monitoring required in this subsection. The notification to the Department must accompany the report of the compliance test result and identify the reason for considering the compliance test result to be anomalous. The Permittee must complete all of the additional monitoring required in this subsection as soon as possible after notification by the Department that the compliance test result was not anomalous. If the one additional sample fails to comply with the effluent limit for acute toxicity, then the Permittee must proceed without delay to complete all of the additional monitoring required in this subsection. The one additional test result must replace the compliance test result upon determination by the Department that the compliance test result was anomalous.

If all of the additional compliance monitoring conducted in accordance with this subsection complies with the permit limit, the Permittee must search all pertinent and recent facility records (operating records, monitoring results, inspection records, spill reports, weather records, production records, raw material purchases, pretreatment records, etc.) and submit a report to the Department on possible causes and preventive measures for the transient toxicity event which triggered the additional compliance monitoring.

If toxicity occurs in violation of the acute toxicity limit during the additional compliance monitoring, the Permittee must submit a Toxicity Identification/Reduction Evaluation (TI/RE) plan to the Department within 60 days after the sample date. The TI/RE plan must be based on WAC 173-205-100(2) and must be implemented in accordance with WAC 173-205-100(3).

D. Sampling and Reporting Requirements

1. All reports for effluent characterization or compliance monitoring must be submitted in accordance with the most recent version of Department of Ecology Publication # WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria* in regards to format and content. Reports must contain bench sheets and reference toxicant results for test methods. If the lab provides the toxicity test data on floppy disk for electronic entry into the Department's database, then the Permittee must send the disk to the Department along with the test report, bench sheets, and reference toxicant results.
2. Testing must be conducted on grab samples. Samples taken for toxicity testing must be cooled to 0 - 6 degrees Celsius while being collected and must be sent to the lab immediately upon completion. The lab must begin the toxicity testing as soon as possible but no later than 36 hours after sampling was ended.

3. All samples and test solutions for toxicity testing must have water quality measurements as specified in Department of Ecology Publication # WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria* or most recent version thereof.
4. All toxicity tests must meet quality assurance criteria and test conditions in the most recent versions of the EPA manual listed in subsection A. and the Department of Ecology Publication # WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria*. If test results are determined to be invalid or anomalous by the Department, testing must be repeated with freshly collected effluent.
5. Control water and dilution water must be laboratory water meeting the requirements of the EPA manual listed in subsection A or pristine natural water of sufficient quality for good control performance.
6. The whole effluent toxicity tests must be run on an unmodified sample of final effluent.
7. The Permittee may choose to conduct a full dilution series test during compliance monitoring in order to determine dose response. In this case, the series must have a minimum of five effluent concentrations and a control. The series of concentrations must include the ACEC.
8. All whole effluent toxicity tests, effluent screening tests, and rapid screening tests that involve hypothesis testing and do not comply with the acute statistical power standard of 29% as defined in WAC 173-205-020 must be repeated on a fresh sample with an increased number of replicates to increase the power.

## S9. CHRONIC TOXICITY

### A. Effluent Characterization

The Permittee must conduct chronic toxicity testing on the final effluent. The two, chronic toxicity tests listed below must be conducted on each sample taken for effluent characterization. **The ACEC equals 1.6 % effluent. The CCEC equals 0.8 % effluent.**

Testing must begin within one year of the permit effective date.

Effluent testing for chronic toxicity must be conducted every other month, for one year. The Permittee must submit a written report to Ecology within sixty (60) days after each sample date. The Permittee must conduct chronic toxicity testing during effluent characterization on a series of at least five concentrations of effluent in order to determine appropriate point estimates. This series of dilutions must include the ACEC. The Permittee must compare the ACEC to the control using hypothesis testing at the 0.05 level of significance as described in Appendix H, EPA/600/4-89/001.

Chronic toxicity tests must be conducted with the following two, species and the most recent version of the following protocols:

Saltwater Chronic Test	Species	Method
Topsmelt survival and growth	<i>Atherinops affinis</i>	EPA/600/R-95/136
Oyster/ Mussel Survival and development	<i>Crassostrea gigas</i> / <i>Mytilus sp.</i>	EPA/600/R-95/136

The Pacific oyster and mussel tests must be run in accordance with EPA/600/R-95/136 and the bivalve development test conditions in the Department of Ecology Publication #WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria* or most recent version thereof. The laboratory must use whichever one of the two species that will give a valid result in each particular test.

**B. Sampling and Reporting Requirements**

1. All reports for effluent characterization or compliance monitoring must be submitted in accordance with the most recent version of Department of Ecology Publication # WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria* in regards to format and content. Reports must contain bench sheets and reference toxicant results for test methods. If the lab provides the toxicity test data on floppy disk for electronic entry into the Department's database, then the Permittee must send the disk to the Department along with the test report, bench sheets, and reference toxicant results.
2. Testing must be conducted on grab samples. Samples taken for toxicity testing must be cooled to 0 - 6 degrees Celsius while being collected and must be sent to the lab immediately upon completion. The lab must begin the toxicity testing as soon as possible but no later than 36 hours after sampling was ended.
3. All samples and test solutions for toxicity testing must have water quality measurements as specified in Department of Ecology Publication # WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria* or most recent version thereof.
4. All toxicity tests must meet quality assurance criteria and test conditions in the most recent versions of the EPA manual listed in subsection A. and the Department of Ecology Publication # WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria*. If test results are determined to be invalid or anomalous by the Department, testing must be repeated with freshly collected effluent.
5. Control water and dilution water must be laboratory water meeting the requirements of the EPA manual listed in subsection A or pristine natural water of sufficient quality for good control performance.

6. The whole effluent toxicity tests must be run on an unmodified sample of final effluent.
7. The Permittee may choose to conduct a full dilution series test during compliance monitoring in order to determine dose response. In this case, the series must have a minimum of five effluent concentrations and a control. The series of concentrations must include the ACEC and the CCEC.
8. All whole effluent toxicity tests, effluent screening tests, and rapid screening tests that involve hypothesis testing and do not comply with the acute statistical power standard of 29% as defined in WAC 173-205-020 must be repeated on a fresh sample with an increased number of replicates to increase the power.

## **S10. OUTFALL EVALUATION**

The Permittee must inspect, once per permit cycle, the submerged portion of the outfall line and diffuser to document its integrity and continued function. If conditions allow for a photographic verification, it must be included in the report. The inspection report must be submitted to the Department within 30 days of its completion.

## **S11. DIOXIN STUDY**

### **A. Wastewater Sampling**

The Permittee must sample the final effluent (001) and the upstream wastewater stream from the catalytic reformer units for chlorinated dioxin and furan (2,3,7,8-Cl substituted tetra- through octa- congeners) concentrations twice during the permit cycle. The wastewater stream from the catalytic reformer units must be sampled during two different catalyst regeneration events. A grab sample must be collected from each monitored caustic wash during the regeneration of each reformer unit.

