

FACT SHEET FOR STATE WASTE DISCHARGE PERMIT ST-7291 AVIATION TECHNICAL SERVICES, INC.

PURPOSE of this Fact Sheet

This fact sheet contains an explanation of, as well as documentation related to, the decisions Ecology made in drafting the proposed State Waste Discharge Permit for Aviation Technical Services, Inc. that will allow the discharge of industrial wastewater to the Mukilteo Water and Sewer District.

State law requires any industrial facility to obtain a permit before discharging waste or chemicals to waters of the state. This statute includes commercial or industrial discharges to sewerage systems operated by municipalities or public entities which discharge into waters of the state.

A State Waste Discharge Permit limits the types and amounts of pollution the facility may discharge. Ecology bases those limits either on (1) the pollution control or wastewater treatment technology available to the industry, or on (2) the effects of the pollutants to the POTW (local limits).

PUBLIC ROLE in the Permit

The Department of Ecology normally publishes a Public Notice of Application (PNOA) and a Public Notice of Draft (PNOD) when it prepares a State Waste Discharge Permit for issuance. However, the provisions of *WAC 173-216-090 (5)* specify that in those cases in which a permit is proposed to be reissued with no substantial changes, Ecology is not required to publish such notices. Therefore, in accordance with the above-referenced regulation, and in accordance with procedures set forth in the Department of Ecology's *Water Quality Permit Writer's Manual, Chapter XIV (2)*, Ecology did not publish a public notice for the reissuance of this permit.

SUMMARY

Aviation Technical Services, Inc., operates a plant located at Paine Field, which is engaged in the maintenance and refurbishing of large commercial aircraft. A portion of the operations consists of preparation for aircraft painting resulting in wastewater production from washing, paint stripping, and chromium conversion coating.

TABLE OF CONTENTS

INTRODUCTION3

BACKGROUND INFORMATION4

 DESCRIPTION OF THE FACILITY4

 History.....5

 PERMIT STATUS.....7

 SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT8

 WASTEWATER CHARACTERIZATION.....9

 SEPA COMPLIANCE10

PROPOSED PERMIT LIMITATIONS.....10

 TECHNOLOGY-BASED EFFLUENT LIMITATIONS10

 EFFLUENT LIMITS BASED ON LOCAL LIMITS.....11

 COMPARISON OF LIMITATIONS WITH THE EXISTING PERMIT ISSUED APRIL 23, 200311

MONITORING REQUIREMENTS11

OTHER PERMIT CONDITIONS13

 REPORTING AND RECORD KEEPING.....13

 OPERATIONS AND MAINTENANCE.....13

 PROHIBITED DISCHARGES.....13

 DILUTION PROHIBITED13

 SOLID WASTE PLAN.....13

 NONROUTINE AND UNANTICIPATED DISCHARGES.....13

 SPILL PLAN.....14

 SLUG DISCHARGE CONTROL PLAN14

 GENERAL CONDITIONS14

PUBLIC NOTIFICATION OF NONCOMPLIANCE14

RECOMMENDATION FOR PERMIT ISSUANCE14

REFERENCES FOR TEXT AND APPENDICES.....14

Appendices.....15

 APPENDIX A—PUBLIC INVOLVEMENT INFORMATION15

 APPENDIX B—GLOSSARY.....16

INTRODUCTION

The legislature defined Ecology's authority and obligations for the Wastewater Discharge Permit Program in 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 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.

GENERAL INFORMATION		
Applicant	Aviation Technical Services, Inc.	
Facility Name and Address	Aviation Technical Services, Inc. 3100 - 112 th Street SW Everett, WA 98204 Snohomish County	
Type of Facility	Aircraft Maintenance (SIC3721,NAICS 336411), Metal Finishing (Chromate Conversion Coating) - Categorical Industrial User	
Facility Discharge Location	Latitude: 47° 53' 12" N Longitude: 122° 15' 42" W	
Treatment Plant Receiving Discharge	Mukilteo Water and Wastewater District Wastewater Treatment Plant NPDES Number WA2293	
Contact at Facility	Carrie Weisse EHS Team Leader (425) 423-3368 (425) 423-3033	Roy Chandler Director, Operations Support (425) 423-3046 (425) 423-3033
Responsible Official	Matt Yerbic President 3100 – 112 th Street SW Everett, WA 98204 (425) 423-3160 (425) 423-3033	
Title		
Address		
Telephone Number		
Fax Number		

BACKGROUND INFORMATION

DESCRIPTION OF THE FACILITY

The Aviation Technical Services (ATS), Inc. facility, located at Paine Field in Everett, Washington, is an aerospace repair and maintenance facility that refurbishes commercial aircraft. Prior to January 2008, ATS was known as Goodrich Aviation Technical Services, Inc. (Goodrich). Details of the transfer of ownership and related name change are described in the History section of this fact sheet. The company name, Goodrich, is used in this fact sheet when historical events are presented that occurred prior to the company changing its name to ATS.

The primary Standard Industrial Classification Code (SIC) is 3721 (Aircraft Parts and Equipment), and the North American Industry Classification System (NAICS) is 336411 (Air Craft Manufacturing). The facility currently consists of three aircraft hangars, as well as other buildings, including chemical storage buildings, an equipment repair shop, and a weld/fabrication shop.

Activities conducted at the ATS facility include mechanical dismantling and assembly, equipment repair and testing, surface preparation, cleaning, and surface coating. Work done on each aircraft varies according to the work order from each customer. Most work falls into the following categories: mechanical assembly, maintenance and repair, cleaning, and surface coating operations. Employees clean the aircraft with alkaline surfactant material and remove paint with formic acid-based stripping agents. Surface preparation includes Alodining (chromate conversion coating).

The proposed permit covers the following discharges:

- Landing Gear Wash Water (1000 gallons per day)
- Aircraft Repair Wash Water
- Preparation of Aircraft for Painting
 - Stripper Wash Water (1400 gallons per day)
 - Detergent Wash Water (1500 gallons per day)
 - Alodine Wash Water (800 gallons per day)
- Parts Cleaning Wash Water
- Parts Alodining Wash Water

Landing gear wash water is mainly generated at the time of inspection operations undertaken shortly after arrival of an aircraft. Landing gear washing for a single aircraft results in a maximum discharge of 1000 gallons per aircraft. It would be unusual for more than one aircraft to be subject to landing gear operations on a single day. Therefore, the maximum discharge from this operation is expected to be approximately 1000 gallons per day. The landing gear wash wastewater includes detergent, as well as grease and associated particulate and organic materials.

Aircraft washing, stripping (also known as de-painting), chromate conversion coating (also known as Alodining) operations are conducted in Hangar III.

ATS conducts other aircraft and engine cleaning operations on the tarmac outside Hangar III and directs this wash water to the trench system located inside Hangar III.

Additional aircraft cleaning operations occur on the wash rack area located outside Hangar I. The resulting wastewater is trucked to the pretreatment system at Hangar III for treatment in the pretreatment system. Nevertheless, Sample Point 009, which is a direct discharge point for this wash rack, is maintained as a discharge point in this permit for operational flexibility purposes.

Aircraft stripping wash water originates in the interior of Hangar III, where this wastewater is collected in a trench. This wash water contains formic acid-based stripper as well as paint flakes. This wastewater is stored in the stripping wastewater tank prior to being treated in the metals removal pretreatment system located in Hangar III.

ATS generates aircraft Alodine (chromate conversion coating) wastewater in Hangar III. This wastewater includes significant concentrations of chromium and other metals, as well as ferricyanide ions. This wastewater is stored in a wastewater tank prior to being processed in the pretreatment system in Hangar III.

Parts wash water results from the washing of parts in various alkaline cleaners in various areas of the ATS complex.

Parts Alodine wastewater results from the chromium conversion coating of parts in various component service areas of the ATS complex. ATS directs the process water and the resulting rinse water to a wastewater storage tank located in Hangar III.

Treatment Processes

The pretreatment system, located in Hangar III, includes three holding tanks. They can be selected to hold incoming aircraft wash/rinse water, stripping rinse water, and/or alodine rinse water. Normally, the three types of wastewater are commingled prior to treatment.

Wastewater, which includes Alodine rinse water, is first subjected to reduction of hexavalent chromium to its trivalent form. Following chromium reduction, the wastewater is treated by means of flocculation and settling of heavy metals. ATS also uses chemical-aided settling to achieve compliance with the cyanide limitation in the permit.

HISTORY

The following is a brief description of a number of permit changes since 2002 that occurred largely as a result of an improved understanding gained over the years, with respect to the most effective methods for controlling the parameter “total cyanide,” and for reducing foaming incidents at the POTW (Publicly-Owned Treatment Works) Mukilteo Water and Wastewater District wastewater treatment plant (formerly the Olympus Terrace Sewer District wastewater treatment plant).

Alkaline Chlorination Determined to be Ineffective for Removal of Total Cyanide Parameter-Chemical Aided Settling Determined to be Effective

In the fall of 2002, Goodrich requested modification of their permit to include a single sample point to monitor compliance with the cyanide standard in its permit. Goodrich had performed a study which indicated that the alkaline chlorination treatment step, which was being applied to its cyanide-bearing waste stream, was not achieving effective cyanide destruction. The failure to destroy cyanide as measured by the parameter “total cyanide” appears to have been the result of the fact that virtually the entirety of the “cyanide” in the Alodine wastestream was, in fact, the ferricyanide ion ($[\text{Fe}(\text{CN})_6]^{-3}$), present in Alodine rinsewaters, which is quantified under the “total cyanide” test along

with the cyanide ion *per se* (i.e. CN). [The easy reducibility (due to a reversible oxidation reduction mechanism) of the ferricyanide ion to the ferrocyanide ($[\text{Fe}(\text{CN})_6]^{-4}$) ion means that both of these non-amenable-to-chlorination ions may in fact be present in the wastewater in an equilibrium, controlled predominantly by the predominance of either a reducing or an oxidizing environment. However, for purposes of simplicity, the ferricyanide/ferrocyanide species present will be referred to as the ferricyanide ion in this discussion.]

The ferricyanide ion is not effectively treatable by means of alkaline chlorination, and comprises a subset of “total cyanide” under the EPA test method which is termed “cyanide not amenable to chlorination,” although concisely the ferricyanide ion is not the cyanide ion proper, but rather, a more complex ion consisting of six cyanide ligands bound by ionic means, albeit robustly, to a ferric (Fe^{+3}) ion. The resulting ferricyanide ion is considerably less toxic to humans and aquatic organisms. The ferricyanide ion is treatable (i.e. removable from the industrial wastewater effluent) by means of the same technology employed for removal of metal ions – chemical-aided flocculation and settling.

The report prepared by Goodrich’s consultant, Camp Dresser & McKee, Inc. (CDM), contained the recommendation that Goodrich commingle the wastewater resulting from its various processes. The existing federal regulations (40 CFR Part 433) require testing for cyanide at a point in the waste stream which carries only wastewater from those processes which are expected to generate cyanide-bearing wastewater. The rationale for commingling of wastewaters was two-fold. First, the commingling of wastewaters would result in increased metal ion concentrations to aid in the settling of cyanide (concisely ferricyanide ions). Secondly, CDM concluded that commingling the waste streams would result in a reduction of foaming in the effluent.

Goodrich requested in its letter submitted with the 2002 application, that Ecology eliminate the sample point for Alodine-only rinse water in the permit, and change the cyanide compliance point (Sample Point 008 in the existing permit) to a point following treatment of all metal finishing-related wastewater (as opposed to the cyanide-bearing waste stream-only). Federal regulations authorize sampling of the commingled waste stream, but require that Ecology use the combined waste stream formula to calculate the cyanide limitation. In subsequent discussions, Goodrich requested that the Alodine-wastewater-stream-only sample point be retained, but only as a backup sample point to be used under certain circumstances, such as those under which a large amount of cyanide-bearing-only wastewater were to be generated. The permit issued in April 2003 included cyanide limits for the backup discharge, which were taken directly from the federal categorical regulations, without application of the combined waste stream formula. The permit issued in April 2003 contained monitoring requirements for Sample Point 007 (commingled) and monitoring requirements for the backup Sample Point 008 (cyanide-bearing-only). The modifications of September 2004 did not directly effect permit provisions related to cyanide.

Foaming Identified as Significant Problem by Olympus Terrace Sewer District

During 2002-2003, the POTW (at that time the Olympus Terrace Sewer District) identified excessive foaming as an important problem at its treatment plant. Excessive foaming activity was observed in the plant influent as well as the aeration basin (oxidation ditch) and effluent at the POTW’s treatment plant. Olympus Terrace Sewer District was also concerned about unusual color and transmissivity characteristics which could have the potential to adversely impact the effectiveness of its ultraviolet disinfection system.

Removal of Oil/Water Separator and Sand Filtration from Process

In early 2003, Goodrich notified, and began working with Ecology, and the company's consultant, CDM, to identify ways to improve the effectiveness of its pretreatment system with particular emphasis on COD. In 2004, following implementation of minor changes and review of examination of analytical results of effluent with and without oil/water separator and sand filter treatment, Goodrich determined that the sand filter and oil water separator were not making a meaningful contribution to removal of pollutants from the effluent. Goodrich hypothesized that the ineffectiveness of this portion of the treatment works was due to detergent-caused emulsification of oils. Following a review of this data, Ecology authorized Goodrich, by means of a letter in October 2007, to remove the sand filter and oil/water separator from its treatment works.

Permit Modification of September 29, 2004, Relating to COD Limitation and Equalization Tank Volume

By means of the permit modification of September 29, 2004, Ecology removed the COD limit from the permit, which Ecology had included specifically at the request of the POTW. The COD limit was intended as a surrogate limit used to control discharge characteristics, presumably consisting of detergent which had caused serious foaming incidents at the Olympus Terrace Sewer District treatment works. Ecology and the POTW (at that time, the Olympus Terrace Sewer District) determined that the COD limit was no longer necessary, as foaming problems at the POTW ceased to be a significant problem following installation of an equalization tank.

The permit modification of September 29, 2004, also included a change in the required volume of the wastewater equalization tank from 24,000 to 16,000 gallons. Goodrich had installed the 24,000-gallon tank to fulfill a requirement in the permit. The tank appeared to eliminate the incidence of foaming problems at the Olympus Terrace Sewer District POTW. Goodrich later requested that Ecology reduce the requirement to install and maintain a 24,000-gallon equalization tank to a 16,000-gallon equalization tank so that it could locate the tank inside the treatment building within the already-existing containment berm associated with its pretreatment works.

Acquisition by MacQuarie - Name Change to Aviation Technical Services (December 2007)

On December 19, 2007, Goodrich notified Ecology by letter, that Macquarie, an Australian financial institution, had acquired the facility. The company name was changed from Goodrich Aviation Technical Services to Aviation Technical Services, Inc. On March 14, 2008, Ecology received additional information describing the ownership transfer as a stock sale. Due to the fact that the transfer was affected by means of a stock sale and purchase, the legal entity (corporation) under permit was unchanged, except with respect to the name of the Permittee.

PERMIT STATUS

Ecology issued the existing permit for this facility on April 23, 2003, and modified it on September 29, 2004, in order to eliminate the sampling requirements for COD, and in order to change the required equalization tank size from 24,000 gallons to 16,000 gallons in the compliance schedule in the then-existing permit. An application for permit renewal was submitted to Ecology on October 19, 2007, and was determined to be complete on April 23, 2008. In a letter of March 14, 2008, sent by the company to Ecology, the company resubmitted pages one and two of the application in order to reflect the name change of the company to Aviation Technical Services, Inc. On April 23, 2008, Ecology sent a letter to Aviation Technical Services, Inc., informing the company that its application was considered

to be complete, and the Aviation Technical Services, Inc. was deemed to have a temporary permit, under which it was authorized to discharge wastewater to the sanitary sewer under the provisions of RCW 90.48.200. In addition, Ecology informed the Aviation Technical Services, Inc. in the letter that Aviation Technical Services, Inc. had fulfilled all requirements with respect to changing the company name. Normally, the change in ownership of a company must be documented by a permittee by submittal of a signed statement from both the buyer and seller. In this case, the change in ownership was accomplished by a sale and purchase of stock, and the company, although undergoing a change of name, remained the same entity. The former president of the subsidiary corporation remained as president of the newly-named corporation. Therefore, Ecology accepted this single signature as fulfilling the requirements related to transfer of ownership.

SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT

During the period in which the previous permit was in effect, effluent from the Goodrich plant exceeded effluent limitations on a number of occasions. Several self-monitoring compliance samples collected in March, May, and June 2003 indicated violation of cadmium (March 2003, May 2003, June 2003), zinc (June 2003), TTO (May 2003, June 2003), and pH (March 2003, May 2003) limits. The high concentration of 1, 2-dichlorobenzene in the TTO sample was mainly responsible for the exceedance of the TTO limitation. Ecology issued a Notice of Violation on December 12, 2003, for these violations. Goodrich successfully addressed the metals violations of 2003, by upgrades in the chemically-aided settling process.

In February 2004, Goodrich notified Ecology that their discharge appeared to have dropped below the pH limit of 6.0 for a short time. Goodrich reported that they installed a solenoid valve, and a new valve, to prevent pH exceedances in the future.

In October 2004, Goodrich notified Ecology that approximately 10.35 gallons of water seeped past the solenoid, and that the pH of the water was between 5.57 and 5.98. Goodrich further reported that in attempting to correct the pH, the operator added caustic soda and over corrected the pH, causing approximately 9.72 gallons of wastewater, with a pH of between 10.73 and 11.49, to be released.

In March 2005, Ecology issued a warning letter to Goodrich Aviation Technical Services, for violations of pH standards, which occurred in February and October 2004.

Goodrich notified Ecology in late November 2005 of an exceedance of the 16,000-gallon per day flow limit. The company's measurements indicated that they had exceeded the limit by discharging approximately 16,060 gallons in one day. The company indicated that a malfunctioning solenoid actuation set point appeared to be the cause of the problem.

On March 23, 2007, Goodrich notified Ecology, by means of a written report, of a release of approximately 100 gallons of low pH cleaning solution (approximately 4 gallons of sulfamic acid cleaning solution mixed with water) to the sanitary sewer.

Ecology issued a warning letter to the company in May 2008 for violations of pH standards which occurred in December 2007. The minimum pH during that month was 5.0, and the maximum pH for that month was 10.63. The company reported that the pH excursions were due to a malfunctioning probe.

WASTEWATER CHARACTERIZATION

The concentration of pollutants in the discharge was reported in the permit application and in discharge monitoring reports. The proposed wastewater discharge has been characterized for the following parameters as shown in the table below. Sample Point 007 is the discharge of the pretreatment system at Hangar III. (There are no longer any discharge points 001 through 006. The sample points were not renumbered from 001 each time the permit was reissued in order to enable data queries for any given sample point number to yield results for a single sample point.)

EFFLUENT CHARACTERIZATION AND COMPARISON OF EXISTING AND PROPOSED DISCHARGE LIMITS FROM AVIATION TECHNICAL SERVICES APPLICATION OF OCTOBER 2007¹ (Sample Point 007)²							
Pollutant Parameter	Monitoring Results (Sample Point 007 for non-cyanide parameters, Sample Point 008 for cyanide)			Limits in Existing Permit (Sample Point 007 for non-cyanide parameters, Sample Point 008 for cyanide)		Final Limits, Proposed Permit (Sample Point 007 for all parameters)	
	Minimum	Maximum	Average⁴	Average Monthly	Maximum Daily	Average Monthly	Maximum Daily
pH, std pH units	6.1	9.0	8.6 ⁵	N/A		N/A	
Cadmium, T, mg/L	ND ⁶	0.10	0.03	0.07	0.11	0.07	0.11
Chromium, T, mg/L	0.01	0.75	0.10	1.71	2.77	1.71	2.77
Copper, T, mg/L	<0.01	0.11	0.03	2.07	3.38	2.07	3.38
Lead, T, mg/L	ND ⁷			0.43	0.69	0.43	0.69
Nickel, T, mg/L	0.02	0.09	0.06	2.38	3.98	2.38	3.98
Silver, T, mg/L	ND ⁸	0.01	0.005	0.24	0.43	0.24	0.43
Zinc, T, mg/L	0.02	0.09	0.06	1.48	2.61	1.48	2.61
Cyanide, T, mg/L	<0.05	0.11	0.02	0.14	0.26	0.65	1.25
TTO, mg/L ⁹	<0.005	0.11	0.02	N/A	2.13	N/A	2.13
TSS, mg/L ¹⁰	7.0	170	55	N/A	200	N/A	200

N/D indicates no data available

FOOTNOTES APPLICABLE TO EFFLUENT CHARACTERIZATION

- ¹ Monitoring results are based on submitted Discharge Monitoring Reports for the period consisting of September 2004 through July 2007. The September 2004 cut-off date was chosen based on completion of a major upgrade in the pretreatment system. Therefore, the results for dates after 2004 are expected to be more representative of future performance.
- ² The results are for Sample Point 007 only. Sample Point 008 has not been used since May 1, 2008, the original effective date of the existing permit.
- ³ In October 2004, the minimum and maximum pH limitations were exceeded. However, this impacted only a few gallons of discharge. In order to provide more representative results, the October 2004 pH results are excluded in the table above.
- ⁴ Average of maximum detected concentrations reported on DMRs.
- ⁵ The average pH value in the table above is based on averaging the logs of the average minimum and the average maximum pH.
- ⁶ "ND" indicates cadmium not detected. The cadmium detection levels ranged from 0.004 to 0.01 mg/L for the samples in which cadmium was not detected.
- ⁷ "ND" indicates lead not detected. The lead levels ranged from 0.02 to 0.04 mg/L for the samples in which lead was not detected.
- ⁸ "ND" indicates silver not detected. Silver detection levels ranged from 0.0002 to 0.01 mg/L for the samples in which silver was not detected.
- ⁹ TTO indicates total toxic organic compounds as defined in 40 CFR Part 433. The compound most often detected was 1,2-dichlorobenzene.
- ¹⁰ "TSS" indicates total suspended solids. TSS monitoring was a requirement for outfall 008 only. As the influents for Sample Point 007 and 008 are now typically combined and released at Sample Point 007, this limit has been included in the table above.
- ¹¹ "N/A" indicates not applicable. There is no average standard established for TTO.

SEPA COMPLIANCE

The ATS plant is a preexisting facility (until recently operated as Goodrich Aviation Technical Services, and previously as Tramco), operating under a preexisting State Waste Discharge Permit. There is no new construction planned in association with the discharge authorized under the proposed permit reissuance. Therefore, the requirement to complete a new SEPA checklist is not triggered by the reissuance of this State Waste Discharge Permit.

PROPOSED PERMIT LIMITATIONS

State regulations require that Ecology base permit discharge limits 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, 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 to the POTW (local limits). Wastewater must not interfere with the operation of the POTW.
- 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 that were not reported in the permit application but that 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. Industries may be in violation of their permit until the permit is modified to reflect additional discharge of pollutants.

TECHNOLOGY-BASED EFFLUENT LIMITATIONS

All waste discharge permits issued by Ecology must specify conditions requiring available and reasonable methods of prevention, control, and treatment (AKART) of discharges to waters of the state (RCW 90.48). Federal categorical limits for this facility are found under 40 CFR Part 433. The categorical metal finishing standards are applicable due to the Alodine (chromium conversion coating) wastewater generated at this facility as part of the surface preparation process for painting. USEPA has conducted extensive studies based on a criterion of economic reasonableness. The metals and TTO limits set forth in the proposed permit are based on those studies. As the economic reasonableness criteria used by USEPA are similar to the AKART requirements set forth under state regulations, the categorical limitations developed by USEPA are considered by the state to be equivalent to AKART-based limitations.

The categorical pretreatment regulations of 40 CFR Part 433 contain the requirement that the compliance point for cyanide be the discharge from those wastewater processes which are expected to contain cyanide. Some of the Alodine processes contain the ferricyanide ion. Therefore, the normal compliance point would be the discharge of the Alodine waste stream. However, Goodrich as described above, determined that ferricyanide removal can be meaningfully accomplished by means of chemically-aided settling, as opposed to alkaline chlorination. Accordingly, Goodrich requested that the effluent from the flocculation-settling tank be used as the compliance point for cyanide for commingled cyanide and non-cyanide-bearing waste streams. USEPA originally specified the single compliance point for cyanide under the presumption that the technologies employed would be different for removal of cyanide and metals. Since both waste streams proved to be treatable using the same technology, Ecology applied the USEPA-sanctioned combined waste stream formula to develop the cyanide limitation.

The federal categorical limits for cyanide are 1.20 mg/L (daily maximum), and (0.65 mg/L monthly average). Based on Goodrich's application, the Alodine waste stream flow of 800 gallons per day constitutes an average of 21.6% of the total flow through the flocculation/precipitation treatment unit. Based on the combined waste stream formula, Ecology calculated a cyanide limit for the mixed flow of 0.26 mg/L daily maximum and 0.14 mg/L monthly average.

ATS no longer treats batches consisting entirely of wastewater from cyanide process rinse water. All cyanide-process waste streams are mixed with other waste streams prior to treatment. Therefore, ATS no longer uses the old cyanide-only sample point (Sample Point 008).

EFFLUENT LIMITS BASED ON LOCAL LIMITS

Ecology based the daily maximum nickel limit on a local limit and the conditions at the POTW (Olympus Terrace Sewer District, at the time). Nickel was the only metals-limitation calculated which was more stringent than the corresponding federal categorical limit.

COMPARISON OF LIMITATIONS WITH THE EXISTING PERMIT ISSUED APRIL 23, 2003

A comparison of the limits in the existing permit with those in the proposed permit is shown in the table in the Wastewater Characterization section of this fact sheet.

MONITORING REQUIREMENTS

Monitoring, recording, and reporting are specified to verify that the treatment process is functioning correctly and that effluent limitations are being achieved (WAC 173-216-110).

The monitoring schedule is detailed in the proposed permit under Conditions S1 and S2. 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.

Proposed Monitoring Frequencies – Sample Point 007	
Pollutant Parameter	Monitoring Frequency
pH, standard pH units	Continuous
Cadmium, T, mg/L	Monthly
Chromium, T, mg/L	Monthly
Copper, T, mg/L	Quarterly
Lead, T, mg/L	Quarterly
Nickel, T, mg/L	Quarterly
Silver, T, mg/L	Quarterly
Zinc, T, mg/L	Quarterly
Cyanide, T, mg/L	Monthly
TTO, mg/L	Quarterly
COD, mg/L	Monthly

The monitoring frequency for pH is continuous as requested by the Olympus Terrace Sewer District (now Mukilteo Water and Wastewater District).

The monitoring frequency for cadmium in the proposed permit is monthly due to the fact that past monitoring has indicated a potential to exceed the limit for cadmium.

Ecology set the monitoring frequency for chromium in the proposed permit as monthly due to the reasonable expectation that a chromium conversion coater may have a potential for exceeding the limit. Ecology evaluated the 2004 through 2007 data, and there still appears to be a reasonable potential to violate the chromium limitation, despite the fact that the frequency of such violations is anticipated to be low.

Ecology included quarterly monitoring frequencies for copper, lead, nickel, and silver in the proposed permit due to the fact that past monitoring data indicates that violation of this limit is unlikely.

The monitoring frequency for zinc in the proposed permit is quarterly due to the fact that the most recent data indicates a low likelihood for violation of the standard for zinc. The monitoring frequency was monthly in the existing permit.

The monitoring frequency for cyanide is monthly in the proposed permit due to the fact that data indicates a potential for violation of the cyanide standard. Violation of the cyanide standard has occurred in the past. Ferricyanide, which is measured (among other cyanaceous compounds) by the USEPA method for cyanide, is a component of one of the types of Alodining solution employed by ATS. Although cyanide effluent values appear unlikely to exceed the federal standard prior to adjustment using the combined waste stream formula, a review of the 2004-2006 data indicates that there remains a reasonable potential for cyanide values to exceed the limit established by means of use of the combined waste stream formula.

OTHER PERMIT CONDITIONS

REPORTING AND RECORD KEEPING

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

OPERATIONS AND MAINTENANCE

The proposed permit contains Condition S5 as authorized under WAC 173-240-150 and WAC 173-216-110. 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

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

SOLID WASTE PLAN

ATS has a general industrial stormwater permit, which is an NPDES permit intended to address stormwater issues. As this permit already contains a provision requiring a Solid Waste Plan, there is no requirement in the proposed permit to have a Solid Waste Plan.

NONROUTINE 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 a method for obtaining 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, Ecology 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

ATS 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 ATS to update this plan as necessary, and requires that it to submit updates of the Spill Plan to Ecology.

SLUG DISCHARGE CONTROL PLAN

Ecology has determined that the Permittee has the potential for a batch discharge or a spill that could adversely affect the POTW. Therefore, maintenance of an adequate Slug Discharge Control Plan is required. Ecology has the authority to require this plan under 40 CFR 403.8 (f).

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 Ecology.

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 Ecology in a local newspaper. Accordingly, ATS 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. Ecology proposes that the permit be issued for a period of five (5) years.

REFERENCES FOR TEXT AND APPENDICES

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

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

The Department of Ecology normally publishes a Public Notice of Application (PNOA) and a Public Notice of Draft (PNOD) when it prepares a State Waste Discharge Permit for issuance. However, the provisions of *WAC 173-216-090 (5)* specify that in those cases in which a permit is proposed to be reissued with no substantial changes, Ecology is not required to publish such notices. Therefore, in accordance with the above-referenced regulation, and in accordance with procedures set forth in the Department of Ecology's *Water Quality Permit Writer's Manual, Chapter XIV (2)*, Ecology did not publish a public notice for the reissuance of this permit.

APPENDIX B—GLOSSARY

AKART—The acronym for “all known, available, and reasonable methods of prevention, control and treatment.” 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).

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

AKART—This acronym is defined as: 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.

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 Biochemical Oxygen Demand (BOD₅) 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 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.

Ground Water—Water in a saturated zone or stratum beneath the surface of land or below a surface water body.

Grab Sample—A single sample or measurement taken at a specific time or over as short a 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.

Point of Compliance—The location in the ground water where the enforcement limit shall not be exceeded and a facility must be in compliance with the ground water quality standards. It is determined on a site-specific basis and approved or designated by Ecology. It should be located in the ground water as near and directly downgradient from the pollutant source as technically, hydrogeologically, and geographically feasible, unless an alternative point of compliance is approved.

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% 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 (for example, 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)—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 nonroutine, 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.

Soluble BOD₅—Determining the soluble fraction of Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of soluble organic material present in an effluent that is utilized by bacteria. Although the soluble BOD test is not specifically described in Standard Methods, filtering the raw sample through at least a 1.2 um filter prior to running the standard BOD₅ test is sufficient to remove the particulate organic fraction.

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.