

**FACT SHEET FOR STATE WASTE DISCHARGE PERMIT ST 6202**  
**PANELTECH INTERNATIONAL, LLC**

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## **INTRODUCTION**

This fact sheet is a companion document to the draft State Waste Discharge Permit No. ST 6202. The Department of Ecology (the Department) is proposing to issue this permit, which will allow discharge of wastewater to the city of Hoquiam sewer system. This fact sheet explains the nature of the proposed discharge, the Department's decisions on limiting the pollutants in the wastewater, and the regulatory and technical bases for those decisions.

Washington State law (Revised Code of Washington [RCW] 90.48.080 and 90.48.160) requires that a permit be issued before discharge of wastewater to waters of the state is allowed. This statute includes commercial or industrial discharges to sewerage systems operated by municipalities or public entities which discharge into public waters of the state. Regulations adopted by the state include procedures for issuing permits and establish requirements which are to be included in the permit (Chapter 173-216 Washington Administrative Code [WAC]).

This fact sheet and draft permit are available for review by interested persons as described in Appendix A—Public Involvement Information.

The fact sheet and draft permit have been reviewed by the Permittee. Errors and omissions identified in these reviews have been corrected before going to public notice. After the public comment period has closed, the Department will summarize the substantive comments and the response to each comment. The summary and response to comments will become part of the file on the permit and parties submitting comments will receive a copy of the Department's response. The fact sheet will not be revised. Changes to the permit will be addressed in Appendix D—Response to Comments.

<b><u>GENERAL INFORMATION</u></b>	
Applicant	Paneltech International, LLC
Facility Name and Address	Paneltech International, LLC 2999 John Stevens Way Hoquiam, WA 98550
Type of Facility:	Producer of Resin-Coated Paper and Laminates
Facility Discharge Location	Latitude: 46° 58' 09" N      Longitude: 123° 51' 19" W
Treatment Plant Receiving Discharge	City of Hoquiam
Contact at Facility	Name: Arne Peterson Telephone No.: 360.538.1480
Responsible Official	Name: Ron Iff Title: General Manager Address: 2999 John Stevens Way Hoquiam, WA 98550 Telephone No.: 360.538.1480

## **BACKGROUND INFORMATION**

### *DESCRIPTION OF THE FACILITY*

Paneltech International, LLC (Paneltech) saturates paper with phenolic resins and dyes, if required. The saturated paper is dried and cut to size appropriate for the final product. These products are overlays used by the plywood industry for manufacturing high and medium density overlay (HDO and MDO) plywood products. Paneltech produces about 6.8-million square feet of resin-saturated overlay each month.

Paneltech also has a facility that uses the dried resin saturated paper to produce laminates. Paneltech stacks layers of resin impregnated paper and applies heat and pressure. The heat and pressure cause the resin to cure, forming a solid, inert material. One of the laminate products, Paperstone™, is a solid surfacing material used for countertops.

Paneltech uses a variety of paper materials (Kraft, recycled, and finished) and a variety of resins. The final product is dependent upon the type of paper and resin used in its formation. Paneltech also produces most of the resins (375,000 pounds per month) used for the products by reacting phenol with formaldehyde. Resin production is the predominant source of the wastewater.

### **HISTORY**

Paneltech began operations in 1996. From the start of operation until approximately 2½ years ago, Paneltech purchased the resins. About 2005, Paneltech installed equipment to produce, or cook, the resins onsite.

### **INDUSTRIAL PROCESSES**

Paneltech produces the phenolic resins onsite by reacting phenol with formaldehyde and a catalyst, such as urea, in a batch process. The resin production process takes approximately 8 to 12 hours per batch. In addition to the resin, the reaction produces water and heat. The water, approximately 80 gallons per batch of resin produced, is removed by distillation and is collected in a tank. The water also contains concentrations of phenol and formaldehyde.

The reaction of phenol and formaldehyde also produces heat. Paneltech removes the waste heat by vacuum. The off-gasses are combusted, along with gasses from the paper coating and drying process, in the facility's Regenerative Thermal Oxidizer (RTO) unit. The RTO unit is fueled with natural gas.

Paneltech has also been combusting the water removed from the resin production process in the RTO. However, the water is causing corrosion in the RTO unit and Paneltech has requested permission to discharge this wastewater to the city of Hoquiam wastewater treatment plant.

Paneltech also has a cooling tower used for cooling the resin and the resin wastewater. The cooling water does not come into contact with any of the raw materials or products and Paneltech does not add water treatment chemicals to the cooling water. Approximately once per week Paneltech replaces a portion of the cooling tower water with fresh water. Paneltech has also requested permission to discharge the spent cooling tower water to the sanitary sewer. Paneltech estimates the discharge would be about 200 gallons per event.

### *PERMIT STATUS*

This industry has been in existence since 1996 but has recently submitted an application for a permit to discharge wastewater to the city of Hoquiam wastewater treatment plant. Paneltech submitted a permit

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application to the Department on May 10, 2007, followed by additional information on May 22, 2007. The Department accepted the application on May 23, 2007.

Department personnel visited the facility most recently on April 10, 2007, and May 16, 2007.

**WASTEWATER CHARACTERIZATION**

Paneltech reported the concentration of pollutants in the discharge in the permit application and in test results from June, July, and August 2007. The proposed wastewater discharge is characterized for the following parameters:

Parameter	Concentration		
	Minimum	Maximum	No. of Tests
Flow (gallons per day)	1030	4694	29
pH (standard units)	7.5	8.7	30
Phenol (mg/L)	1,000	10,000	13
Formaldehyde (mg/L)	900	2,900	13
BOD <sub>5</sub> (mg/L)	8,500	21,000	4
Total Suspended Solids (mg/L)	10	37	2

The two pollutants of concern in the discharge are phenol and formaldehyde. Phenol, typically a human-made chemical compound although it can be naturally occurring in animal waste and organic matter, is colorless and has a sweet and irritating odor. Phenol dissolves in water and is used mainly to manufacture plastics but also has uses as a disinfectant and in medical products such as ointment, ear and nose drops, mouthwashes, throat lozenges, and antiseptic lotions.

Short-term exposure to phenol in air can cause respiratory irritation, burning eyes, and headaches. Skin exposure in high concentrations can cause burns, irregular heart beat, and death. Injection of large amounts of phenol has caused death. The EPA lifetime health advisory for phenol in water is 2 mg/L. (U.S. Department of Health and Human Services)

Phenol degrades in short periods of time in air, soil, and water. EPA studies indicate phenol is thoroughly degraded in municipal wastewater treatment plants.

Formaldehyde is colorless, strong smelling, and volatilizes at room temperature. It is commonly used as a preservative in medical laboratories and mortuaries but it is also used in the production of chemicals, particle board, glues, fabric, and plywood. Industries also use formaldehyde as a fungicide, germicide, and disinfectant.

Acute exposure to formaldehyde gas or vapor can irritate the eyes, nose, and throat. Continued exposure may cause allergic reactions to the skin, eyes, and respiratory system. Ingestion can cause death. The safety concerns regarding formaldehyde are focused on the gas or vapor phase. Formaldehyde is degradable in air, natural waterbody, and by a municipal wastewater treatment plant.

Testing indicates the Paneltech wastewater has high concentrations of phenol and formaldehyde. The oxidation of phenol requires 2.4 mg of oxygen for each mg of phenol. For the wastewater flow volume and concentrations of phenol, the wastewater has an approximate oxygen demand of 300 pounds per batch discharge. The oxygen demand per batch discharge is equivalent to the domestic wastewater

discharge from 1,500 people (0.2 lb BOD/person/day). However, the wastewater will be discharged into the sanitary sewer system and will be diluted with other wastewater prior to and in the wastewater treatment plant. These pollutants of concern will be degraded by the treatment process and should not interfere with the operation of the wastewater treatment plant.

### **PROPOSED PERMIT LIMITATIONS**

State regulations require that limitations set forth in a waste discharge permit must be based on the technology available to treat the pollutants (technology-based) or be based on the effects of the pollutants to the POTW (local limits). Wastewater must be treated using all known, available, and reasonable treatment (AKART) and not interfere with the operation of the POTW.

The more stringent of the local limits-based or technology-based limits are applied to each of the parameters of concern. Each of these types of limits is described in more detail below.

#### **TECHNOLOGY-BASED EFFLUENT LIMITATIONS**

All waste discharge permits issued by the Department must specify conditions requiring available and reasonable methods of prevention, control, and treatment of discharges to waters of the state (WAC 173-216-110). Federal categorical limitations do not exist for this industry.

#### **EFFLUENT LIMITATIONS BASED ON LOCAL LIMITS**

In order to protect the city of Hoquiam wastewater treatment plant from pass-through, interference, concentrations of toxic chemicals that would impair beneficial or designated uses of sludge, or potentially hazardous exposure levels, limitations for certain parameters are necessary. The city of Hoquiam has not established or codified in ordinance local limits that state the quality of a wastewater before the city will accept it into the wastewater collection system. However, the following excerpt from the municipal code of the city discusses prohibited discharges and the potential to require the user to pay a surcharge:

##### *8.08.180 Prohibited uses – Enumerated.*

*No person or persons shall permit oil, tar, viscous substance, gasoline, benzene, volatile substance, acid, injurious substance, or waste to enter any drain, sanitary sewer, or storm sewer of the city that may cause damage to the sewer mains, impede the disposal of the sewage, or produce any gas or condition that might injure any employee of the city.*

*If the sewage or industrial waste from a manufacturing or industrial plant, building, or premises will damage the sewerage system or cannot be treated satisfactorily, the city engineer, and sewer foreman shall require those users to dispose of that waste and prevent it from entering the system or to pretreat the sewage as the city engineer, and sewer foreman requires before discharging it.*

*If pretreatment is not accomplished, the city engineer, and sewer foreman shall recommend that the council levy a surcharge which shall be in addition to the regular charge. (Ord. 92-8 § 1, 1992; Ord. 2002 § 14, 1956).*

While the pollutants of concern, phenol and formaldehyde, are harmful to humans if exposed to improperly, wastewater collection, dilution, and transport to the treatment plant in the city sewer system should occur in a manner protective of human health concerns. Pollutant concentrations in the proposed discharge should not cause problems at the wastewater treatment plant such as interference, pass-through or hazardous exposure to wastewater treatment plant workers nor will it result in unacceptable pollutant levels in the wastewater treatment plant sludge.

## **MONITORING REQUIREMENTS**

Monitoring, recording, and reporting are specified to verify that the discharge has been adequately characterized and is in compliance with the state of Washington pretreatment regulations (WAC 173-216-110).

The monitoring schedule is detailed in the proposed permit under Condition S2. The permit requires monitoring for flow, pH, temperature, phenol, and formaldehyde. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring.

## **OTHER PERMIT CONDITIONS**

### *REPORTING AND RECORDKEEPING*

The conditions of S3 are based on the authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges (WAC 173-216-110 and 40 Code of Federal Regulations (CFR) 403.12 (e),(g), and (h)).

### *OPERATIONS AND MAINTENANCE*

The proposed permit contains condition S.5. as authorized under Chapter 173-240-150 WAC and Chapter 173-216-110 WAC. It is included to ensure proper operation and regular maintenance of equipment, and to ensure that adequate safeguards are taken so that constructed facilities are used to their optimum potential in terms of pollutant capture and treatment.

### *PROHIBITED DISCHARGES*

Certain pollutants are prohibited from being discharged to the POTW. These include substances which cause pass-through or interference, pollutants which may cause damage to the POTW or harm to the POTW workers (Chapter 173-216 WAC) and the discharge of designated dangerous wastes not authorized by this permit (Chapter 173-303 WAC).

### *DILUTION PROHIBITED*

The Permittee is prohibited from diluting its effluent as a partial or complete substitute for adequate treatment to achieve compliance with permit limitations.

### *NON-ROUTINE AND UNANTICIPATED DISCHARGES*

Occasionally, this facility may generate wastewater which is not characterized in their permit application because it is not a routine discharge and was not anticipated at the time of application. These typically are waters used to pressure test storage tanks or fire water systems or leaks from drinking water systems. These are typically clean waste waters but may be contaminated with pollutants. The permit contains an authorization for non-routine and unanticipated discharges. The permit requires a characterization of these waste waters for pollutants and examination of the opportunities for reuse. Depending on the nature and extent of pollutants in this wastewater and opportunities for reuse, the Department may authorize a direct discharge to the municipality, require the wastewater to be placed through the facilities wastewater treatment process or require the water to be reused.

### ***SPILL PLAN***

The Permittee stores a quantity of chemicals that have the potential to cause water pollution if accidentally released. The Department has the authority to require the Permittee to develop best management plans to prevent this accidental release under section 402(a)(1) of the Federal Water Pollution Control Act (FWPCA) and RCW 90.48.080.

The Permittee has developed a plan for preventing the accidental release of pollutants to state waters and for minimizing damages if such a spill occurs. The proposed permit requires the Permittee to update this plan, if necessary, and submit it to the Department.

### ***GENERAL CONDITIONS***

General Conditions are based directly on state laws and regulations and have been standardized for all industrial waste discharge to POTW permits issued by the Department.

Condition G1 requires responsible officials or their designated representatives to sign submittals to the Department. Condition G2 requires the Permittee to allow the Department to access the treatment system, production facility, and records related to the permit. Condition G3 specifies conditions for modifying, suspending or terminating the permit. Condition G4 requires the Permittee to apply to the Department prior to increasing or varying the discharge from the levels stated in the permit application. Condition G5 requires the Permittee to construct, modify, and operate the permitted facility in accordance with approved engineering documents. Condition G6 prohibits the Permittee from using the permit as a basis for violating any laws, statutes or regulations. Conditions G7 relate to permit renewal and transfer. Condition G8 requires the Permittee to control production or wastewater discharge in order to maintain compliance with the permit. Condition G9 prohibits the reintroduction of removed pollutants into the effluent stream for discharge. Condition G10 requires the payment of permit fees. Condition G11 describes the penalties for violating permit conditions.

### ***PUBLIC NOTIFICATION OF NONCOMPLIANCE***

A list of all industrial users which were in significant noncompliance with Pretreatment Standards or Requirements during any of the previous four quarters may be annually published by the Department in a local newspaper. Accordingly, the Permittee is apprised that noncompliance with this permit may result in publication of the noncompliance.

### ***RECOMMENDATION FOR PERMIT ISSUANCE***

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxics. The Department proposes that the permit be issued for five years.

### ***REFERENCES FOR TEXT AND APPENDICES***

City of Hoquiam Municipal Code

International Programme on Chemical Safety (IPCS), *Concise International Chemical Assessment Document 40, Formaldehyde*. (<http://www.inchem.org/documents/cicads/cicads/cicad40.htm#5.2>)

U.S. Department of Health and Human Services, Public Health Service, Agency for Toxic Substances and Disease Registry. *Phenol*, CAN # 108-95-2. 2006.

U.S. Department of Labor, Occupational Safety and Health Administration. *Formaldehyde, OSHA Fact Sheet*. 2002.



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Washington State Department of Ecology.

Laws and Regulations (<http://www.ecy.wa.gov/laws-rules/index.html>)

Permit and Wastewater Related Information  
(<http://www.ecy.wa.gov/programs/wq/wastewater/index.html>)

## APPENDICES

### APPENDIX A—PUBLIC INVOLVEMENT INFORMATION

The Department has tentatively determined to reissue a permit to the applicant listed on page 1 of this fact sheet. The permit contains conditions and effluent limitations which are described in the rest of this fact sheet.

Public notice of application was published on June 20, 2007, and June 27, 2007, in *The Daily World* newspaper to inform the public that an application had been submitted and to invite comment on the reissuance of this permit.

The Department will publish a Public Notice of Draft (PNOD) on October 24, 2007, in *The Daily World* newspaper to inform the public that a draft permit and fact sheet are available for review. Interested persons are invited to submit written comments regarding the draft permit. The draft permit, fact sheet, and related documents are available for inspection and copying between the hours of 8:00 a.m. and 5:00 p.m. weekdays, by appointment, at the regional office listed below. Written comments should be mailed to:

Industrial Unit Permit Coordinator  
Department of Ecology  
Southwest Regional Office  
P.O. Box 47775  
Olympia, WA 98504-7775

Any interested party may comment on the draft permit or request a public hearing on this draft permit within the 30 day comment period to the address above. The request for a hearing shall indicate the interest of the party and reasons why the hearing is warranted. The Department will hold a hearing if it determines there is a significant public interest in the draft permit (WAC 173-216-100). Public notice regarding any hearing will be circulated at least 30 days in advance of the hearing. People expressing an interest in this permit will be mailed an individual notice of hearing.

Comments should reference specific text followed by proposed modification or concern when possible. Comments may address technical issues, accuracy and completeness of information, the scope of the facility's proposed coverage, adequacy of environmental protection, permit conditions, or any other concern that would result from issuance of this permit.

The Department will consider all comments received within 30 days from the date of public notice of draft indicated above, in formulating a final determination to issue, revise, or deny the permit. The Department's response to all significant comments is available upon request and will be mailed directly to people expressing an interest in this permit.

Further information may be obtained from the Department by telephone, 360-407-6280, or by writing to the address listed above.

Chuck Hoffman, P.E. wrote this permit.

## APPENDIX B—GLOSSARY

**Ammonia**—Ammonia is produced by the breakdown of nitrogenous materials in wastewater. Ammonia is toxic to aquatic organisms, exerts an oxygen demand, and contributes to eutrophication. It also increases the amount of chlorine needed to disinfect wastewater.

**Average Monthly Discharge Limitation**—The average of the measured values obtained over a calendar month's time.

**Best Management Practices (BMPs)**—Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the State. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

**BOD<sub>5</sub>**—Determining the Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of organic material present in an effluent that is utilized by bacteria. The BOD<sub>5</sub> is used in modeling to measure the reduction of dissolved oxygen in a receiving water after effluent is discharged. Stress caused by reduced dissolved oxygen levels makes organisms less competitive and less able to sustain their species in the aquatic environment. Although BOD is not a specific compound, it is defined as a conventional pollutant under the federal Clean Water Act.

**Bypass**—The intentional diversion of waste streams from any portion of the collection or treatment facility.

**Categorical Pretreatment Standards**—National pretreatment standards specifying quantities or concentrations of pollutants or pollutant properties which may be discharged to a POTW by existing or new industrial users in specific industrial subcategories.

**Compliance Inspection - Without Sampling**—A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations.

**Compliance Inspection - With Sampling**—A site visit to accomplish the purpose of a Compliance Inspection - Without Sampling and as a minimum, sampling and analysis for all parameters with limits in the permit to ascertain compliance with those limits; and, for municipal facilities, sampling of influent to ascertain compliance with the 85 percent removal requirement. Additional sampling may be conducted.

**Composite Sample**—A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be “time-composite”(collected at constant time intervals) or “flow-proportional” (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots.

**Construction Activity**—Clearing, grading, excavation and any other activity which disturbs the surface of the land. Such activities may include road building, construction of residential houses, office buildings, or industrial buildings, and demolition activity.

**Continuous Monitoring**—Uninterrupted, unless otherwise noted in the permit.

**Engineering Report**—A document, signed by a professional licensed engineer, which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report shall contain the appropriate information required in WAC 173-240-060 or 173-240-130.

**Grab Sample**—A single sample or measurement taken at a specific time or over as short period of time as is feasible.

**Industrial User**—A discharger of wastewater to the sanitary sewer which is not sanitary wastewater or is not equivalent to sanitary wastewater in character.

**Industrial Wastewater**—Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business, from the development of any natural resource, or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated storm water and, also, leachate from solid waste facilities.

**Interference**—A discharge which, alone or in conjunction with a discharge or discharges from other sources, both:

Inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal and;

Therefore is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent state or local regulations): Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) (including title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including State regulations contained in any State sludge management plan prepared pursuant to subtitle D of the SWDA), sludge regulations appearing in 40 CFR Part 507, the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act.

**Local Limits**—Specific prohibitions or limits on pollutants or pollutant parameters developed by a POTW.

**Maximum Daily Discharge Limitation**—The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

**Method Detection Level (MDL)** —The minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is above zero and is determined from analysis of a sample in a given matrix containing the analyte.

**Pass-through**—A discharge which exits the POTW into waters of the—State in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation), or which is a cause of a violation of State water quality standards.

**pH**—The pH of a liquid measures its acidity or alkalinity. A pH of 7.0 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

**Potential Significant Industrial User**—A potential significant industrial user is defined as an Industrial User which does not meet the criteria for a Significant Industrial User, but which discharges wastewater meeting one or more of the following criteria:

- a. Exceeds 0.5 percent of treatment plant design capacity criteria and discharges <25,000 gallons per day or;
- b. Is a member of a group of similar industrial users which, taken together, have the potential to cause pass through or interference at the POTW (e.g. facilities which develop photographic film or paper, and car washes).

The Department may determine that a discharger initially classified as a potential significant industrial user should be managed as a significant industrial user.

**Quantitation Level (QL)**—A calculated value five times the MDL (method detection level).

**Significant Industrial User (SIU)** —

- 1) All industrial users subject to Categorical Pretreatment Standards under 40 CFR 403.6 and 40 CFR Chapter I, Subchapter N and;
- 2) Any other industrial user that: discharges an average of 25,000 gallons per day or more of process wastewater to the POTW (excluding sanitary, noncontact cooling, and boiler blow-down wastewater); contributes a process wastestream that makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant; or is designated as such by the Control Authority\* on the basis that the industrial user has a reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement (in accordance with 40 CFR 403.8(f)(6)).

Upon finding that the industrial user meeting the criteria in paragraph 2, above, has no reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement, the Control Authority\* may at any time, on its own initiative or in response to a petition received from an industrial user or POTW, and in accordance with 40 CFR 403.8(f)(6), determine that such industrial user is not a significant industrial user.

\*The term "Control Authority" refers to the Washington State Department of Ecology in the case of non-delegated POTWs or to the POTW in the case of delegated POTWs.

**Slug Discharge**—Any discharge of a non-routine, episodic nature, including but not limited to an accidental spill or a non-customary batch discharge to the POTW. This may include any pollutant released at a flow rate which may cause interference with the POTW.

**State Waters**—Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

**Stormwater**—That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a storm water drainage system into a defined surface water body, or a constructed infiltration facility.

**Technology-based Effluent Limit**—A permit limit that is based on the ability of a treatment method to reduce the pollutant.

**Total Coliform Bacteria**—A microbiological test which detects and enumerates the total coliform group of bacteria in water samples.

**Total Dissolved Solids**—That portion of total solids in water or wastewater that passes through a specific filter.

**Total Suspended Solids (TSS)**—Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

**Water Quality-based Effluent Limit**—A limit on the concentration of an effluent parameter that is intended to prevent the concentration of that parameter from exceeding its water quality criterion after it is discharged into a receiving water.

***APPENDIX C—TECHNICAL CALCULATIONS***

***APPENDIX D – RESPONSE TO COMMENTS***

No comments were received during the public comment period.