Analysis including sample containers and QA/QC must be conducted in accordance with Method 1613: Tetra- through Octa- Chlorinated Dioxins and Furans by Isotopic Dilution HRGC/HRMS, USEPA Office of Water, Engineering and Analysis Division, Revision A. The Minimum Level (ML) of detection for 2,3,7,8- TCDD/TCDF must be 10 parts per quadrillion or less. The Permittee must report the lowest detected concentrations of all 2,3,7,8-Cl substituted dioxins and furans that meet the quality assurance specifications of Method 1613, including all detected concentrations below the calibration limits of Method 1613.

### **B. Dioxin Study Report**

The Permittee must submit to the Department, with the permit renewal application, a Dioxin Study Report containing the results of the sampling and analysis.

The wastewater data report to Ecology must include: date sampled, total flow for each wash, and the concentration of the 2,3,7,8-Cl substituted tetra- through octa- dioxin

and furan congeners from each caustic wash. The Permittee must require the laboratory to report and maintain on file for each sample set: the analytical holding times, summary of internal precision and recovery, calibration data, analysis sequence (run logs), daily checks (ongoing precision and accuracy standards, blanks, instrument checks), QA/QC data (duplicates, matrix spikes/labeled analog spikes), and raw data (chromatograms).

## **S12. PRIORITY POLLUTANT SCAN**

The Permittee must sample the final effluent and analyze the sample for the priority pollutants--and **other pollutants** listed in the table in **Appendix C**--annually. The detection limit and method must conform to those listed. The Permittee must submit the results of these analyses to Ecology within three months of each sampling event. The data must be listed in tabular form with the detection limit, the value including units, and the method.

The table in Appendix C is a list of all priority pollutants. It includes PCBs and pesticides which the Permittee need not test for unless those chemicals are used on site.

## **S13. POLLUTION PREVENTION PLANNING AND ACTIVITIES**

Pollution prevention planning/activities at the facility include:

- the new pollution prevention plan (P2) projects identified for the upcoming permit cycle in the plan update, and
- the Standard Operating Procedures (SOPs), Best Management Practices (BMPs), and those work practices developed through pollution prevention activities from previous permit P2 plans, stormwater pollution prevention plans (SWPPP), solid waste control plans, and spill plans.

The Permittee must continue to ensure proper operation and maintenance of the refinery process units and wastewater treatment system by following existing SOPs, BMPs and work practices. These procedures and other measures/facilities currently employed at the refinery to prevent or minimize the potential for release of pollutants to the wastewater treatment system, to storm water, and/or to waters of the state must be continued or maintained unless modified by the pollution prevention plan updates required below.

### Solid Waste

The Permittee must handle and dispose of all solid waste material in such a manner as to prevent its entry into state ground water or surface water. The Permittee must not allow leachate from its solid waste material to enter state waters without providing all known, available, and reasonable methods of treatment, nor allow such leachate to cause violations of the State Surface Water Quality Standards, Chapter 173-201A WAC, or the State Ground Water Quality Standards, Chapter 173-200 WAC. The Permittee must apply for a permit or permit modification as may be required for such discharges to state ground water or surface waters.

### Storage Tank Wastewater

The operation of removing wastewater from oil, product, and intermediate distillate storage tanks must be performed in a manner and with facilities as required to prevent the wastewater from draining or spilling onto the ground.

#### A. Pollution Prevention Plan Development and Implementation

The Permittee must prepare an update to its Pollution Prevention Plan to meet the objectives identified below, and must submit the updated plan to the Department for review and approval **by June 30 2009**. The Permittee must implement the approved pollution prevention plan update and any approved modifications to the plan--and must abide by the timeframes identified--throughout the term of the permit.

The objective of this update is to identify any new sources of pollutants, to reevaluate previously identified pollution prevention opportunities and to identify any new opportunities, and implement those that are technically and economically achievable. Previously identified opportunities include those identified by the facility in its current Pollution Prevention Plan, and those identified in Ecology Publication 02-07-017 (Water Pollution Prevention Opportunities in Petroleum Refineries). The update must also include an evaluation of the existing SOPs, BMPs and work practices developed under previous pollution prevention planning activities.

#### B. Specific Plan Update Requirements

The Permittee must update the following plan elements as necessary: the policy statement and signature, employee involvement, training and awareness, descriptions of current pollution prevention activities, and the description of potential pollutants and sources. Appendix A includes references to guidance documents, specific items to be included in the plan, and procedures for identifying, evaluating, and prioritizing pollution prevention opportunities. Other information available to the Permittee may also be used in preparing the plan.

The updated plan must include a schedule for implementation of each newly selected opportunity. If a detailed analysis of technical and economical feasibility for any pollution prevention opportunity will extend beyond the deadline for submitting the updated plan, the Permittee must include in the plan submittal, a schedule for completing the analysis. The biennial report must provide a schedule for evaluation of further opportunities, and then the timeframe for implementing any selected.

#### C. Storm water Inspections

The Permittee must conduct two storm water inspections per year; one during the wet season (October 1 through April 30) and the other during the dry season (May 1 through September 30).

The Permittee must conduct the wet season inspection during a rainfall event and must include and record observations of the presence of any floating materials, suspended solids, oil and grease, discolorations, turbidity, odor, etc. –in storm water runoff from throughout the refinery—that could contribute to a discharge off-site.

The Permittee’s dry season inspection must determine the presence of any unpermitted non-storm water discharges—such as sanitary wastewater, non-contact cooling water, process wastewater, and drainage from raw material/product/waste storage—to the storm water drainage system. If an unpermitted, non-storm water discharge is discovered, the Permittee must immediately notify the Department.

Inspections must be conducted by staff knowledgeable about, and trained in the application of, BMPs and pollution prevention activities at the refinery.

#### D. Plan Evaluation and Biennial Reporting

The Permittee must periodically evaluate, and must modify as necessary, the pollution prevention plan and associated existing SOPs, BMPs and work practices. The Permittee must ensure that they are updated or otherwise modified to reflect current conditions; ensure that measures in the plan, selected to reduce or eliminate pollutant loadings are both adequate to the task, and properly implemented (in accordance with the terms of the permit); and that such evaluation must enable the Permittee to determine whether any additional controls are needed.

The Permittee must modify the pollution prevention plan whenever a change in design, construction, operation, or maintenance of the facility, significantly increases the generation or potential to generate water pollutants; or when such change causes the pollution prevention plan and associated existing SOPs, BMPs and work practices to less effectively control pollutants. The Permittee must implement any modifications to the pollution prevention plan in a timely manner.

The Permittee must submit a biennial progress report every two years thereafter (**starting June 30, 2010**) including submitting the Pollution Prevention Plan Update as required by Permit Condition S.13.A. The report must identify the implementation status of each pollution prevention opportunity selected, the benefits or other results of implementation actions completed, and any modifications or updates to the plan. The report must also include a summary of the results of storm water inspections.

#### E. Continuous Improvement

In maintaining, implementing, and updating the pollution prevention plan, Ecology encourages the Permittee to employ continuous improvement principles—including the systematic and ongoing identification, evaluation, and implementation of pollution prevention opportunities—in all decisions having environmental consequences.

#### **S14. DANGEROUS WASTES – PERMIT BY RULE REQUIREMENTS**

The permittee is authorized to treat dangerous wastes, generated on- or off-site, at the wastewater treatment facility under Chapter WAC 173-303-802(5)—the “permit by rule” provisions. This authorization is limited to the on-site and off-site waste streams identified on the permit application and application amendments as approved by Ecology.

The Permittee must maintain records of all off-site waste streams treated at Shell Oil’s wastewater facility. The origin, volume, known waste constituents, any analytical data, and date of addition, must be recorded. This information must be available to an authorized representative of Ecology, as described in General Condition G2. The Permittee must submit a summary description of the off-site dangerous wastes it accepted and treated, with its next application for permit renewal.

#### **S15. CONSTRUCTION STORMWATER**

Construction stormwater includes stormwater associated with construction activity and construction support activities at the construction site (equipment staging yards, material storage areas, borrow areas, etc.). This section does not apply to construction stormwater treated and discharged from Outfall 001 provided that Shell manages the stormwater in compliance with the best management practices identified in the Stormwater Pollution Prevention Plan.

##### 1. Authorization and Conditions to Discharge Construction Stormwater

Beginning on the effective date of this permit and lasting through the expiration date, the Permittee is authorized to discharge construction stormwater at Outfalls 002, 003, 004, 005, 006, 007, and 009 thru 015 subject to the following requirements and limitations:

- a. Construction stormwater discharges must not cause or contribute to a violation of surface water quality standards (Chapter 173-201A WAC), ground water quality standards (Chapter 173-200 WAC), *sediment* management standards (Chapter 173-204 WAC), and human health-based criteria in the National Toxics Rule (40 CFR Part 131.36). Discharges that do not comply with these standards are not authorized.
- b. Prior to the discharge of construction stormwater to *waters of the state*, the Permittee must apply all known, available, and reasonable methods of prevention, control, and treatment (AKART). This includes the preparation and implementation of an adequate Stormwater Pollution Prevention Plan (SWPPP), with all appropriate *best management practices* (BMPs) installed and maintained in accordance with the SWPPP and the terms and conditions of this permit.
- c. Ecology presumes the Permittee’s construction stormwater management complies with water quality standards, unless discharge monitoring data or other site-

specific information demonstrate that a discharge causes or contributes to a violation of water quality standards, when the Permittee is:

- In full compliance with all permit conditions—including planning, sampling, monitoring, reporting, and recordkeeping conditions.
- Fully implementing construction stormwater BMPs contained in *stormwater management manuals* published or approved by Ecology, or construction stormwater BMPs that are *demonstrably equivalent* to BMPs contained in stormwater technical manuals published or approved by Ecology—including the proper selection, implementation, and maintenance of all applicable and appropriate BMPs for on-site *pollution* control.

## 2. Construction Stormwater Pollution Prevention Plans

A standard Stormwater Pollution Prevention Plan (SWPPP) for construction activities greater than one acre and less than five (1-5) acres, including construction dewatering, must be prepared and submitted to the Department by within 60 days of the permit effective date. Project details for each construction project and for any site-specific issues for that project that require additional BMPs must be submitted to the Department **at least 90 days prior to the start of construction (or by another time period agreed to by Ecology)**.

The Permittee must prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) for construction activity occurring on sites greater than 5 acres—including construction dewatering—prior to the start of each construction project. The Permittee must submit all details for each construction project to the Department at least **90 days prior to the start of construction (or by another time period agreed to by Ecology)**.

Each SWPPP must be prepared in accordance with the objectives and requirements identified in Special Condition S.9. of the National Pollutant Discharge Elimination System and State Waste Discharge Construction Stormwater General Permit issued by Ecology on November 16, 2005, or as revised (Ecology Construction Stormwater General Permit).

## 3. Monitoring Requirements

The Permittee must sample the discharge from the construction site at least once every calendar week, when there is a discharge of stormwater from the site. Samples must be representative of the flow and characteristics of the discharge.

When there is no discharge during a calendar week, sampling is not required. Sampling is not required outside of normal working hours or during unsafe conditions. If a Permittee is unable to sample during a monitoring period, the Discharge Monitoring Report (DMR) must include a brief explanation.

Sampling is required at all discharge points where stormwater is discharged off-site. All sampling point(s) must be identified on the SWPPP site map and must be clearly marked in the field with a flag, tape, stake or other visible marker.

Soil disturbance area is calculated by adding together all areas affected by construction activity. “Construction activity” means clearing, grading, excavation, and any other activity which disturbs the surface of the land, including ingress/egress from the site.

The primary monitoring requirements are summarized below:

Summary of Monitoring Requirements			
Soil Disturbance Area	Weekly Site Inspections	Weekly Turbidity Sampling	Weekly pH Sampling
Sites <1 acre	Required	Not required unless construction activity involves <b>significant concrete work</b> or the use of engineered soils	
Sites >1 acre	Required	Required	Required

#### 4. Turbidity Monitoring

Turbidity (analysis must be performed with a calibrated turbidity meter (turbidimeter), either on-site or at an accredited lab. The results must be recorded in the site log book in Nephelometric Turbidity Units (NTU).

Parameter	Units	Analytical Method	Sampling Frequency
Turbidity	NTU	SM2130 or EPA180.1	Weekly, if discharging

The **Benchmark Value** for turbidity is **25 NTU**. If the discharge turbidity is greater than 25 NTU, the CESCL must:

- Review the SWPPP for compliance with requirements identified in Special Condition S.9. of the Ecology Construction Stormwater General Permit, and make appropriate revisions within 7 days of the discharge that exceeded the benchmark.
- Fully implement and maintain appropriate construction stormwater source control and/or treatment BMPs as soon as possible, but within 10 days of the discharge that exceeded the benchmark. If additional time is needed for a source control or treatment project, the permittee must submit (within 10 days of the discharge that exceeded the benchmark) a description of the project and an implementation schedule for Ecology’s review and approval.
- Document construction stormwater BMP implementation and maintenance in the site log book.

If the discharge turbidity is greater than or equal to 250 NTU; the CESCL must also:

- Notify Ecology by phone in accordance with Condition S3.E.
- Continue to sample discharges daily until either the turbidity resolves to 25 NTU (or lower); or the CESCL demonstrates compliance with the water quality standard for turbidity --no more than 5 NTU over background turbidity, if background is less than 50 NTU; or no more than 10% over background turbidity, if background is 50 NTU or greater-- or the discharge stops or is eliminated.

#### 5. pH Monitoring

For sites greater than one acre, the Permittee must obtain a representative sample of construction stormwater at least once per week and conduct pH analysis. For sites less than one acre, pH analysis is required once per week when there is active concrete work in progress, or when engineered soils are in use. The Permittee must perform pH analysis on-site with a calibrated pH meter, pH test kit, or wide range pH indicator paper. The Permittee must record pH monitoring results in the site log book

The **benchmark value for pH is 8.5 standard units**. Any time sampling indicates that pH is 8.5 or greater, the Permittee must prevent the high pH water (8.5 or above) from entering surface waters; and if necessary, the Permittee must adjust or neutralize the high pH water, using an appropriate treatment BMP. The Permittee must obtain written approval from Ecology prior to using any form of chemical treatment other than CO<sub>2</sub> sparging or dry ice.

#### 6. Site Log Book

For sites greater than 1 acre, the Permittee must maintain a site log book that contains a record of implementation of its SWPPP and other permit requirements including the installation and maintenance of construction stormwater BMPs, site inspections, and stormwater monitoring.

#### 7. Site Inspections

Site inspections must include all areas disturbed by construction activities, all construction stormwater BMPs, and all stormwater discharge points. Stormwater must be visually examined for the presence of suspended sediment, turbidity, discoloration, and oil sheen. Inspectors must evaluate the effectiveness of BMPs and determine if it is necessary to install, maintain, or repair BMPs to improve the quality of stormwater discharges.

Based on the results of the inspection, the Permittee must correct the problems identified as follows:

- Review the SWPPP for compliance with Condition S9. of the Ecology Construction Stormwater General Permit and make appropriate revisions within 7 days of the inspection; and
- Fully implement and maintain appropriate construction stormwater *source control* and/or *treatment BMPs* as soon as possible, but no later than 10 days of the inspection; and
- Document construction stormwater BMP implementation and maintenance in the site log book.

The site inspections must be conducted at least once every *calendar week* and within 24 hours of any discharge from the site. The inspection frequency for temporarily stabilized, inactive sites may be reduced to once every calendar month.

Site inspections must be conducted by a person who is knowledgeable in the principles and practices of erosion and sediment control. The inspector must have the skills to:

- Assess the site conditions and construction activities that could impact the quality of stormwater, and
- Assess the effectiveness of erosion and sediment control measures used to control the quality of stormwater discharges.

Construction sites one acre or larger that discharge stormwater to surface waters of the state, must have site inspections conducted by a *Certified Erosion and Sediment Control Lead* (CESCL) or a civil engineer/geologist experienced and familiar with the applicable SWPPP. The CESCL must be identified in the SWPPP and must be present on-site or on-call at all times. Certification must be obtained through an approved erosion and sediment control training program that meets the minimum training standards established by Ecology (see <http://www.ecy.wa.gov/programs/wq/stormwater/cescl.htm> or the Stormwater Management Manual for Western Washington, dated February 2005).

The inspector must summarize the results of each inspection in an inspection report or checklist and be entered into, or attached to, the site log book. At a minimum, each inspection report or checklist must include:

- Inspection date and time.
- Weather information; general conditions during inspection and approximate amount of precipitation since the last inspection, and within the last 24 hours.
- A summary or list of all construction stormwater BMPs which have been implemented, including observations of all erosion/sediment control structures or practices.
- The following must be noted: locations of construction stormwater construction stormwater BMPs inspected, locations of construction stormwater BMPs that need maintenance, the reason maintenance is needed, locations of construction stormwater BMPs that failed to operate as designed or intended, and locations

where additional or different construction stormwater BMPs are needed, and the reason(s) why.

- A description of stormwater discharged from the construction site. The inspector must note the presence of suspended sediment, turbid water, discoloration, and/or oil sheen, as applicable.
- Any water quality monitoring performed during the inspection.
- General comments and notes, including a brief description of any construction stormwater BMP repairs, maintenance, or installations made as a result of the inspection.
- A statement that, in the judgment of the person conducting the site inspection, the site is either in compliance or out of compliance with the terms and conditions of the construction SWPPP and the permit. If the site inspection indicates that the site is out of compliance, the inspection report must include a summary of the remedial actions required to bring the site back into compliance, as well as a schedule of implementation.
- Name, title, and signature of the person conducting site inspection; and the following statement: "I certify that this report is true, accurate, and complete, to the best of my knowledge and belief".

## GENERAL CONDITIONS

### G1. SIGNATORY REQUIREMENTS

All applications, reports, or information submitted to the Department must be signed and certified.

- A. All permit applications must be signed by either a responsible corporate officer of at least the level of vice president of a corporation, a general partner of a partnership, or the proprietor of a sole proprietorship.
- B. All reports required by this permit and other information requested by the Department must be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
  - 1. The authorization is made in writing by a person described above and submitted to the Department.
  - 2. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.)
- C. Changes to authorization. If an authorization under paragraph B.2 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph B.2 above must be submitted to the Department prior to or together with any reports, information, or applications to be signed by an authorized representative.
- D. Certification. Any person signing a document under this section must make the following certification:

I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

## **G2. RIGHT OF INSPECTION AND ENTRY**

The Permittee must allow an authorized representative of the Department, upon the presentation of credentials and such other documents as may be required by law:

- A. To enter upon the premises where a discharge is located or where any records must be kept under the terms and conditions of this permit.
- B. To have access to and copy - at reasonable times and at reasonable cost - any records required to be kept under the terms and conditions of this permit.
- C. To inspect - at reasonable times - any facilities, equipment (including monitoring and control equipment), practices, methods, or operations regulated or required under this permit.
- D. To sample or monitor - at reasonable times - any substances or parameters at any location for purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act.

## **G3. PERMIT ACTIONS**

This permit may be modified, revoked and reissued, or terminated either at the request of any interested person (including the permittee) or upon the Department's initiative. However, the permit may only be modified, revoked and reissued, or terminated for the reasons specified in 40 CFR 122.62, 122.64 or WAC 173-220-150 according to the procedures of 40 CFR 124.5.

- A. The following are causes for terminating this permit during its term, or for denying a permit renewal application:
  - 1. Violation of any permit term or condition.
  - 2. Obtaining a permit by misrepresentation or failure to disclose all relevant facts.
  - 3. A material change in quantity or type of waste disposal.
  - 4. A determination that the permitted activity endangers human health or the environment or contributes to water quality standards violations and can only be regulated to acceptable levels by permit modification or termination [40 CFR part 122.64(3)].
  - 5. A change in any condition that requires either a temporary or permanent reduction or elimination of any discharge or sludge use or disposal practice controlled by the permit [40 CFR part 122.64(4)].
  - 6. Nonpayment of fees assessed pursuant to RCW 90.48.465.
  - 7. Failure or refusal of the permittee to allow entry as required in RCW 90.48.090.

- B. The following are causes for modification but not revocation and reissuance except when the permittee requests or agrees:
1. A material change in the condition of the waters of the state.
  2. New information not available at the time of permit issuance that would have justified the application of different permit conditions.
  3. Material and substantial alterations or additions to the permitted facility or activities which occurred after this permit issuance.
  4. Promulgation of new or amended standards or regulations having a direct bearing upon permit conditions, or requiring permit revision.
  5. The Permittee has requested a modification based on other rationale meeting the criteria of 40 CFR Part 122.62.
  6. The Department has determined that good cause exists for modification of a compliance schedule, and the modification will not violate statutory deadlines.
  7. Incorporation of an approved local pretreatment program into a municipality's permit.
- C. The following are causes for modification or alternatively revocation and reissuance:
1. Cause exists for termination for reasons listed in A1 through A7, of this section, and the Department determines that modification or revocation and reissuance is appropriate.
  2. The Department has received notification of a proposed transfer of the permit. A permit may also be modified to reflect a transfer after the effective date of an automatic transfer (General Condition G8) but will not be revoked and reissued after the effective date of the transfer except upon the request of the new permittee.

#### **G4. REPORTING PLANNED CHANGES**

The Permittee must, as soon as possible, but no later than sixty (60) days prior to the proposed changes, give notice to the Department of planned physical alterations or additions to the permitted facility, production increases, or process modification which will result in: 1) the permitted facility being determined to be a new source pursuant to 40 CFR 122.29(b); 2) a significant change in the nature or an increase in quantity of pollutants discharged; or 3) a significant change in the Permittee's sludge use or disposal practices. Following such notice, and the submittal of a new application or supplement to the existing application, along with required engineering plans and reports, this permit may be modified, or revoked and reissued pursuant to 40 CFR 122.62(a) to specify and limit any pollutants not previously limited. Until such modification is effective, any new or increased discharge in excess of permit limits or not specifically authorized by this permit constitutes a violation.

#### **G5. PLAN REVIEW REQUIRED**

Prior to constructing or modifying any wastewater control facilities, an engineering report and detailed plans and specifications must be submitted to the Department for approval in

accordance with Chapter 173-240 WAC. Engineering reports, plans, and specifications must be submitted at least one hundred eighty (180) days prior to the planned start of construction unless a shorter time is approved by Ecology. Facilities must be constructed and operated in accordance with the approved plans.

## **G6. COMPLIANCE WITH OTHER LAWS AND STATUTES**

Nothing in this permit must be construed as excusing the Permittee from compliance with any applicable federal, state, or local statutes, ordinances, or regulations.

## **G7. TRANSFER OF THIS PERMIT**

In the event of any change in control or ownership of facilities from which the authorized discharge emanate, the Permittee must notify the succeeding owner or controller of the existence of this permit by letter, a copy of which must be forwarded to the Department.

### **A. Transfers by Modification**

Except as provided in paragraph B below, this permit may be transferred by the Permittee to a new owner or operator only if this permit has been modified or revoked and reissued under 40 CFR 122.62(b)(2), or a minor modification made under 40 CFR 122.63(d), to identify the new Permittee and incorporate such other requirements as may be necessary under the Clean Water Act.

### **B. Automatic Transfers**

This permit may be automatically transferred to a new Permittee if:

1. The Permittee notifies the Department at least 30 days in advance of the proposed transfer date.
2. The notice includes a written agreement between the existing and new Permittee's containing a specific date transfer of permit responsibility, coverage, and liability between them.
3. The Department does not notify the existing Permittee and the proposed new Permittee of its intent to modify or revoke and reissue this permit. A modification under the subparagraph may also be minor modification under 40 CFR 122.63. If this notice is not received, the transfer is effective on the date specified in the written agreement.

## **G8. REDUCED PRODUCTION FOR COMPLIANCE**

The Permittee, in order to maintain compliance with its permit, must control production and/or all discharges upon reduction, loss, failure, or bypass of the treatment facility until the facility is restored or an alternative method of treatment is provided. This requirement applies in the situation where, among other things, the primary source of power of the treatment facility is reduced, lost, or fails.

#### **G9. REMOVED SUBSTANCES**

Collected screenings, grit, solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters must not be resuspended or reintroduced to the final effluent stream for discharge to state waters.

#### **G10. DUTY TO PROVIDE INFORMATION**

The Permittee must submit to the Department, within a reasonable time, all information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The Permittee must also submit to the Department upon request, copies of records required to be kept by this permit.

#### **G11. OTHER REQUIREMENTS OF 40 CFR**

All other requirements of 40 CFR 122.41 and 122.42 are incorporated in this permit by reference.

#### **G12. ADDITIONAL MONITORING**

The Department may establish specific monitoring requirements in addition to those contained in this permit by administrative order or permit modification.

#### **G13. PAYMENT OF FEES**

The Permittee must submit payment of fees associated with this permit as assessed by the Department.

#### **G14. PENALTIES FOR VIOLATING PERMIT CONDITIONS**

Any person who is found guilty of willfully violating the terms and conditions of this permit must be deemed guilty of a crime, and upon conviction thereof must be punished by a fine of up to ten thousand dollars (\$10,000) and costs of prosecution, or by imprisonment in the discretion of the court. Each day upon which a willful violation occurs may be deemed a separate and additional violation.

Any person who violates the terms and conditions of a waste discharge permit must incur, in addition to any other penalty as provided by law, a civil penalty in the amount of up to ten thousand dollars (\$10,000) for every such violation. Each and every such violation must be a separate and distinct offense, and in case of a continuing violation, every day's continuance must be deemed to be a separate and distinct violation.

#### **G15. UPSET**

Definition – “Upset” means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include

noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of the following paragraph are met.

A Permittee who wishes to establish the affirmative defense of upset must demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that: 1) an upset occurred and that the Permittee can identify the cause(s) of the upset; 2) the permitted facility was being properly operated at the time of the upset; 3) the Permittee submitted notice of the upset as required in condition S3.E; and 4) the Permittee complied with any remedial measures required under S4.C of this permit.

In any enforcement proceedings the Permittee seeking to establish the occurrence of an upset has the burden of proof.

#### **G16. PROPERTY RIGHTS**

This permit does not convey any property rights of any sort, or any exclusive privilege.

#### **G17. DUTY TO COMPLY**

The Permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

#### **G18. TOXIC POLLUTANTS**

The Permittee must comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if this permit has not yet been modified to incorporate the requirement.

#### **G19. PENALTIES FOR TAMPERING**

The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit must, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than two years per violation, or by both. If a conviction of a person is for a violation committed after a first conviction of such person under this Condition, punishment must be a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than four (4) years, or by both.

## **G20. REPORTING ANTICIPATED NON-COMPLIANCE**

The Permittee must give advance notice to the Department by submission of a new application or supplement thereto at least one hundred and eighty (180) days prior to commencement of such discharges, of any facility expansions, production increases, or other planned changes, such as process modifications, in the permitted facility or activity which may result in noncompliance with permit limits or conditions. Any maintenance of facilities, which might necessitate unavoidable interruption of operation and degradation of effluent quality, must be scheduled during non-critical water quality periods and carried out in a manner approved by the Department.

## **G21. REPORTING OTHER INFORMATION**

Where the Permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Department, it must promptly submit such facts or information.

## **G22. REPORTING REQUIREMENTS APPLICABLE TO EXISTING MANUFACTURING, COMMERCIAL, MINING, AND SILVICULTURAL DISCHARGERS**

The Permittee belonging to the categories of existing manufacturing, commercial, mining, or silviculture must notify the Department as soon as they know or have reason to believe:

- A. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following “notification levels:”
  1. One hundred micrograms per liter (100 µg/L).
  2. Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony.
  3. Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7).
  4. The level established by the Director in accordance with 40 CFR 122.44(f).
  
- B. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following “notification levels:”
  1. Five hundred micrograms per liter (500µg/L).
  2. One milligram per liter (1 mg/L) for antimony.
  3. Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7).
  4. The level established by the Director in accordance with 40 CFR 122.44(f).

**G23. COMPLIANCE SCHEDULES**

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit must be submitted no later than fourteen (14) days following each schedule date.

## **APPENDIX A - REFINERY NPDES POLLUTION PREVENTION PLANS – SPECIFIC REQUIREMENTS**

### **GUIDANCE DOCUMENTS**

Guidance available to develop a pollution prevention plan include the Storm water Management Manual for Western Washington published August 2001 by Ecology (Publication numbers 99-11 through 99-15), the ‘Pollution Prevention and Best Management Practices’ section of the Ecology Permit Writer’s Manual (Chapter XII.) (Publication number 92-109), EPA’s Organizational Guide to Pollution Prevention, 2001 available at <http://www.p2ric.org/CachedPages/printguid.pdf>, the methodologies of pollution prevention planning references available at <http://www.ecy.wa.gov/programs/hwtr/p2/p3.html>, and other information provided by the Ecology Permit Manager. The Permittee is expected to apply the methodologies from the existing guidance to cover other sources, pathways, or measures not covered within the strict scope of the WAC 173-307 guidance.

### **PLAN AND PLAN IMPLEMENTATION REQUIREMENTS**

#### **Policy Statement and Signature:**

The pollution prevention plan must include a policy statement articulating management and corporate support for the plan and a commitment to implement the plan and to continued pursuit of pollution prevention opportunities. The plan, plan updates, and modifications must be signed in accordance with Permit Condition G1.

#### **Employee Involvement, Training, and Awareness:**

The pollution prevention plan must include a description of personnel training and employee involvement programs that emphasize pollution prevention and solicit employee ideas about pollution prevention opportunities and other environmental issues. Staff training records must be maintained onsite and be available for inspection.

#### **Description of Current Pollution Prevention Activities:**

The plan must include a description of preventive measures and facilities already employed at the refinery to prevent, reduce, eliminate, or control releases of pollutants to influent wastewater streams, storm water, and/or waters of the state.

#### **Incorporating Other Pollution Prevention Plans**

The Permittee may incorporate applicable portions of plans prepared for other purposes. Plans or portions of plans incorporated into the pollution prevention plan become enforceable requirements of this permit.

#### **Description of Potential Pollutants and Sources:**

The pollution prevention plan must include a detailed description of the processes or activities that contribute or potentially contribute pollutants to the treatment plant influent, storm water, groundwater, and wetlands. Influent wastewater streams must include those having daily average flow rates equal to or greater than 30 gpm at the point where the wastewater stream enters the collection system and the catalytic wash water spent caustic and wash water waste streams. Minor incidental waste streams to storm water, such as landscaping fertilizers, do not have to be included. The plan must identify the materials used, processed, stored, treated, or disposed of at the facility and the pollutants that are

generated or potentially generated or released. The level of detail provided in the plan should be sufficient to help identify and understand how and why materials are used and pollutants generated or released. Process flow diagrams and/or material input/output information must be included on a process unit basis.

The Permittee must include in the plan all materials which may become pollutants or cause pollution upon reaching state waters, including, but not limited to: 1) persistent bioaccumulative and toxic chemicals (PBTs), 2) oil and petroleum products and, 3) materials which, when spilled or otherwise released into the environment, would be designated Dangerous Waste (DW) or Extremely Hazardous Waste (EHW) by the procedures set forth in WAC 173-303-070.

In determining which sources and pollutants to address in the plan, the Permittee must use available sampling data, as well as knowledge of processes and materials, and available information on the relative toxicity or hazard of materials. Sources of PBTs must be included in the analysis. The Permittee must not be required to sample each stream analytically and may use engineering judgment to assess and quantify material inputs and outputs on a process unit basis.

#### **Identification & Preliminary Evaluation of Pollution Prevention Opportunities:**

The plan must identify pollution prevention opportunities and provide a detailed analysis of each opportunity's technical (including safety considerations) and economic feasibility. Opportunities determined to be technically and economically feasible will be considered as known, available, and reasonable and therefore are required to be selected and scheduled for implementation. For each pollution prevention opportunity selected, the plan must identify the process(es) or activities it affects, an estimate of the amount of pollutants reduced, and the environmental or other benefits that will be achieved. The Permittee is not required to analyze the substitution of alternate crude oil/feedstock supplies as a pollution prevention opportunity.

The Permittee must concentrate on opportunities that reduce or eliminate PBTs, priority pollutant metals, diethanolamine (DEA), and methyldiethanolamine (MDEA) to influent and upstream flows to the oily water sewer. Solids and hydrocarbon loadings to the oily water sewer must also be evaluated. Storm water must be evaluated for oil and grease and solids loading as well as toxics.

In identifying and evaluating pollution prevention opportunities, the Permittee must consider the following:

- All reasonably expected activities and conditions, such as normal operations, maintenance, and other ancillary activities; equipment failure; improper operation; upsets, accidents, spills, leaks; and natural events such as rainfall, snowfall, etc.
- All areas of the refinery with potential to generate water pollutants including process units, raw material and product storage, handling and transfer facilities, material handling areas, maintenance areas, solid and hazardous waste storage, treatment, and disposal, and storm water systems.

The following are examples of pollution prevention strategies that may warrant Permittee's evaluation:

- Improving and/or establishing new management practices and standard operating procedures addressing: increased training or supervision; improvements in inventory control, materials and waste handling, general operations, and housekeeping; preventive maintenance; and remedial measures

- Process or equipment modifications, including re-engineering processes to use less toxic input materials or to utilize by-products
- Material substitution
- Reducing material inputs
- Recycle/reuse of refinery waste, by-products, or process materials and fluids
- Application of water conservation methods, including water reuse
- Waste segregation and separation
- Alternative and/or enhanced treatment technology, including upstream treatment of pollutants

Cross-media shift of pollutants should be avoided, unless a clear net environmental benefit results and compliance with standards applicable to other media or management programs would be maintained.

**Prioritization & Selection of Pollution Prevention Opportunities:**

The plan must prioritize pollution prevention opportunities. The Permittee must provide their rationale for how the pollution prevention opportunities are prioritized. In addition to technical and economical feasibility, other factors may influence ranking of opportunities and should be included in the discussion. These factors may include capital projects planned or ongoing at the refinery that will provide a benefit to environmental media other than water, corresponding reduction in safety risks, etc. Projects that achieve the highest environmental benefit must have greater priority.

In prioritizing and selecting pollution prevention opportunities, the Permittee must give preference first to those that eliminate, avoid, or reduce the generation of water pollutants at the source, second to those that recycle or reuse the pollutants, and third to those that provide at-source or near-source treatment to remove pollutants or render them less toxic or harmful. In ranking opportunities, the Permittee must also consider pollutant loading and toxicity and the potential to achieve the greatest reduction with respect to time and costs.

The Permittee is expected to establish reasonable priorities and schedules for implementation to achieve the greatest reduction in pollutant quantity and toxicity, as well as for management and fiscal necessity.

## APPENDIX B – CALCULATING STORMWATER AND BALLAST WATER ALLOCATIONS

### CALCULATING STORMWATER AND BALLAST WATER ALLOCATIONS

S1.A. effluent limitations in the Shell NPDES permit are **base permit limits** that apply to process water flow – these values are fixed.

S1.C. effluent limitations in the Shell NPDES permits are used to calculate **incremental limits** that apply to storm water and ballast water – the S1.C. limitations are actually multipliers. The incremental limit calculated using one of the multipliers is added to the base permit limit for commingled discharges.

Storm water flow is calculated by the subtraction of an estimated dry weather flow and ballast water flow from the total flow discharged each day.

Ballast water flow is measured by gauging the tanks at the refinery dock. The ballast and storm water allocations in the Shell NPDES permit are based on guidelines in 40 CFR 419.12(c) and 419.22(e). The allocations for storm water are intended to apply to runoff from areas associated with industrial activity, not outlying areas such as parking lots and surrounding acreage.

Daily maximum storm water and ballast water allocations must only be used on an individual parameter basis when **mass loading in the effluent exceeds daily maximum base permit limitations** and when measurable rainfall has occurred within the timeframes established in the NPDES permit. The Shell NPDES permit states that during specified summer months, the permittee will only be allowed to claim the storm water allocation when it can be demonstrated that measurable rainfall has occurred at the refinery site during the previous 10 calendar days.

In calculating storm water allocations, look at the days where total effluent flow exceeds the established dry weather flow. The difference is flow due to storm water. If the storm water allocation can be claimed per the conditions of the previous paragraph, multiply the additional flow (in million gallons per day, MGD) by the appropriate allocation provided in the NPDES permit. This is an incremental permit limit in lbs per day.

Evaluating compliance with the **maximum daily permit limitation** - on a day by day basis compare the maximum discharge for a parameter to the base permit limitation plus the storm water allocation and/or ballast water allocation calculated for that parameter.

#### Example Calculation 1.

Dry weather flow: 1 MGD

Date: March 15, 1997

Parameter: Oil and Grease (O&G)

O&G maximum daily base permit limitation: 100 lbs/day

Maximum daily O&G discharge: 177 lbs/day

Total effluent flow: 2.2 MGD

Flow rate due to rainfall:  $2.2 - 1 = 1.2$  MGD

O&G maximum daily storm water allocation: 130 lbs/million gallons

O&G incremental limit due to storm water:  $1.2 \times 130 = 156$  lbs/day

O&G maximum daily permit limitation for 3/15/97:  $100 + 156 = 256$  lbs/day

Note: Since 177 is less than 256, the permittee is in compliance with the oil and grease maximum daily permit limitation on the day evaluated. If ballast water had also been a factor on 3/15/97, an additional oil and grease allocation due to ballast water could have been calculated and added into the maximum daily permit limitation.

Evaluating compliance with the **monthly average permit limitation** - determine the days where effluent flow exceeds dry weather flow and sampling occurred. Add up the excess flow for these days and divide the result by this number of days. Multiply by the monthly average storm water allocation. -- this is the incremental storm water allocation. Compare the monthly average discharge for a parameter (total mass loading for the month divided by the days in the month) to the base permit limitation plus the storm water allocation and/or ballast water allocation calculated for that parameter.

Example Calculation 2.

Dry weather flow: 1 MGD

Month: November 1997

Parameter: Total Suspended Solids (TSS)

TSS average monthly base permit limitation: 120 lbs/day

Average monthly TSS discharge: 216 lbs/day

During the 5 sampling days the total storm water flow excess was: 2.5 million gallons

TSS average monthly storm water allocation: 180 lbs/million gallons

TSS incremental limit due to storm water:  $2.5 / 5 \times 180 = 90$  lbs/day

TSS average monthly permit limitation for November 1997:  $120 + 90 = 210$  lbs/day

Note: Since 216 is greater than 210, the TSS average monthly permit limit is exceeded.

If ballast water had also been a factor in Example Calculation 2, the average monthly permit limit would not have been exceeded.

Ballast water flow for November 1997 (1 day): 50,000 gallons or 0.05 million gallons

TSS average monthly ballast water allocation: 170 lbs/million gallons

TSS incremental limit due to ballast water:  $0.05 / 1 \times 170 = 8.5$  lbs/day

TSS average monthly permit limitation for November 1997:  $120 + 90 + 8.5 = 218.5$  lbs/day

**APPENDIX C – PRIORITY POLLUTANTS**

<b>Pollutant</b>	<b>CAS Number (if available)</b>	<b>Analytical Protocol as EPA Part 136 method or Standard Methods</b>	<b>Detection or Quantitation Level</b>
<b>Metals, Cyanide &amp; Total Phenols (Part C)</b>			<b>DL µg/l</b>
Antimony, Total	7440-36-0	204.2	3
Arsenic, Total	7440-38-2	206.2	1
Beryllium, Total	7440-43-9	210.2	1
Cadmium, Total	7440-43-9	213.2	0.1
Chromium, Total	7440-47-3	218.2	1
Copper, Total	7440-50-8	220.2	1
Lead, Total	7439-92-1	239.2	1
Mercury, Total	7439-97-6	1631E	0.2 ng/l
Nickel, Total	7440-02-0	249.2	1
Selenium, Total	7782-49-2	270.2	2
Silver, Total	7440-22-4	272.2	0.2
Thallium, Total	7440-28-0	279.2	1
Zinc, Total	7440-66-6	289.2	0.05
Cyanide, Total	57-12-5	335.2 or 335.3	20
Cyanide, WAD	57-12-5	OIA-1677	0.5
Phenols, total		420.1 or 420.2	
<b>Dioxin</b>			<b>QL µg/l</b>
2,3,7,8-Tetra-Chlorodibenzo-P-Dioxin	1764- 01-6	1613	0.00001
<b>Volatile Compounds</b>			<b>QL µg/l</b>
Acrolein	107-02-8	624	50
Acrylonitrile	107-13-1	624	50
Benzene	71-43-2	624	10
Bromoform	75-25-2	624	10
Carbon Tetrachloride	56-23-5	624	10
Chlorobenzene	108-90-7	624	50
Chlorodibromomethane	124-48-1	624	10
Chloroethane	75-00-3	624	10
2-Chloroethylvinyl Ether	110-75-8	624	50
<b>Volatile Compounds</b>			<b>QL µg/l</b>

Pollutant	CAS Number (if available)	Analytical Protocol as EPA Part 136 method or Standard Methods	Detection or Quantitation Level
Chloroform	67-66-3	624	10
Dichlorobromomethane	75-27-4	624	10
Dichlorodifluoromethane	75-71-8	624	10
1,1-Dichloroethane	75-34-3	624	10
1,2-Dichloroethane	107-06-2	624	10
1,1-Dichloroethylene	75-35-4	624	10
1,2-Dichloropropane	78-87-5	624	10
1,3-Dichloropropylene	542-75-6	624	10
Ethylbenzene	100-41-4	624	10
Methyl Bromide	74-83-9	624	50
Methyl Chloride	74-87-3	624	50
Methylene Chloride	75-09-2	624	20
1,1,2,2-Tetrachloroethane	79-34-5	624	10
Tetrachloroethylene	127-18-4	624	10
Toluene	108-88-3	624	10
1,2-Trans-Dichloroethylene	156-60-5	624	10
1,1,1-Trichloroethane	71-55-6	624	10
1,1,2-Trichloroethane	79-00-5	624	10
Trichloroethylene	79-01-6	624	10
Trichlorofluoromethane	75-69-4	624	10
Vinyl Chloride	75-01-4	624	10
<b>Acid Compounds</b>			<b>QL µg/l</b>
2-Chlorophenol	95-57-8	625	10
2,4-Dichlorophenol	120-83-2	625	10
2,4-Dimethylphenol	105-67-9	625	10
4,6-Dinitro-O-Cresol (2-methyl-4,6 – dinitrophenol)	534-52-1	625	50
2,4 Dinitrophenol	51-28-5	625	50
2-Nitrophenol	88-75-5	625	20
4-Nitrophenol	100-02-7	625	50
P-Chloro-M-Cresol	59-50-7	625	10
Pentachlorophenol	87-86-5	625	50
Phenol	108-95-2	625	10
2,4,6-Trichlorophenol	88-06-2	625	10
<b>Base/Neutral Compounds</b>			<b>QL µg/l</b>

Pollutant	CAS Number (if available)	Analytical Protocol as EPA Part 136 method or Standard Methods	Detection or Quantitation Level
Acenaphthene	83-32-9	625	10
Acenaphtylene	208-96-8	625	10
Anthracene	120-12-7	625	10
Benzidine	92-87-5	625	50
Benzo (a) Anthracene	56-55-3	625	10
Benzo (a) Pyrene	50-32-8	625	10
3,4-Benzofluoranthene	205-99-2	625	10
Benzo (ghi) Perylene	191-24-2	625	20
Benzo (k) Fluoranthene	207-08-9	625	10
Bis (2-Chloroethoxy) Methane	111-91-1	625	10
Bis (2-Chloroethyl) Ether	111-44-4	625	10
Bis (2-Chloroisopropyl) Ether	108-60-1	625	10
Bis (2-Ethylhexyl) Phthalate	117-81-7	625	10
4-Bromophenyl Phenyl Ether	101-55-3	625	10
Butyl Benzyl Phthalate	85-68-7	625	10
2-Chloronaphthalene	91-58-7	625	10
4-Chlorophenyl Phenyl Ether	7005-72-3	625	10
Chrysene	218-01-9	625	10
Dibenzo (a,h) Anthracene	53-70-3	625	20
1,2-Dichlorobenzene	95-50-1	625	10
1,3-Dichlorobenzene	541-73-1	625	10
1,4-Dichlorobenzene	106-46-7	625	10
3,3'-Dichlorobenzidine	91-94-1	625	50
Diethyl Phthalate	84-66-2	625	10
Dimethyl Phthalate	131-11-3	625	10
Di-N-Butyl Phthalate	84-74-2	625	10
2,4-Dinitrotoluene	121-14-2	625	10
2,6-Dinitrotoluene	606-20-2	625	10
Di-n-octyl Phthalate	117-84-0	625	10
1,2-Diphenylhydrazine (as Azobenzene)	122-66- 7	625	20
Fluoranthene	206-44-0	625	10
Fluorene	86-73-7	625	10
Hexachlorobenzene	118-74-1	625	10
Hexachlorobutadiene	87-68-3	625	10
Hexachlorocyclopentadiene	77-47-4	625	10
Hexachloroethane	67-72-1	625	20
Indeno (1,2,3-cd) Pyrene	193-39-5	625	20
Isophorone	78-59-1	625	10
Naphthalene	91-20-3	625	10
Nitrobenzene	98-95-3	625	10

Pollutant	CAS Number (if available)	Analytical Protocol as EPA Part 136 method or Standard Methods	Detection or Quantitation Level
<b>Base/Neutral Compounds</b>			<b>QL µg/l</b>
N-Nitrosodimethylamine	62-75-9	625	50
N-Nitrosodi-N-Propylamine	621-64-7	625	20
N-Nitrosodiphenylamine	86-30-6	625	20
Phenanthrene	85-01-8	625	10
Pyrene	129-00-0	625	10
1,2,4-Trichlorobenzene	120-82-1	625	10
<b>GC/MS Fraction – Pesticides and PCBs</b>			
Aldrin	309-00-2	608	0.05
α-BHC	319-84-6	608	0.05
β-BHC	319-85-7	608	0.05
γ-BHC	58-89-9	608	0.05
δ-BHC	319-86-8	608	0.05
Chlordane	57-74-9	608	0.2
4,4'-DDT	50-29-3	608	0.1
4,4'-DDE	72-55-9	608	0.1
4,4' DDD	72-54-8	608	0.1
Dieldrin	60-57-1	608	0.1
α-Endosulfan	959988	608	0.1
β-Endosulfan	33213659	608	0.1
Endosulfan Sulfate	1031-07-8	608	0.1
Endrin	72-20-8	608	0.1
Endrin Aldehyde	7421-83-4	608	0.1
Heptachlor	76-44-8	608	0.05
Heptachlor Epoxide	1024-57-3	608	0.05
PCB-1242	53469-21-9	608	1.0
PCB-1254	11097-69-1	608	1.0
PCB-1221	11104-28-2	608	1.0
PCB-1232	11141-16-5	608	1.0
PCB-1248	12672-29-6	608	1.0
PCB-1260	11096-82-5	608	1.0
PCB-1016	12674-11-2	608	1.0
Toxaphene	8001-35-2	608	5.0