



King County

Wastewater Treatment Division

Industrial Waste Program

Department of Natural Resources and Parks

201 South Jackson Street, Suite 513

Seattle, WA 98104-3855

206-477-5300 Fax 206-263-3001

TTY Relay: 711

November 4, 2020

SENT VIA EMAIL ONLY
READ RECEIPT REQUESTED

Douglas Gallucci
University of Washington Environmental Health & Safety
P.O. Box 354110, 4109 Franklin Place NE
Seattle, WA 98195

Issuance of renewed Wastewater Discharge Permit No. 7923-02 to University of Washington Environmental Health & Safety by the King County Department of Natural Resources and Parks

Dear Mr. Gallucci:

The King County Industrial Waste Program (KCIW) has reviewed and processed your application for issuance of an industrial wastewater discharge permit in accordance with Chapter 90.48 RCW as Amended, Public Law 92-500, and King County Code 28.84.060.

The enclosed issued Permit No. 7923-02 covers the wastewater discharge from the University of Washington Seattle Campus operation located at 4109 Franklin Place NE, Seattle, Washington. All discharges from this facility, and actions and reports relating thereto, shall be in accordance with the terms and conditions of this permit.

The enclosed Permit No. 7923-02 supersedes and cancels Permit No. 7923-01 effective November 7, 2020. Please use the renewed permit's self-monitoring report form (included) starting for your November 2020 self-monitoring reporting.

King County Code 28.84 authorizes a fee for each Permit issued by the King County Department of Natural Resources and Parks. The current fee for issuance of a renewed Permit in Level B is \$6000. King County will send you an invoice for this amount.

The main changes to this renewed permit are:

1. Sampling requirements for Sites IW1275B and IW1275D have been replaced with Best Management Practices from 40 CFR 441 (see S3.C.3 and S4.A.2 and S4.A.4).

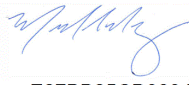
Douglas Gallucci
November 4, 2020
Page 2

2. Site IW1275A maximum permitted daily discharge volume decreased from 10,000 gallons per day (gpd) to 8,000 gpd.
3. Site IW1275C maximum permitted daily discharge volume increased from 66,000 gpd to 67,000 gpd.
4. Miscellaneous Discharges – cooling water at power plant discharge volume increased from 110,000 gpd to 145,000 gpd (not-regulated)
5. This permit contains standard language that is universally applied to permittees. Some standard language in this permit has been updated to the most recent version and differs from the previous permit issued to University of Washington Seattle Campus.

If you have any questions about this permit or your wastewater discharge, please call Lydia Eng at 206-477-5433 or email her at lydia.eng@kingcounty.gov. You may also wish to visit our program's Internet pages at: www.kingcounty.gov/industrialwaste.

Thank you for helping support our mission to protect public health and enhance the environment.

Sincerely,

DocuSigned by:

E27BB25CD98948B...
Mark Henley
Program Manager

Enclosures

e-cc: Maia Hoffman, Washington State Department of Ecology (MHOF461@ECY.WA.GOV)
Julie Howell, Seattle Public Utilities (Julie.Howell@seattle.gov)
John Wallace, University of Washington (xwallace@uw.edu)
Taylor Heiss, University of Washington (heisst22@uw.edu)
Maria Huffman, University of Washington (mhuffm@uw.edu)
N. Shane Patrick, Univeristy of Washington (patricns@uw.edu)
David Fox, University of Washington (davefox@uw.edu)

Permit No.: 7923-02
Issuance Date: November 4, 2020
Effective Date: November 7, 2020
Expiration Date: November 6, 2025



King County

WASTE DISCHARGE PERMIT

Department of Natural Resources and Parks
Industrial Waste Program
201 S. Jackson Street, Suite 513
Seattle, WA 98104-3855

In accordance with the provisions of Chapter 90.48 RCW as amended,
Public Law 92-500, and King County Code 28.84.060,
a Waste Discharge Permit is issued to:

University of Washington Seattle Campus

Facility location: 4109 Franklin Place
Seattle, WA 98195

Business hours phone: 206-616-0595


Emergency (24-hour) phone: 206-543-9331

Mailing address: P.O. Box 354110, 4109 Franklin Place NE
Seattle, WA 98195

Permission is hereby granted to discharge industrial wastewater from the above-identified facility into the King County sewerage system in accordance with the effluent limitations and monitoring requirements set forth in this permit.

This permit is based on information provided in the permit application, which together with the following conditions and requirements are considered part of the permit. All requirements and ordinances of King County pertaining to the discharge of wastes into the King County sewerage system are hereby made a condition of this permit. All discharges and activities authorized herein shall be consistent with the terms and conditions of this permit.

This permit is not transferable without authorization from the King County Industrial Waste Program (KCIW). Failure to provide advance notice of a transfer renders this waste discharge permit voidable on the date of facility transfer.

DocuSigned by:


By E27BB25CD98948B...
Mark Henley, Industrial Waste Program Manager

TABLE OF CONTENTS

- S1 Emergency Contacts
 - S2 Permit Summary and Company Identification
 - S3 Special Conditions or Compliance Schedule
 - S4 Effluent Limitations and Self-Monitoring Requirements
 - S5 Sample Site Access and Identification
 - S6 Notification Requirements
 - S7 Monitoring and Record Keeping
 - S8 Operations and Maintenance
 - S9 General Conditions
 - S10 Washington State Department of Ecology Conditions
 - S11 90-Day Report Requirements
 - S12 TTO Definition and Reporting Requirements
- Company Fact Sheet
- King County Code – Title 28
- King County Local Limits

S1. EMERGENCY CONTACTS

KING COUNTY

Industrial Waste Program (8 a.m. – 5 p.m., weekdays): 206-477-5300

Lydia Eng, Industrial Waste Compliance Investigator: 206-477-5433

Mark Henley, Industrial Waste Program Manager: 206-263-6994

Your emergency contact after 5 p.m. weekdays and on weekends is:

West Point Treatment Plant: 206-263-3801

If unable to reach anyone at this number call:

South Treatment Plant: 206-263-1760

WASHINGTON STATE DEPARTMENT OF ECOLOGY

24-Hour emergency spill phone number: 425-649-7000

S2. PERMIT SUMMARY AND COMPANY IDENTIFICATION

A. Summary Information

The following industrial waste discharge sites have been identified for this facility:

<i>Sample Site No.</i>	<i>Limit Type</i>	<i>Daily Maximum Discharge Volume (gpd)</i>	<i>Description</i>
IW1275A	King County Local Limits / 40 CFR 469	8,000	Nanofabrication Facility – discharge pipe following pH neutralization tank
IW1275B	King County Local Limits	6,000	Dental School - B wing basement - after amalgam separator units (ASUs)
IW1275C	King County Local Limits	67,000	Medical Center, Hall Health
IW1275D	King County Local Limits	6,000	Dental School - D wing basement - after ASUs
NA – Miscellaneous Discharges	King County Local Limits	167,000	Miscellaneous discharges: Environmental Health and Safety activities; contaminated groundwater and stormwater, academic, research, and engineering laboratories; health care; animal care; shops and maintenance activities

Effluent limitations and self-monitoring requirements for this sample site are detailed in S4.A of this permit.

B. Reports

<i>Report Name</i>	<i>Section(s)</i>	<i>Due Date</i>
Annual Report	S3.A	March 15 each year
Report on compliance with best management practices	S3.D	January 31 and July 31 each year
Monthly self-monitoring reports	S4.A	15th day of each following month
14-Day Report: Discharge or permit violation	S4.D	Within 14 days after a discharge or permit violation becomes known
Slug/Spill Control Plan	S6.A	As requested by KCIW

5-Day Report: Slug discharge or spill	S6.A	Within five days after a slug discharge or spill
Installation/Upgrade of Pretreatment System Report	S6.C	Prior to installation or upgrade
Hazardous waste discharge notification	S6.D	Within 90 days after waste is identified through RCRA
Washington State Department of Ecology Dangerous Waste Reports	S6.D	As requested by KCIW
90-Day Compliance Report	S11	By 2/8/2021 and with next permit renewal application
TTO Pretreatment Baseline Report or Solvent Management Plan	S12.B & S12.C	By 2/8/2021 and with next permit renewal application
TTO Certification and Solvent Management Plan Update	S12.D & S12.E	June 30 and December 31 each year

C. Major Changes in the Renewed Permit

This renewed permit contains the following major changes since last issuance:

1. Replaced sampling requirements for Sites IW1275B and IW1275D with Best Management Practices from 40 CFR 441 (see S3.C.3 and S4.A.2 and S4.A.4).
2. Site IW1275A maximum permitted daily discharge volume decreased from 10,000 gallons per day (gpd) to 8,000 gpd.
3. Site IW1275C maximum permitted daily discharge volume increased from 66,000 gpd to 67,000 gpd.
4. Miscellaneous Discharges – cooling water at power plant discharge volume increased from 110,000 gpd to 145,000 gpd (not-regulated)
5. This permit contains standard language that is universally applied to permittees. Some standard language in this permit has been updated to the most recent version and differs from the previous permit issued to University of Washington Seattle Campus.

D. Company Identification

SIC Code No.: 8221, 3329, 3900, 8021, 8062

Hazardous Waste Generator No.: WAD980738652

Industry Type: University campus with academic, research, and engineering laboratories; hospital; animal care; shops and maintenance; Electronic Components – 40 CFR 469 Subpart B PSNS; and Dental School – 40 CFR 441

S3. SPECIAL CONDITIONS OR COMPLIANCE SCHEDULE

A. Annual Report

On March 15 each year, the permittee shall submit an annual facility report of the University of Washington (UW) Seattle Campus that contains the following information:

1. Updated tables of activities/processes (other than toilets, hand washing, showering, etc.) that use water and/or produce wastewater that is discharged to the sewer or hauled off-site. This table should also include the type of pretreatment, best management practice, or other waste disposal method used for the waste product.
2. Updated list of buildings with process waste and treatment that was submitted with your May 6, 2020, permit application.
3. A list of wastes and volume (or weight) that were treated and discharged to the sanitary sewer for the preceding calendar year under the UW Seattle Campus Treatment by Generator Program.

B. Approved Miscellaneous Discharges

1. *Applicability*: Sources of wastewater discharged directly to the sanitary sewer shall not differ from the approved list of waste streams, as provided in your May 6, 2020, wastewater discharge permit application and subsequent updates as provided under Section S3.A of this permit. This wastewater is from the following sources:
 - a. Academic and research laboratories
 - b. Engineering laboratories
 - c. Health care facilities
 - d. Animal care
 - e. Shops and maintenance facilities:
 - i. Compost leachate and contaminated stormwater
 - ii. Contaminated groundwater from power plant
 - iii. Miscellaneous oil/water separators
 - iv. Fountain draining and cleaning
 - v. Pressure washing
 - vi. Parking lot and roadway sweeping and cleaning
 - vii. Discharges from other sources as approved by KCIW in writing
2. *Discharge conditions*: Wastewater from approved sources can be discharged directly to the sanitary sewer system, following in-plant controls and/or treatment

and monitoring when required, provided that it meets King County local discharge limits and the terms and conditions of this permit. In addition, these sources must comply with the following operating criteria:

- a. There shall be no odor of solvent or gasoline.
 - b. There shall be no oil sheen or pronounced unusual color.
 - c. There shall be no hydrogen sulfide (rotten egg) odor.
 - d. There shall be no visibly pronounced turbidity; the discharge must remain translucent.
3. *Facilities maintenance discharges*: Wastewater generated from chilled water systems, cooling towers, boilers, water line flushing, sprinkler test water, and condensate systems may be discharged directly to the sanitary sewer without prior testing provided it complies with King County local discharge limits and operating criteria listed in Section S3.B.2 above.

C. Best Management Practices for UW Seattle Campus Facilities

1. Best management practices (BMPs) shall mean schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to implement the prohibitions listed in 40 CFR 403.5(a)(1) and (b). BMPs also include treatment requirements, operating procedures, and practices to control facility site runoff, spillage, or leaks; sludge or waste disposal; or drainage from raw materials storage (from 40 CFR 403.3(e)).
2. All industrial wastewater at site A1275A shall be routed through a fully operational, approved pretreatment system at all times when discharge to the sanitary sewer is occurring.
3. All industrial wastewater from the University of Washington School of Dentistry (UWSD) will be required to comply with pretreatment standards for existing sources (PSES) for Dental Offices under 40 CFR 441.
 - a. Adherence to these federal pretreatment standards are in lieu of routine monitoring and reporting requirements for Sites IW1275B and IW1275D.
 - b. King County reserves the right to revise this permit and re-institute sampling and reporting requirements if lack of compliance with federal dental regulations is documented or King County has reason to suspect that UWSD is discharging concentrations of mercury or other metals that no longer can consistently meet King County local discharge limits as calculated in accordance with S3.F of this permit.
 - c. The 40 CFR 441 requirements include but are not limited to the following:

- i. Pretreatment devices: wastewater through sample sites IW1275B and IW1275D shall be routed through a fully operational pretreatment system that is compliant with the International Organization for Standardization (ISO) 11143 for Amalgam Separator Units (ASUs) that achieve at least a 95 percent removal efficiency or an alternative compliant with 40 CFR 441.30 (a)(1)(i) at all times when discharge to the sanitary sewer is occurring.
 1. ASU(s) must be inspected, maintained, and replaced in accordance with manufacturer's operating manual compliant with 40 CFR 441.30 (a)(1)(iv) and (vi).
 2. In the event that a separator unit is not functioning, repairs or replacement must be made no longer than 10 business days after the malfunction is discovered compliant with 40 CFR 441.30 (a)(1)(v).

- ii. Best Management Practices: the UWSD shall implement and comply with the BMPs found in pretreatment standards for existing sources (PSES) for Dental Offices under 40 CFR 441.30 (b).
 1. Waste dental amalgam from chairside traps, screens, vacuum pump filters, cuspidors, or collection devices must not be discharged to the sanitary sewer.
 2. Dental unit water lines, chairside traps, and vacuum lines must not be cleaned with oxidizing or acidic cleaners, including but not limited to bleach, chlorine, iodine, and peroxide that have a pH lower than 6 or greater than 8.

- iii. Reporting and recordkeeping: the UWSD shall maintain records concerning equipment inspection, maintenance, repairs, or replacement of the ASUs and collection and disposal of scrap amalgam in accordance with this permit and 40 CFR 441.50. The following records that must be kept on site (either physical or electronic form copy) and available for inspection include but are not limited:
 1. One-time Compliance Report required by 40 CFR 441.50 which was dated December 11, 2017 and submitted to King County on December 12, 2017
 2. Documentation of ASU inspections, including date, name of person conducting inspection and summary of follow-up actions if needed
 3. Documentation of amalgam retaining container replacement, including date

4. Documentation of all dates that dental amalgam is picked up or shipped for disposal and the name of the permitted or licensed treatment, storage, or disposal facility receiving the amalgam retaining containers
 5. Documentation of any repairs or replacements, including the date, person making repair or replacement, and a description of the repair or replacement (including make and model)
4. All other wastewater must be treated using approved methods or be able to meet all applicable King County local discharge limits and permit conditions, including the general discharge conditions found in Section S3.B.2, at point of discharge through the use of BMPs (which, for the purpose of this section, may include oil/water separators or solids removal devices).
 5. All industrial wastewater from research and academic laboratories, health care, animal care, and medical center shall also:
 - a. Incorporate BMPs found in the King County Local Hazardous Waste Management Program *Laboratory Waste Management Guide* (Publication Number SQG-LABS-1 (9/94) rev. 4/14) and subsequent versions.
 - b. Manage unused, expired, or partially used pharmaceuticals (drugs) by returning to reverse distributors or designating the drugs and working with a hazardous waste or controlled substances disposal company. These drugs must not be discharged to the sanitary sewer.
 - c. Manage radioactive compounds in accordance with Washington State Department of Health regulations. Most radioactive waste will need to be collected and disposed of as low-level radioactive waste. For specific guidance, contact the Washington State Department of Health.
 6. Maintain pretreatment and monitoring equipment and conduct operations according to KCIW approved documents, including but not limited to the UW Seattle Campus' most recent engineering reports and operations and maintenance manuals.
 7. Maintain the following monitoring records or other activities associated with these BMPs on site for a minimum of three years in accordance with Section S7.B of this permit:
 - a. Chemical wastes managed under the UW Seattle Campus Treatment by Generator Program that are treated and discharged to the sanitary sewer and report the waste types and volume (or weight) in the annual report required under Section S3.A.
 - b. Any other information necessary to document compliance with applicable BMPs in Section S3.C.

D. Semiannual Report on Compliance with Best Management Practices

1. Beginning on January 31, 2020, submit a signed report on compliance with BMPs during the preceding six months (due January 31 and July 31 each year) that contains a general review of your compliance status for implementing BMPs identified in Section S3.C as it relates to discharges of wastewater.
2. This report, at a minimum, will include a statement that BMPs found in Section S3.C were either:
 - a. Fully implemented, or
 - b. Not fully implemented and include:
 - i. Locations that did not implement BMPs
 - ii. Actions that were taken to ensure a return to compliance with Section S3.C.
3. This report shall include a certification statement as set forth in 40 CFR 403.6(a)(2)(ii).

E. UWSD (Sites IW1275B and IW1275D): Discharge Volumes

1. In lieu of reconfiguring the plumbing in the dental facility to allow for the installation of a water or sewer meter that accurately represents the amount of daily process water used at the dental facility served for each sample site, UWSD shall calculate the *total volume from vacuum line and total volume of process water from dental facility* in the same manner as done for Exhibit I (water balance calculations and explanations) in your permit application, each time a daily water volume is required.
 - a. These calculations shall be done on any day UWSD collects a metals sample for reporting to KCIW or upon their receipt of a written (e-mail is sufficient) request by KCIW. UWSD shall calculate and submit documentation to KCIW of the daily discharge volume (per S3.E.1.b) within seven calendar days of any such sampling or request.
 - b. At a minimum, the documentation should include:
 - i. Number of patients seen by students, faculty, and radiology
 - ii. Number of students, faculty, and ancillary staff
 - iii. Amount of water released from batch treatment tank, if any
 - iv. Water uses from equipment
 - v. Calculations used to determine each day's water volume
 - c. This documentation shall be considered part of any required report (e.g., 14-Day Report).

2. Total monthly volume, if required by KCIW, may be estimated using the average of the calculated daily volumes times the number of days the clinic was open in that month.
3. When requested by KCIW (e-mail sufficient), UWSD shall submit water bills for all city meters serving the dental facility for each sample site.
4. Failure to submit requested water volumes to KCIW that are calculated in accordance with this permit's requirements may result in KCIW applying all permit limits (including mercury) without performing concentration calculations as specified in S3.F at each sample site.

F. UWSD (Sites IW1275B and IW1275D): Calculating Metals Concentration

1. In lieu of reconfiguring the plumbing in the dental facility to allow for the installation of a representative sampling sites that all regulated processes flow through prior to the addition of dilution (non-process) water, UWSD shall report the actual sample results from each sample site and the calculated mercury concentrations as described in Section S3.F.2.
2. To calculate the concentration of mercury (and other metals as needed) discharged:
 - a. Calculate the daily loading (mass) of the metal by multiplying the metal's concentration in the daily sample (in milligrams per liter) by the daily volume of wastewater discharged from your batch discharge tank (in liters). The result is the mass of mercury discharged each day (in milligrams).
 - b. Divide the daily mass of metal (in milligrams) by the total daily volume (in liters) of all dental-practice process water discharged to get the calculated concentration (in milligrams per liter).
3. For these and other metals that may be analyzed by either KCIW or UWSD, this calculation is not required unless the concentration of the sample is above the permitted limit and a calculation is needed to determine compliance status.

S4. EFFLUENT LIMITATIONS & SELF-MONITORING REQUIREMENTS

A. Effluent Limitations and Self-Monitoring Requirements:

1. The permittee shall comply with the following discharge limits and monitor its discharges to the King County sewerage system as specified below.

<i>Sample Site No.</i>	<i>Limit Type</i>	<i>Sample Site Description</i>			
IW1275A	40 CFR 469 (Subpart B) PSNS	Nanofabrication Facility – discharge pipe following pH neutralization tank			
<i>Parameter</i>	<i>Daily Average (mg/L)</i>	<i>Instantaneous Maximum (mg/L)</i>	<i>Maximum Loading¹ (lbs/day)</i>	<i>Sampling Frequency</i>	<i>Sample Type</i>
Arsenic, Total ²	1.0	4.0	0.07	NA	NA
Cadmium, Total	0.5	0.6	0.03	NA	NA
Chromium, Total	2.75	5.0	0.18	NA	NA
Copper, Total	3.0	8.0	0.20	NA	NA
Lead, Total	2.0	4.0	0.13	NA	NA
Mercury, Total	0.1	0.2	0.01	NA	NA
Nickel, Total	2.5	5.0	0.17	NA	NA
Silver, Total	1.0	3.0	0.07	NA	NA
Zinc, Total	5.0	10.0	0.33	NA	NA
Cyanide, Amenable	2.0	3.0	NA	NA	NA
Total Toxic Organics ³	1.37	NA	NA	Semiannual ⁴	Composite
Nonpolar FOG	100	NA	NA	NA	NA
<i>pH (s.u.)</i>	<i>Daily Minimum</i>	<i>Minimum</i>	<i>Maximum</i>	Continuous	In-line meter
	5.5	5.0	12.0		
<i>Daily Maximum Discharge Volume (gpd)</i>	<i>Industrial</i>	<i>Other</i>	<i>Total</i>	Continuous	Recording of number of batches discharged
	8,000	0	8,000		

¹ Applicable poundage limit for each parameter equals the daily average concentration in mg/L, multiplied by the flow in million gallons per day, multiplied by 8.34. A maximum loading of 0.01 is listed whenever the calculated poundage limit is 0.01 or less.

² For the determination of total metals (which are equivalent to total recoverable metals) the sample is not filtered before processing.

³ See Section S12.A for CFR 469.22 definition of TTO.

⁴ See Section 12 for TTO sampling and reporting requirements. Semi-annual TTO sampling must be conducted for TTO chemicals, as defined in S12.A, that are used in the facility. Analysis must be performed once between January and June and once between July and December each year. Companies that choose to certify that they do not discharge TTOs may substitute semi-annual TTO monitoring with semi-annual certification provided that reporting requirements outlined in S12 are met.

S4. EFFLUENT LIMITATIONS & SELF-MONITORING REQUIREMENTS

A. Effluent Limitations and Self-Monitoring Requirements (continued):

2. The permittee shall comply with the following discharge limits and monitor its discharges to the King County sewerage system as specified below.

<i>Sample Site No.</i>	<i>Limit Type</i>	<i>Sample Site Description</i>				
IW1275B	King County Local Limits	Dental School – B Wing basement after ASUs				
<i>Parameter</i>	<i>Daily Average (mg/L)</i>	<i>Instantaneous Maximum (mg/L)</i>	<i>Maximum Loading¹ (lbs/day)</i>		<i>Sampling Frequency³</i>	<i>Sample Type</i>
Arsenic, Total ²	1.0	4.0	0.05		NA	NA
Cadmium, Total	0.5	0.6	0.03		NA	NA
Chromium, Total	2.75	5.0	0.14		NA	NA
Copper, Total	3.0	8.0	0.15		NA	NA
Lead, Total	2.0	4.0	0.10		NA	NA
Mercury, Total ⁴	0.1	0.2	0.01		NA	NA
Mercury, Calculated ⁵	0.1	0.2	0.01		NA	NA
Nickel, Total	2.5	5.0	0.13		NA	NA
Silver, Total	1.0	3.0	0.05		NA	NA
Zinc, Total	5.0	10.0	0.25		NA	NA
Cyanide, Amenable	2.0	3.0	NA		NA	NA
Nonpolar FOG	100	NA	NA		NA	NA
<i>pH (s.u.)</i>	<i>Daily Minimum</i>	<i>Minimum</i>	<i>Maximum</i>		NA	NA
	5.5	5.0	12.0			
<i>Daily Maximum Discharge Volume (gpd)</i>	<i>Industrial</i>	<i>Other</i>	<i>Total</i>		See Special Condition S3.E	See Special Condition S3.E
	6,000	0	6,000			

¹ Applicable poundage limit for each parameter equals the daily average concentration in mg/L, multiplied by the flow in million gallons per day, multiplied by 8.34. A maximum loading of 0.01 is listed whenever the calculated poundage limit is 0.01 or less.

² For the determination of total metals (which are equivalent to total recoverable metals) the sample is not filtered before processing.

³ Sampling requirements are deferred in lieu of adherence to 40 CFR 441 requirements; see Section S3.C.3.

⁴ For applicability of discharge limits for this parameter and other metals, see Section S3.F.

⁵ See Section S3.F for calculation.

S4. EFFLUENT LIMITATIONS & SELF-MONITORING REQUIREMENTS

A. Effluent Limitations and Self-Monitoring Requirements (continued):

3. The permittee shall comply with the following discharge limits and monitor its discharges to the King County sewerage system as specified below.

<i>Sample Site No.</i>	<i>Limit Type</i>		<i>Sample Site Description</i>			
IW1275C	King County Local Limits		Medical Center			
<i>Parameter</i>	<i>Daily Average (mg/L)</i>	<i>Instantaneous Maximum (mg/L)</i>	<i>Maximum Loading¹ (lbs/day)</i>		<i>Sampling Frequency</i>	<i>Sample Type</i>
Arsenic, Total ²	1.0	4.0	0.39		NA	NA
Cadmium, Total	0.5	0.6	0.16		NA	NA
Chromium, Total	2.75	5.0	1.54		NA	NA
Copper, Total	3.0	8.0	1.68		NA	NA
Lead, Total	2.0	4.0	0.57		NA	NA
Mercury, Total	0.1	0.2	0.06		NA	NA
Nickel, Total	2.5	5.0	1.40		NA	NA
Silver, Total	1.0	3.0	0.28		NA	NA
Zinc, Total	5.0	10.0	2.79		NA	NA
Cyanide, Amenable	2.0	3.0	NA		NA	NA
Nonpolar FOG	100	NA	NA		NA	NA
<i>pH (s.u.)</i>	<i>Daily Minimum</i>	<i>Minimum</i>	<i>Maximum</i>		NA	NA
	5.5	5.0	12.0			
<i>Daily Maximum Discharge Volume (gpd)</i>	<i>Industrial</i> 67,000	<i>Other</i> 0	<i>Total</i> 67,000		NA	NA

¹ Applicable poundage limit for chromium, copper, mercury, nickel and zinc equals the daily average concentration in mg/L, multiplied by the flow in million gallons per day, multiplied by 8.34. A maximum loading of 0.01 is listed whenever the calculated poundage limit is 0.01 or less. Applicable poundage limit for arsenic, cadmium, lead, and silver have been adjusted to prevent significant increase of pollutants at West Point Treatment Plant influent.

² For the determination of total metals (which are equivalent to total recoverable metals) the sample is not filtered before processing.

S4. EFFLUENT LIMITATIONS & SELF-MONITORING REQUIREMENTS

A. Effluent Limitations and Self-Monitoring Requirements (continued):

4. The permittee shall comply with the following discharge limits and monitor its discharges to the King County sewerage system as specified below.

<i>Sample Site No.</i>	<i>Limit Type</i>		<i>Sample Site Description</i>			
IW1275D	King County Local Limits		Dental School – D Wing basement after ASUs (A20841)			
<i>Parameter</i>	<i>Daily Average (mg/L)</i>	<i>Instantaneous Maximum (mg/L)</i>	<i>Maximum Loading¹ (lbs/day)</i>		<i>Sampling Frequency³</i>	<i>Sample Type</i>
Arsenic, Total ²	1.0	4.0	0.05		NA	NA
Cadmium, Total	0.5	0.6	0.03		NA	NA
Chromium, Total	2.75	5.0	0.14		NA	NA
Copper, Total	3.0	8.0	0.15		NA	NA
Lead, Total	2.0	4.0	0.10		NA	NA
Mercury, Total ⁴	0.1	0.2	0.01		NA	NA
Mercury, Calculated ⁵	0.1	0.2	0.01		NA	NA
Nickel, Total	2.5	5.0	0.13		NA	NA
Silver, Total	1.0	3.0	0.05		NA	NA
Zinc, Total	5.0	10.0	0.25		NA	NA
Cyanide, Amenable	2.0	3.0	NA		NA	NA
Nonpolar FOG	100	NA	NA		NA	NA
<i>pH (s.u.)</i>	<i>Daily Minimum</i>	<i>Minimum</i>	<i>Maximum</i>		NA	NA
	5.5	5.0	12.0			
<i>Daily Maximum Discharge Volume (gpd)</i>	<i>Industrial</i>	<i>Other</i>	<i>Total</i>		See Special Condition S3.E	See Special Condition S3.E
	6,000	0	6,000			

¹ Applicable poundage limit for each parameter equals the daily average concentration in mg/L, multiplied by the flow in million gallons per day, multiplied by 8.34. A maximum loading of 0.01 is listed whenever the calculated poundage limit is 0.01 or less.

² For the determination of total metals (which are equivalent to total recoverable metals) the sample is not filtered before processing.

³ Sampling requirements are deferred in lieu of adherence to 40 CFR 441 requirements; see Section S3.C.3.

⁴ For applicability of discharge limits for this parameter and other metals, see Section S3.F.

⁵ See Section S3.F for calculation.

S4. EFFLUENT LIMITATIONS & SELF-MONITORING REQUIREMENTS

A. Effluent Limitations and Self-Monitoring Requirements (continued):

5. The permittee shall comply with the following discharge limits and monitor its discharges to the King County sewerage system as specified below.

<i>Sample Site No.</i>	<i>Limit Type</i>		<i>Sample Site Description</i>			
NA – Miscellaneous Discharges	King County Local Limits		Miscellaneous discharges: Environmental Health and Safety activities; contaminated groundwater and stormwater; academic research, and engineering laboratories; health care; animal care; shops and maintenance activities			
<i>Parameter</i>	<i>Daily Average (mg/L)</i>	<i>Instantaneous Maximum (mg/L)</i>	<i>Maximum Loading¹ (lbs/day)</i>		<i>Sampling Frequency</i>	<i>Sample Type</i>
Arsenic, Total ²	1.0	4.0	0.39		NA	NA
Cadmium, Total	0.5	0.6	0.16		NA	NA
Chromium, Total	2.75	5.0	2.74		NA	NA
Copper, Total	3.0	8.0	4.18		NA	NA
Lead, Total	2.0	4.0	0.57		NA	NA
Mercury, Total	0.1	0.2	0.06		NA	NA
Nickel, Total	2.5	5.0	2.60		NA	NA
Silver, Total	1.0	3.0	0.28		NA	NA
Zinc, Total	5.0	10.0	6.96		NA	NA
Cyanide, Amenable	2.0	3.0	NA		NA	NA
Nonpolar FOG	100	NA	NA		NA	NA
Settleable solids	NA	7.0 ml/L	NA		NA	NA
<i>pH (s.u.)</i>	<i>Daily Minimum</i>	<i>Minimum</i>	<i>Maximum</i>		NA	NA
	5.5	5.0	12.0			
<i>Daily Maximum Discharge Volume (gpd)</i>	<i>Industrial</i> 167,000	<i>Other³</i> 145,000	<i>Total</i> 312,000		NA	NA

¹ Applicable poundage limit for copper and zinc equals the daily average concentration in mg/L, multiplied by the flow in million gallons per day, multiplied by 8.34. A maximum loading of 0.01 is listed whenever the calculated poundage limit is 0.01 or less. Applicable poundage limit for arsenic, cadmium, chromium, lead, mercury, nickel, and silver have been adjusted to prevent significant increase of pollutants at West Point Treatment Plant influent.

² For the determination of total metals (which are equivalent to total recoverable metals) the sample is not filtered before processing.

³ Cooling water at power plant.

6. A self-monitoring report of all required and non-required sampling must be filed no later than the 15th day of the time period following the reporting period (i.e., the 15th day of the following month for monthly reports; January 15, April 15, July 15, and October 15 for quarterly reports; January 15 and July 15 for semiannual reports; and January 15 for annual reports). The permittee shall use the KCIW self-monitoring form to submit results unless an alternate form is approved by KCIW. If no discharge has occurred during the sampling period, the report shall be submitted notifying KCIW that no discharge has occurred.

The permittee is required to submit monthly self-monitoring reports for the Nanofabrication Facility, Site A1275A, starting for November 2020, with this renewed permit. The November 2020 report is due by December 15, 2020.

7. The total volume discharged for any processing day shall be calculated by reading the volume passing through meter or shall be estimated using another KCIW approved method. The total volume for each processing day on which metal samples are collected shall be reported on self-monitoring reports. The total monthly discharge volume shall be reported on self-monitoring reports.
8. Volume and waste type from all batch discharges shall be recorded on the self-monitoring form.
9. For self-monitoring, the permittee shall collect composite samples in accordance with the following methods:
 - a. Heavy metals and organics parameters (other than volatile organics):
 - i. If time-proportioned composite sampling is authorized, a composite sample shall consist of four or more grab samples of equal volume collected at least 15 minutes apart and no more than two hours apart throughout the processing day from a well-mixed effluent chamber.
 - ii. A flow-proportioned composite sample shall mean a sample composed of grab samples collected continuously or discretely, by hand or machine, in proportion to the flow at the time of collection or to the total flow since collection of the previous grab sample. The grab sample volume or frequency of grab collection may be varied in proportion to flow.
 - b. A cyanide composite sample shall consist of four grab samples of equal volume collected at least 15 minutes apart and no more than two hours apart from a well-mixed effluent chamber. Each aliquot shall be collected, treated, and preserved in the field in accordance with 40 CFR 136 and 403 appendix E. Treated aliquots may be collected into a single container and analyzed as one sample.

- c. For volatile organic analysis (VOA), a composite sample shall consist of four grab samples of equal volume collected at least 15 minutes apart and no more than two hours apart from a well-mixed effluent chamber. Each aliquot shall be collected and preserved in the field in accordance with 40 CFR 136. The individual grab samples may be composited (at the laboratory) prior to analysis.
 - d. The three nonpolar fats, oils, and grease (FOG) grab samples shall be of equal volume, collected at least five minutes apart, and analyzed separately. When using U.S. EPA approved protocols specified in 40 CFR Part 136, the individual grab samples may be composited (at the laboratory) prior to analysis. The result of the composite sample or the average of the concentrations of the three grab samples may be reported as Total FOG unless the value is 100 mg/L or greater, in which case the concentration of nonpolar FOG grab sample must be reported.
 - e. For situations where the only discharge for the 24-hour period is of short duration (e.g., batch discharge), resulting in the inability to collect composite samples that meet the definitions described in Number 5.a-c above, the permittee shall collect grab samples every 15 minutes during the duration of the discharge. Regardless of the number of aliquots making up this sample, it will be used to evaluate compliance with daily average limits.
10. Discharges of greater than pH 12 are prohibited unless the permittee obtains written approval (email is sufficient) from KCIW prior to discharge and is subject to special conditions to protect worker safety, the collection system and treatment works.
 11. Should an automatic pH recording system fail (if required by permit or compliance order), the permittee shall manually check the pH at least four times per hour. Any discharge without a pH record shall be considered a violation of this permit.

B. Non-required Self-Monitoring

All sampling data collected by the permittee and analyzed using procedures approved by 40 CFR 136 or approved alternatives shall be submitted to KCIW whether required as part of this permit or done voluntarily by the permittee.

C. Violation Criteria

1. Wastewater from regulated processes shall comply with the effluent limitations prior to dilution with other wastewaters unless a fixed alternative discharge limit is approved by KCIW. (See Section S8.C.4 for further information about dilution.)

2. A review of any violation will include consideration of testing accuracy prior to enforcement action.
3. The more restrictive limitation (concentration or mass) shall prevail for determining violations.
4. Daily average and maximum monthly average limits apply to composite samples and to grab samples from short-term batch discharges.
5. Instantaneous maximum limits apply to grab samples, with the exception of grab samples from short-term batch discharges.
6. The instantaneous minimum pH limit is violated whenever any single grab sample or any instantaneous recording is less than pH 5. The daily minimum pH limit is violated whenever any continuous recording of 15 minutes or longer remains below pH 5.5 or when each pH value of four consecutive grab samples collected at 15-minute intervals or longer within a 24-hour period remains below pH 5.5.
7. The limit for nonpolar FOG (mineral origin) is violated when the arithmetic mean of the concentration of three grab samples (taken no more frequently than in five-minute intervals), or when the result of a composite sample exceeds 100 mg/L.

D. Response when Violations are Detected

1. When monitoring data shows a violation, the permittee shall:
 - a. Take immediate action to stop the violation and notify KCIW within 24 hours of learning of the violation.
 - b. Collect a sample and submit new data to KCIW within 14 days of becoming aware of the violation.
 - c. Submit a written report within 14 days of learning of the violation (*14-Day Report*). The report should explain the cause of the violation and corrective actions taken to respond to the violation and ensure ongoing compliance.
2. In the event the permittee is unable to comply with any of the conditions of this permit because of a breakdown of equipment or facilities, an accident caused by human error, negligence, or any other cause, such as an act of nature, the permittee shall:
 - a. Take immediate action to stop, contain, and clean up the unauthorized discharges and correct the problem.
 - b. Immediately notify KCIW and, if after 5 p.m. weekdays and on weekends, call the emergency King County treatment plant phone number in Section S1 so steps can be taken to prevent damage to the sewerage system.

- c. Submit a written report within 14 days of the event (*14-Day Report*) describing the breakdown, the actual quantity and quality of resulting waste discharged, corrective action taken, and the steps taken to prevent a recurrence.
3. Whenever an effluent check shows a pH violation, as defined in King County Code 28.84.060.N "Violations," the permittee shall take immediate steps to bring the discharge back into compliance. If this is not possible, the permittee shall cease discharge.
4. Compliance with these requirements does not relieve the permittee from responsibility to maintain continuous compliance with the conditions of this permit or the resulting liability for failure to comply.

E. Limitations Applicable to All Sites

1. General

The permittee's discharge shall not interfere with the operation of the King County sewerage system, cause King County to exceed its NPDES permit limits, or endanger local utility or King County sewer workers.

The permittee's discharge shall not violate any discharge standard, limitation, or specific prohibition of King County Code 28.84.060 or local discharge limits applicable on the date of discharge. (See Section 28.84.060.D-F of King County Code.)

Prohibitions previously referenced include, but are not limited to, substances causing fire or explosion hazard, flow obstruction, excess oxygen demand, and toxic vapors.

Limitations listed in Section S4 include, but are not limited to, restrictions on settleable solids, organic compounds, hydrogen sulfide, and polar FOG.

2. Organic compounds

No person shall discharge any organic pollutants that result in the presence of toxic gases, vapors, or fumes within a public or private sewer or treatment works in a quantity that may cause acute worker health and safety problems.

Organic pollutants subject to this restriction include but are not limited to any organic compound listed in 40 CFR 433.11 (e) Total Toxic Organics (TTO) definition, acetone, 2-butanone (MEK), 4-methyl-2-pentanone (MIBK), and xylenes.

Dischargers are required to implement good “housekeeping” and best management practices in order to prevent the discharge of a concentrated form of any of the preceding organic pollutants.

3. Lower explosive limit (LEL)

At no time shall two successive readings on an explosive hazard meter at the point of discharge into the King County sewerage system (or at any point in the system) be more than 5 percent of the LEL. No single reading shall exceed 10 percent of the LEL.

4. Closed cup flashpoint

Discharges shall not have a closed cup flashpoint of less than 140° Fahrenheit or 60° Centigrade using test methods specified in 40 CFR 261.21.

5. Polar fats, oils, and grease

Dischargers of polar fats, oils, and grease (animal and/or vegetable origin) shall minimize free-floating polar fats, oils, and grease (FOG). Dischargers may not add emulsifying agents exclusively for the purposes of emulsifying free-floating FOG.

Discharges of polar FOG shall not result in significant accumulations, which either alone or in combination with other wastes are capable of obstructing flow or interfering with the operation or performance of sewer works or treatment facilities.

6. Temperature

Discharge shall not cause the temperature of the influent at the King County treatment works to exceed 40° C (104° F). The temperature shall not exceed 65° C (150° F) at the point of discharge from the industrial source to public sewers and/or the metropolitan sewerage system.

7. Settleable Solids

Discharge shall not have a settleable solids volume greater than 7 ml/L.

F. Responsibility for Compliance

It is the responsibility of the permittee to ensure that all effluent limitations of this permit are met whether or not self-monitoring for the parameter is required.

S5. SAMPLE SITE ACCESS AND IDENTIFICATION

- A.** Unobstructed access to sample sites shall be available to authorized KCIW personnel during normal operating hours. The permittee shall be responsible for providing alternate sample sites in the event of obstruction of access or upon evidence of tampering with the monitoring equipment.
- B.** The permittee shall allow KCIW to permanently label the sample sites used to collect wastewater samples.
- C.** The permittee shall, at all reasonable times, allow authorized representatives of KCIW to enter, inspect, and sample as specified in King County Code 28.84.060.L, "Inspection and Sampling of Industrial Users."

S6. NOTIFICATION REQUIREMENTS

A. Spills and Slug Discharges

1. The permittee shall notify KCIW immediately in the event of a spill or slug discharge to the sanitary sewer. A written report regarding the cause of the spill and/or slug discharge shall be submitted to KCIW within five days of the date of occurrence. The report should explain the cause of the violation and corrective actions taken to respond to the violation and ensure ongoing compliance. (See Section S8.B for spill and slug discharge control procedures.)
2. Following a spill and/or slug discharge, KCIW may require the submission or modification of a spill/slug control plan.

B. Changes in Discharge Characteristics

The permittee shall inform KCIW prior to any facility or manufacturing changes that will result in:

1. Introduction of new wastewater pollutants
2. