

# Fact Sheet for State Waste Discharge Permit No. ST0007436

## Novanta/Synrad

Public Notice of Draft date: October 21, 2019

### Purpose of this fact sheet

This fact sheet explains and documents the decisions the Department of Ecology (Ecology) made in drafting the proposed State Waste Discharge Permit for Novanta/Synrad (Synrad) that will allow discharge of wastewater to the Alderwood Water and Wastewater District (AWWD) sanitary sewer system.

State law requires any commercial or industrial facility to obtain a permit before discharging waste or chemicals to municipal sanitary sewer collection and treatment systems.

Ecology makes the draft permit and fact sheet available for public review and comment at least thirty (30) days before it issues the final permit to the facility operator. Copies of the fact sheet and draft permit for Synrad, State Waste Discharge Permit ST0007436, are available for public review and comment from October 21, 2019, until the close of business November 20, 2019.

For more details on preparing and filing comments about these documents, please see **Appendix A - Public Involvement Information**.

Synrad reviewed the draft permit and fact sheet for factual accuracy. Ecology corrected any errors or omissions about the facility's location, history, product type, production rate, or discharges prior to publishing this draft fact sheet for public notice.

After the public comment period closes, Ecology will summarize substantive comments and our responses to them. Ecology will include our summary and responses to comments to this fact sheet as **Appendix D - Response to Comments**, and publish it when we issue the final State Waste Discharge Permit. Ecology generally will not revise the rest of the fact sheet. The full document will become part of the legal history contained in the facility's permit file.

### Summary

Synrad designs and produces industrial marking and cutting lasers, beam delivery systems, and other laser products such as power meters and power supplies. The facility conducts various research and development (R&D) activities. Production involves machining, welding, and cleaning aluminum allow stock and other minor components. The facility also performs some soldering of circuit boards and associated electronics processes, as well as assembly and burn-in of lasers. The main pollutants of concern (POCs) are lead, copper, and oils/greases.

Key changes in the new permit include a condition that requires Synrad to manage aqueous ethyl alcohol wastewater to address any potential ignitability concerns. Monitoring frequency for copper, lead, and oil & grease has been reduced to quarterly from the previous permit's monthly monitoring requirements. Minimum and maximum pH limits are now 5.5 and 11 standard units (SU) based on AWWD sewer use code. Previous permit listed pH limits of 5.5 to 8.5 SU. The new permit requires that Synrad submit its discharge sampling data and permit reports online via Ecology's Water Quality Permitting Portal as required by recently enacted federal regulations in 40 CFR Part 127.

## Table of Contents

|                    |  |                  |
|--------------------|--|------------------|
| <b><i>I.</i></b>   | <b><i>Introduction.....</i></b>  | <b><i>4</i></b>  |
| <b><i>II.</i></b>  | <b><i>Background Information.....</i></b>                                      | <b><i>4</i></b>  |
|                    | <b>A. Facility description.....</b>  | <b>6</b>         |
|                    | History .....  | 6                |
|                    | Industrial processes.....  | 7                |
|                    | Wastewater pretreatment .....  | 7                |
|                    | Solid wastes .....   | 9                |
|                    | <b>B. Discharge location to the AWWD sanitary sewer system .....</b>           | <b>9</b>         |
|                    | <b>C. Wastewater characterization .....</b>                                    | <b>9</b>         |
|                    | <b>D. Summary of compliance with previous permit issued June 29, 2012.....</b> | <b>9</b>         |
|                    | <b>E. State environmental policy act (SEPA) compliance .....</b>               | <b>10</b>        |
| <b><i>III.</i></b> | <b><i>Proposed Permit Limits.....</i></b>                                      | <b><i>10</i></b> |
|                    | <b>A. Technology-based effluent limits .....</b>                               | <b>10</b>        |
|                    | <b>B. Effluent limits based on local limits .....</b>                          | <b>11</b>        |
|                    | <b>C. Comparison of effluent limits with the 2012 permit .....</b>             | <b>12</b>        |
| <b><i>IV.</i></b>  | <b><i>Monitoring Requirements.....</i></b>                                     | <b><i>12</i></b> |
|                    | <b>A. Lab accreditation .....</b>  | <b>12</b>        |
|                    | <b>B. Wastewater monitoring .....</b>  | <b>12</b>        |
| <b><i>V.</i></b>   | <b><i>Other Permit Conditions.....</i></b>                                     | <b><i>13</i></b> |
|                    | <b>A. Reporting and record keeping .....</b>                                   | <b>13</b>        |
|                    | <b>B. Operations and maintenance .....</b>                                     | <b>13</b>        |
|                    | <b>C. Prohibited discharges .....</b>  | <b>13</b>        |
|                    | <b>D. Dilution prohibited.....</b>   | <b>13</b>        |
|                    | <b>E. Solid waste control plan .....</b>                                       | <b>13</b>        |
|                    | <b>F. Non-routine and unanticipated wastewater .....</b>                       | <b>13</b>        |
|                    | <b>G. Spill plan .....</b>   | <b>14</b>        |
|                    | <b>H. Slug discharge plan.....</b>   | <b>14</b>        |
|                    | <b>I. General conditions .....</b>   | <b>14</b>        |
| <b><i>VI.</i></b>  | <b><i>Public Notification of Noncompliance.....</i></b>                        | <b><i>14</i></b> |
| <b><i>VII.</i></b> | <b><i>Permit Issuance Procedures .....</i></b>                                 | <b><i>14</i></b> |
|                    | <b>A. Permit modifications.....</b>  | <b>14</b>        |
|                    | <b>B. Proposed permit issuance.....</b>  | <b>14</b>        |

**VIII.           References for Text and Appendices ..... 15**  
**Appendix A--Public Involvement Information ..... 16**  
**Appendix B--Your Right to Appeal ..... 17**  
**Appendix C--Glossary ..... 18**  
**Appendix D--Response to Comments ..... 24**

Table 1. General Facility Information..... 4  
Table 2. Wastewater Characterization ..... 9  
Table 3. Local Limits Established in Alderwood Water and Wastewater District Code..... 11  
Table 4. Comparison of Effluent Limits ..... 12

Figure 1. Facility Location Map..... 6

## I. Introduction

The legislature defined Ecology's authority and obligations for the wastewater discharge permit program in the Water Pollution Control law, chapter 90.48 RCW (Revised Code of Washington).

Ecology adopted rules describing how it exercises its authority:

- State waste discharge program (chapter 173-216 WAC)
- Submission of plans and reports for construction of wastewater facilities (chapter 173-240 WAC)

These rules require any industrial facility owner/operator to obtain a State Waste Discharge Permit before discharging wastewater to state waters. This rule includes commercial or industrial discharges to sewerage systems operated by municipalities or public entities which discharge into public waters of the state. They also help define the basis for limits on each discharge and for other performance requirements imposed by the permit.

Under the State Waste Discharge Permit Program and in response to a complete and accepted permit application, Ecology generally prepares a draft permit and accompanying fact sheet, and makes it available for public review before final issuance. If the volume of the discharge has not changed or if the characteristics of the discharge have not changed, Ecology may choose not to issue a public notice. When Ecology publishes an announcement (public notice), it tells people where they can read the draft permit, and where to send their comments, during a period of thirty days. (See **Appendix A – Public Involvement Information** for more detail about the public notice and comment procedures). After the public comment period ends, Ecology may make changes to the draft State Waste Discharge Permit in response to comment(s). Ecology will summarize the responses to comments and any changes to the permit in **Appendix D**.

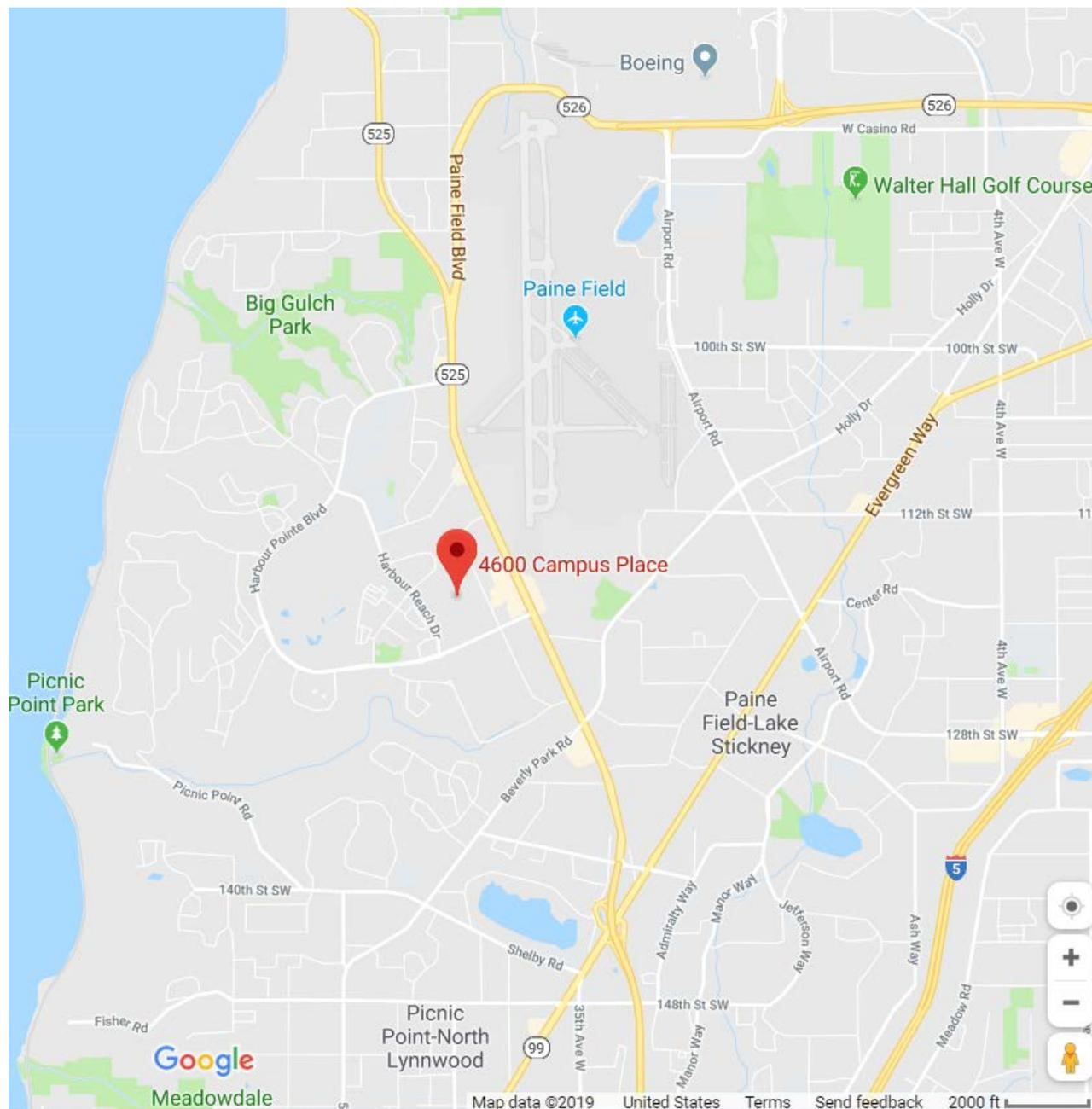
## II. Background Information

**Table 1. General Facility Information**

| Facility Information      |  |
|---------------------------|--|
| Applicant                 | Synrad   |
| Facility Name and Address | 4600 Campus Place, Mukilteo, WA 98275  |
| Contact at Facility       | Name: Gary Tosaya<br>Telephone #: 425.349.3500 Ext. 5022<br>Email: gary.tosaya@synrad.com  |
| Responsible Official      | Name: Fredrik Haggett<br>Title: Plant Manager<br>Address: 4600 Campus Place, Mukilteo, WA 98275<br>Telephone #: 425.609.5096<br>Email: fred.haggett@synrad.com |
| Industrial User Type      | Minor Industrial User  |

| <b>Facility Information</b>                      |  |
|--|--|
| Industry Type                                    | Electrical Equipment and Component Manufacturing |
| Categorical Industry                             | Non-categorical Industrial User                  |
| Type of Treatment by Industry                    | pH neutralization                                |
| SIC Codes  | 3699   |
| NAIC Codes                                       | 335999   |
| Facility Location (NAD83/WGS84 reference datum)  | Latitude: 47.890922<br>Longitude: -122.292467    |
| Treatment Plant Receiving Discharge              | Picnic Point Wastewater Treatment Facility       |
| Discharge Location (NAD83/WGS84 reference datum) | Latitude: 47.879722<br>Longitude: -122.336112    |
| <b>Permit Status</b>                             |  |
| Issuance Date of Previous Permit                 | June 29, 2012                                    |
| Application for Permit Renewal Submittal Date    | January 19, 2017                                 |
| Date of Ecology Acceptance of Application        | January 23, 2019                                 |
| <b>Inspection Status</b>                         |  |
| Date of Last Non-sampling Inspection Date        | March 18, 2019                                   |

Figure 1. Facility Location Map



## A. Facility description

### *History*

Synrad was founded in 1984 to develop carbon dioxide (CO<sub>2</sub>) lasers and electro-optics technologies. The facility was formerly located at 6500 Harbour Heights Parkway, Mukilteo, WA where it discharged to the Olympic Terrace Sewer District. The facility moved to its current location in 2002, where sewer service is provided by the Alderwood Water and

Wastewater District (AWWD). Synrad is a part of the Novanta Inc. family of companies, a global supplier of core technology solutions to medical and advanced industrial equipment manufacturers.

The facility's existing State Waste Discharge Permit, issued on June 29, 2012, expired on June 29, 2017. The permit was administratively extended with all terms and conditions being effective until this renewal permit is issued.

#### *Industrial processes*

Synrad manufactures carbon dioxide lasers in sealed aluminum tubes, as aluminum is inexpensive and makes an ideal chamber for the laser gas achieving high gas purity. Energy is transferred into the gas via radio frequency (RF) as opposed to direct current (DC). As part of the pre-fabrication and preparation work, the facility performs some soldering of circuit boards and associated electronics processes, as well as assembly and burn-in of lasers. The main pollutants of concern (POCs) from these activities are lead, copper, and oils/greases.

The lasers are used in electronics, textiles, packaging, 3D printing, and other applications. Laser products replace knives, dyes, and inks traditionally used for cutting and marking. Everyday applications of laser products from Synrad include phone labels, textile cutting (replacing the use of sharp blades with beams of light), Coca Cola labels, Tabasco labels, etc.

The facility doesn't have processes that fit under the federal categorical standards as listed in 40 CFR 405-471. The volume of wastewater discharge is also low and the potential for interference or pass through at the WWTP is low hence this facility is not categorical nor a Significant Industrial User (SIU).

#### *Wastewater pretreatment*

Most of the manufacturing, testing, and carbon dioxide gas mixture introduction into the tubes is a dry process and hence no wastewater is generated in all production areas of the facility. Wastewater is generated in cleaning the pre-fabricated aluminum tubes. The requirement for a quality laser product is for the sealed aluminum tubes to be free of any surface contamination and impurities. For cleaning the aluminum sealed tubes, a designated washing room is used. Cleaning is performed using ultrasonic cleaners, which use a diluted (2%) neutral pH cleaning detergent with trade name Valtron EF5401 and DI water, and two 30-gallon DI water rinse tanks. Water from the ultrasonic cleaners is checked for pH and drained into the floor drain, if the permit limits for pH are met. The aluminum tubes are then rinsed in the two deionized water rinse tanks. The two tanks are emptied to a 55-gallon mixing tank. A third 30-gallon tank uses ethyl alcohol, which is primarily used as a water removal agent from the aluminum tubes after the DI water rinsing. The facility uses 180 proof ethanol for this purpose. A hydrometer is used to check the alcohol percentage and if the level drops to 150 proof, the rinse tank is emptied into the 55-gallon mixing tank. The 55-gallon mixing tank is equipped with a recirculating valve for mixing. After the mixing, pH is checked and adjusted accordingly using phosphoric acid or sodium hydroxide.

A review of the SDS for ethanol (Fisher Scientific and Air Gas) shows that the upper and lower explosive (flammable) limits for ethanol are 19% and 3.3%, respectively, and its closed cup flash point is 57 degrees F (for pure ethanol). Since there is some potential of

fire hazard from ethanol waste in the wastewater collection system, especially given the fact that the sewer main connecting to Synrad's side sewer and lateral is ductile iron, it was prudent to determine the flash point of the mixed waste at the point of discharge to the sanitary sewer to protect worker safety during routine maintenance.

In May 2019, following a site inspection, Ecology required Synrad to perform a characteristic of ignitability study by a closed cup flash point test in accordance with 40 CFR 262.21 and WAC 173-303-090 (5). The facility conducted closed cup flash point tests at a state accredited lab at the following three points: 1) normal discharge effluent (which was determined to be around 75% alcohol by volume), 2) 24% by volume aqueous alcohol, and 3) 15% by volume aqueous alcohol. The characteristic of ignitability study showed that the flash points were <69 °F, 116 °F, and 135 °F for the 75%, 24%, and 15% aqueous alcohol concentrations, respectively.

There are two things to consider here - the point of generation of the waste and the point of discharge. For Synrad's wastewater discharge permit, the important point is the point of discharge but for state dangerous waste designation, the point of generation is the designation point.

An aqueous solution containing less than 24% alcohol by volume is excluded from being designated as an ignitable hazardous/dangerous waste, by federal and state laws. The proposed permit requires Synrad to meter in the water removal ethanol solutions such that when mixed with the other wastestreams in the mixing tank, the concentration of alcohol is less than 24% by volume.

The facility outlined its proposal as follows, which was approved by Ecology's Water Quality Program on August 2, 2019:

- Synrad has 1 alcohol-based drying tank and 2 DI water rinse tanks. All 3 are the same size and initially contain the same volumes.
- Standard procedures currently specify that the drying tank is dumped at < 150 proof (< 75% alcohol).
- Dumping all 3 tanks at the same time would result in a mixture that is 25% alcohol.
- But the mixing tank is not large enough to hold all three discharges at one time.
- Thus, Synrad proposed to:
  1. Have the operator ensure that the drying tank contents are < 150 proof prior to discharge.
  2. Discharge one half of the drying tank with one whole rinse tank into the mixing tank, then mix and discharge to sewer (with pH monitor collecting discharge data after neutralization).
  3. Discharge the remaining half of the drying tank with the other rinse tank, then mix and discharge (with neutralization and pH monitoring).

Due to some alcohol drag-out and evaporation, the actual volume of waste alcohol discharged can be expected to be less than the generated volume. Hence, each discharge will likely be less than 24% alcohol, which is the regulatory goal Synrad must meet. Representatives of Ecology's Hazardous Waste/Toxics Reduction Program stated that

Synrad will not be required to designate Rinse Tank 3 as state dangerous waste at this time, if the final discharge is 24% or less alcohol by volume, citing that ethanol is treatable at the WWTP.

*Solid wastes*

Solid waste is generated as a result of machining, cutting, and welding aluminum. The waste is handled as general solid waste. The facility doesn't generate sludges that are designated as hazardous waste.

**B. Discharge location to the AWWD sanitary sewer system**

The effluent is gravity drained to the sanitary sewer system. The facility takes samples for compliance from a port downstream of the mixing tank. The proposed permit requires quarterly monitoring for lead, copper, and oil & grease. Since the facility discharges in batches and not continuously, the proposed permit requires representative grab samples for these parameters. Discharge volume and pH are measured with each batch of discharge. Flow is estimated by the number of discharges from the 55-gallon drum mixing tank.

**C. Wastewater characterization**

Synrad reported the concentration of pollutants in discharge monitoring reports (DMRs). The tabulated data represents the quality of the effluent discharged from July 1, 2012 – July 31, 2019. The effluent is characterized as follows:

**Table 2. Wastewater Characterization**

| Parameter      | Units          | # of Samples | Average Value | Maximum Value |
|----------------|----------------|--------------|---------------|---------------|
| Flow           | gpd            | 84           | 175           | 300           |
| Oil and Grease | mg/L           | 84           | 3.8           | 16            |
| Copper         | mg/L           | 84           | Nondetect     | 0.24          |
| Lead           | mg/L           | 84           | Nondetect     | 0.065         |
| Parameter      | Units          | # of Samples | Minimum Value | Maximum Value |
| pH             | Standard units | 84           | 5.5           | 8.5           |

**D. Summary of compliance with previous permit issued June 29, 2012**

The previous permit placed effluent limits on flow, pH, copper, lead, and oil & grease.

Synrad has complied with the effluent limits and permit conditions throughout the duration of the permit issued on June 29, 2012. Ecology assessed compliance based on its review of the facility's information in the Ecology Permitting and Reporting Information System (PARIS), discharge monitoring reports (DMRs), and on inspections conducted by Ecology. Based on the data shown in Table 2, monitoring frequency for copper, lead, and oil & grease has been reduced to quarterly from monthly in the previous permit.

## **E. State environmental policy act (SEPA) compliance**

State law exempts the issuance, reissuance, or modification of any wastewater discharge permit from the SEPA process as long as the permit contains conditions that are no less stringent than federal and state rules and regulations (RCW 43.21C.0383). The exemption applies only to existing discharges, not to new discharges. Synrad is an existing facility hence the facility meets this exemption.

## **III. Proposed Permit Limits**

State regulations require that Ecology base limits in a State Waste Discharge Permit on the:

- Technology and treatment methods available to treat specific pollutants (technology-based). Technology-based limits are set by the EPA and published as a regulation (40 CFR 400 - 471), or Ecology develops limits on a case-by-case basis (40 CFR 125.3, and RCW 90.48). Dischargers must treat wastewater using all known, available, reasonable methods of prevention, control, and treatment (AKART).
- Effects of the pollutants on the publicly owned treatment works (POTW). Wastewater must not interfere with the operation of the POTW. Ecology considers local limits in developing permit limits.
- Applicable requirements of other local, state and federal laws.

Ecology applies the most stringent of these limits to each parameter of concern and further describes the proposed limits below.

The limits in this permit reflect information received in the application and from supporting reports (engineering, hydrogeology, monitoring, etc.). Ecology evaluated the permit application and determined the limits needed to comply with the rules adopted by the state of Washington. Ecology does not develop effluent limits for all reported pollutants. Some pollutants are not treatable at the concentrations reported, are not controllable at the source, and are not listed in regulation.

Ecology does not usually develop permit limits for pollutants not reported in the permit application but may be present in the discharge. The permit does not authorize the discharge of the non-reported pollutants. During the five-year permit term, the facility's effluent discharge conditions may change from those conditions reported in the permit application. The facility must notify Ecology if significant changes occur in any constituent. Until Ecology modifies the permit to reflect additional discharge of pollutants, a permitted facility could be violating its permit.

### **A. Technology-based effluent limits**

Waste discharge permits issued by Ecology specify conditions requiring all available and reasonable methods of prevention, control, and treatment (AKART) of discharges to waters of the state (RCW 90.48).

The State Waste Discharge Permit regulations include restrictions and prohibitions to protect publicly owned sewerage systems. A facility may not discharge any wastewater having a pH less than 5.0 or greater than 11.0 or having any other corrosive property capable of causing damage or hazard to structures, equipment, or personnel unless the:

- System is specifically designed to accommodate such discharge.
- Discharge is authorized by a permit (WAC 173-216-060).

Federal regulations (40 CFR 403.5b) also prohibits the discharge of pollutants which will cause corrosive structural damage to the POTW, but in no case discharges with pH lower than 5.0, unless the collection and treatment system is designed to accommodate such discharges.

Permit limits for this facility are based on AWWD’s local limits as discussed in Section B below. A flow limit of 1000 gpd is included in the permit based on the Permittee’s stated maximum discharge volume per day in the permit application.

**B. Effluent limits based on local limits**

To protect the Alderwood Water and Wastewater District sanitary sewer system from pass-through, interference, concentrations of toxic chemicals that would impair beneficial or designated uses of sludge, or potentially hazardous exposure levels, Ecology believes it necessary to impose limits for certain parameters. Ecology based these limits on local limits established by name POTW and codified in ordinance. Ecology’s pretreatment program delegation agreement with EPA includes language in which Ecology agreed to enforce limits adopted by non-delegated programs (local limits).

Applicable effluent limits for this discharge include the following:

**Table 3. Local Limits Established in Alderwood Water and Wastewater District Code**

| Effluent Limits               |                           |
|-------------------------------|---------------------------|
| Parameter                     | Maximum Daily Limit, mg/L |
| Arsenic                       | 0.5                       |
| Cadmium                       | 0.24                      |
| Chromium                      | 5.0                       |
| Copper                        | 3.0                       |
| Cyanide                       | 0.65                      |
| Lead                          | 1.89                      |
| Mercury                       | 0.1                       |
| Nickel                        | 2.83                      |
| Silver                        | 0.49                      |
| Zinc                          | 4.00                      |
| Fats, Oils, and Greases (FOG) | 100                       |

| Parameter | Daily Minimum      | Daily Maximum       |
|-----------|--------------------|---------------------|
| pH        | 5.5 standard units | 11.0 standard units |

AWWD prohibits discharge of any wastewater having a pH of less than 5.5 standard units (SU) or greater than 11 SU or having any other corrosive property capable of causing damage or hazard to structures, equipment, or personnel of the system. The previous permit had pH limits of 5.5-8.5 but AWWD’s code has since been updated to allow a pH range of 5.5 - 11.0 standard units.

### C. Comparison of effluent limits with the 2012 permit

Table 4. Comparison of Effluent Limits

| Parameter      | Basis of Limit     | Previous Effluent Limits:<br>Outfall # 001 |  | Proposed Effluent Limits:<br>Outfall # 001 |  |
|----------------|--------------------|--|--|--|--|
|                |                    | Maximum Daily                              |  | Maximum Daily                              |  |
| Flow           | Permit Application | 1000 gpd                                   |  | 1000 gpd                                   |  |
| Oil and Grease | Local Limits       | 100 mg/L                                   |  | 100 mg/L                                   |  |
| Copper         | Local Limits       | 3.0 mg/L                                   |  | 3.0 mg/L                                   |  |
| Lead           | Local Limits       | 1.89 mg/L                                  |  | 1.89 mg/L                                  |  |

| Parameter | Basis of Limit | Previous Effluent Limits:<br>Outfall # 001 |               | Proposed Effluent Limits:<br>Outfall # 001 |               |
|-----------|----------------|--|---------------|--|---------------|
|           |                | Minimum Daily                              | Maximum Daily | Minimum Daily                              | Maximum Daily |
| pH        | Local Limits   | 5.5  | 8.5           | 5.5  | 11.0          |

## IV. Monitoring Requirements

Ecology requires monitoring, recording, and reporting (WAC 173-216-110) to verify that the treatment process functions correctly and that the discharge complies with the permit’s effluent limits.

If a facility uses a contract laboratory to monitor wastewater, it must ensure that the laboratory uses the methods and meets or exceeds the method detection levels required by the permit. The permit describes when facilities may use alternative methods. It also describes what to do in certain situations when the laboratory encounters matrix effects. When a facility uses an alternative method as allowed by the permit, it must report the test method, detection level (DL), and quantitation level (QL) on the discharge monitoring report or in the required report.

### A. Lab accreditation

Ecology requires that facilities must use a laboratory registered or accredited under the provisions of chapter 173-50 WAC, Accreditation of Environmental Laboratories, to prepare all monitoring data (with the exception of certain parameters).

### B. Wastewater monitoring

Ecology details the proposed monitoring schedule under Special Condition S2 and S ?. 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.

## **V. Other Permit Conditions**

### **A. Reporting and record keeping**

Ecology based Special Condition S3 on its authority to specify any appropriate reporting and record keeping requirements to prevent and control waste discharges [WAC 173-216-110 and CFR 403.12 (e),(g), and (h)].

### **B. Operations and maintenance**

Ecology requires dischargers to take all reasonable steps to properly operate and maintain their wastewater treatment system in accordance with state regulations (WAC 173-240-080 and WAC 173-216-110). Implementation of the procedures in the operation and maintenance manual ensures the facility's compliance with the terms and limits in the permit.

### **C. Prohibited discharges**

Ecology prohibits certain pollutants 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).

### **D. Dilution prohibited**

Ecology prohibits the facility from diluting its effluent as a partial or complete substitute for adequate treatment to achieve compliance with permit limits.

### **E. Solid waste control plan**

Ecology determined that Synrad has no potential to cause pollution of the waters of the state through inappropriate disposal of solid waste or through the release of leachate from solid waste. Solid waste generated at the facility is mainly scrap aluminum.

### **F. Non-routine and unanticipated wastewater**

Occasionally, this facility may generate wastewater not characterized in the permit application because it is not a routine discharge and the facility did not anticipate it at the time of application. These wastes typically consist of waters used to pressure-test storage tanks or fire water systems or of leaks from drinking water systems.

The permit authorizes the discharge of non-routine and unanticipated wastewater under certain conditions. The facility must characterize these waste waters for pollutants and examine the opportunities for reuse. Depending on the nature and extent of pollutants in this wastewater and on any opportunities for reuse, Ecology may:

- Authorize the facility to discharge the water.
- Require the facility to treat the wastewater.
- Require the facility to reuse the wastewater.

### **G. Spill plan**

This facility stores a quantity of chemicals on-site that have the potential to cause water pollution and/or interference or pass through at the receiving POTW if accidentally released. Ecology can require a facility to develop best management plans to prevent this accidental release [Section 402(a)(1) of the Federal Water Pollution Control Act (FWPCA) and RCW 90.48.080].

The 2012 permit required Synrad to update its spill control plan which was developed for preventing the accidental release of pollutants to state waters, to the receiving treatment plant, and for minimizing damages if such a spill occurs. The proposed permit requires the facility to update the existing plan and submit it to Ecology by 60 days from permit effective date.

### **H. Slug discharge plan**

Ecology determined that Synrad has no potential for a batch discharge or a spill that could adversely affect the receiving treatment plant, therefore the proposed permit does not require a slug discharge control plan [40 CFR 403.8 (f)(1) (iii)(B)(6)].

### **I. General conditions**

Ecology bases the standardized general conditions on state law and regulations. They are included in all state waste discharge permits issued by Ecology.

## **VI. Public Notification of Noncompliance**

Ecology may annually publish a list of all industrial users in significant noncompliance with pretreatment standards or requirements during any of the previous four quarters in a local newspaper. Accordingly, this permit special condition informs the facility that noncompliance with this permit may result in publication of the noncompliance.

## **VII. Permit Issuance Procedures**

### **A. Permit modifications**

Ecology may modify this permit to impose or change the numerical limits, if necessary, to comply with changes in the pretreatment requirements, conditions in local sewer ordinances, or based on new information from sources such as inspections and effluent monitoring. It may also modify this permit to comply with new or amended state or federal regulations.

### **B. Proposed permit issuance**

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limits and conditions believed necessary to control toxics. Ecology proposes that the permit be issued for 5 years.

## VIII. References for Text and Appendices

Novanta/Synrad

January 2017. Application for a State Waste Discharge Permit to Discharge Industrial Wastewater to a POTW.

Washington State Department of Ecology

Laws and Regulations ( <https://ecology.wa.gov/About-us/How-we-operate/Laws-rules-rulemaking> )

Permit and Wastewater Related Information (<https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Water-quality-permits-guidance>)

January 2015. *Permit Writer's Manual*, Publication Number 92-109  
(<https://fortress.wa.gov/ecy/publications/SummaryPages/92109.html>)

February 2007. *Focus Sheet on Solid Waste Control Plan, Developing a Solid Waste Control Plan for Industrial Wastewater Discharge Permittees*, Publication Number 07-10-024.  
<https://fortress.wa.gov/ecy/publications/SummaryPages/0710024.html>

## Appendix A--Public Involvement Information

Ecology proposes to reissue a permit to Synrad. The permit includes wastewater discharge limits and other conditions. This fact sheet describes the facility and Ecology's reasons for requiring permit conditions.

Ecology will place a Public Notice of Draft on October 21, 2019, in the *Everett Herald* to inform the public and to invite comment on the proposed draft State Waste Discharge Permit and Fact Sheet.

The notice:

- Tells where copies of the draft Permit and Fact Sheet are available for public evaluation (a local public library, the closest Regional or Field Office, posted on our website).
- Offers to provide the documents in an alternate format to accommodate special needs.
- Urges people to submit their comments, in writing, before the end of the Comment Period.
- Tells how to request a public hearing of comments about the proposed state waste discharge permit.
- Explains the next step(s) in the permitting process.

Ecology has published a document entitled *Frequently Asked Questions about Effective Public Commenting*, which is available on our website at

<https://fortress.wa.gov/ecy/publications/SummaryPages/0307023.html>.

You may obtain further information from Ecology by telephone, 425.649.7201 or by writing to the address listed below.

Water Quality Permit Coordinator  
Department of Ecology  
Northwest Regional Office  
3190 160<sup>th</sup> Avenue SE  
Bellevue, WA 98008-5452

The primary author of this permit and fact sheet is Biniam Zelelow.

## Appendix B--Your Right to Appeal

You have a right to appeal this permit to the Pollution Control Hearing Board (PCHB) within 30 days of the date of receipt of the final permit. The appeal process is governed by chapter 43.21B RCW and chapter 371-08 WAC. "Date of receipt" is defined in RCW 43.21B.001(2) (see glossary).

To appeal you must do the following within 30 days of the date of receipt of this permit:

- File your appeal and a copy of this permit with the PCHB (see addresses below). Filing means actual receipt by the PCHB during regular business hours.
- Serve a copy of your appeal and this permit on Ecology in paper form - by mail or in person. (See addresses below.) E-mail is not accepted.

You must also comply with other applicable requirements in chapter 43.21B RCW and chapter 371-08 WAC.

### ADDRESS AND LOCATION INFORMATION

| Street Addresses  | Mailing Addresses  |
|---|--|
| <p><b>Department of Ecology</b><br/>           Attn: Appeals Processing Desk<br/>           300 Desmond Drive SE<br/>           Lacey, WA 98503</p> | <p><b>Department of Ecology</b><br/>           Attn: Appeals Processing Desk<br/>           PO Box 47608<br/>           Olympia, WA 98504-7608</p> |
| <p><b>Pollution Control Hearings Board</b><br/>           1111 Israel RD SW<br/>           STE 301<br/>           Tumwater, WA 98501</p>            | <p><b>Pollution Control Hearings Board</b><br/>           PO Box 40903<br/>           Olympia, WA 98504-0903</p>                                   |

## Appendix C--Glossary

**AKART** -- The acronym for “all known, available, and reasonable methods of prevention, control and treatment.” AKART is a technology-based approach to limiting pollutants from wastewater discharges, which requires an engineering judgment and an economic judgment. AKART must be applied to all wastes and contaminants prior to entry into waters of the state in accordance with RCW 90.48.010 and 520, WAC 173-200-030(2)(c)(ii), and WAC 173-216-110(1)(a).

**Alternate point of compliance** -- An alternative location in the groundwater from the point of compliance where compliance with the groundwater standards is measured. It may be established in the groundwater at locations some distance from the discharge source, up to, but not exceeding the property boundary and is determined on a site specific basis following an AKART analysis. An “early warning value” must be used when an alternate point is established. An alternate point of compliance must be determined and approved in accordance with WAC 173-200-060(2).

**Ambient water quality** -- The existing environmental condition of the water in a receiving water body.

**Average monthly (intermittent) discharge limit** -- The average of the measured values obtained over a calendar month’s time taking into account zero discharge days.

**Average monthly discharge limit** -- The average of the measured values obtained over a calendar month's time.

**Background water quality** -- The concentrations of chemical, physical, biological or radiological constituents or other characteristics in or of groundwater at a particular point in time upgradient of an activity that has not been affected by that activity [WAC 173-200-020(3)]. Background water quality for any parameter is statistically defined as the 95% upper tolerance interval with a 95% confidence based on at least eight hydraulically upgradient water quality samples. The eight samples are collected over a period of at least one year, with no more than one sample collected during any month in a single calendar year.

**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.

**BOD5** -- Determining the five-day 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 BOD5 is used in modeling to measure the reduction of dissolved oxygen in receiving waters 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<sub>5</sub> 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 a 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.

**Clean water act (CWA)** -- The federal Water Pollution Control Act enacted by Public Law 92-500, as amended by Public Laws 95-217, 95-576, 96-483, 97-117; USC 1251 et seq.

**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 for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations. In addition it includes 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. Ecology may conduct additional sampling.

**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.

**Critical condition** -- The time during which the combination of receiving water and waste discharge conditions have the highest potential for causing toxicity in the receiving water environment. This situation usually occurs when the flow within a water body is low, thus, its ability to dilute effluent is reduced.

**Date of receipt** -- This is defined in RCW 43.21B.001(2) as five business days after the date of mailing; or the date of actual receipt, when the actual receipt date can be proven by a preponderance of the evidence. The recipient's sworn affidavit or declaration indicating the date of receipt, which is unchallenged by the agency, constitutes sufficient evidence of actual receipt. The date of actual receipt, however, may not exceed forty-five days from the date of mailing.

**Detection limit** -- The minimum concentration of a substance that can be measured and reported with 99 percent confidence that the pollutant concentration is above zero and is determined from analysis of a sample in a given matrix containing the pollutant.

**Dilution factor (DF)** -- A measure of the amount of mixing of effluent and receiving water that occurs at the boundary of the mixing zone. Expressed as the inverse of the percent effluent fraction, for example, a dilution factor of 10 means the effluent comprises 10% by volume and the receiving water 90%.

**Enforcement limit** -- The concentration assigned to a contaminant in the groundwater at the point of compliance for the purpose of regulation, [WAC 173-200-020(11)]. This limit assures that a groundwater criterion will not be exceeded and that background water quality will be protected.

**Engineering report** -- A document that thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report must 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 a period of time as is feasible.

**Groundwater** -- Water in a saturated zone or stratum beneath the surface of land or below a surface water body.

**Industrial user** -- A discharger of wastewater to the sanitary sewer that 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 stormwater 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 limit** -- 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 the maximum discharge of a pollutant measured during a calendar day.

**Method detection level (MDL)** -- See Detection Limit.

**Minor facility** -- A facility discharging to surface water with an EPA rating score of < 80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

**National pollutant discharge elimination system (NPDES)** -- The NPDES (Section 402 of the Clean Water Act) is the federal wastewater permitting system for discharges to navigable waters of the United States. Many states, including the state of Washington, have been delegated the authority to issue these permits. NPDES permits issued by Washington State permit writers are joint NPDES/State permits issued under both state and federal laws.

**pH** -- The pH of a liquid measures its acidity or alkalinity. It is the negative logarithm of the hydrogen ion concentration. A pH of 7 is defined as neutral and large variations above or below this value are considered harmful to most aquatic life.

**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.

**Point of compliance** -- The location in the groundwater where the enforcement limit must not be exceeded and a facility must comply with the Ground Water Quality Standards. Ecology determines this limit on a site-specific basis. Ecology locates the point of compliance in the groundwater as near and directly downgradient from the pollutant source as technically, hydrogeologically, and geographically feasible, unless it approves an alternative point of compliance.

**Potential significant industrial user (PSIU)** --A potential significant industrial user is defined as an Industrial User that 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 % 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).

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

**Quantitation level (QL)** -- Also known as Minimum Level of Quantitation (ML) – The lowest level at which the entire analytical system must give a recognizable signal and acceptable calibration point for the analyte. It is equivalent to the concentration of the lowest calibration standard, assuming that the lab has used all method-specified sample weights, volumes, and cleanup procedures. The QL is calculated by multiplying the MDL by 3.18 and rounding the result to the number nearest to  $(1, 2, \text{ or } 5) \times 10^n$ , where n is an integer (64 FR 30417).

ALSO GIVEN AS:

The smallest detectable concentration of analyte greater than the Detection Limit (DL) where the accuracy (precision & bias) achieves the objectives of the intended purpose. (Report of the Federal Advisory Committee on Detection and Quantitation Approaches and Uses in Clean Water Act Programs Submitted to the US Environmental Protection Agency, December 2007).

**Reasonable potential** -- A reasonable potential to cause a water quality violation, or loss of sensitive and/or important habitat.

**Responsible corporate officer** -- A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or have gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures (40 CFR 122.22).

**Sample Maximum** -- No sample may exceed this value.

**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 that may cause interference or pass through with the POTW or in any way violate the permit conditions or the POTW's regulations and local limits.

**Solid waste** -- All putrescible and non-putrescible solid and semisolid wastes including, but not limited to, garbage, rubbish, ashes, industrial wastes, swill, sewage sludge, demolition and construction wastes, abandoned vehicles or parts thereof, contaminated soils and contaminated dredged material, and recyclable materials.

**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 stormwater drainage system into a defined surface water body, or a constructed infiltration facility.

**Technology-based effluent limit** -- A permit limit based on the ability of a treatment method to reduce the pollutant.

**Total dissolved solids** -- That portion of total solids in water or wastewater that passes through a specific filter.

**Total maximum daily load (TMDL)** -- A determination of the amount of pollutant that a water body can receive and still meet water quality standards.

**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.

**Upset** -- An exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limits 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, lack of preventative maintenance, or careless or improper operation.

**Water quality-based effluent limit** -- A limit imposed on the concentration of an effluent parameter to prevent the concentration of that parameter from exceeding its water quality criterion after discharge into receiving waters.

## **Appendix D--Response to Comments**

[Ecology will complete this section after the public notice of draft period.]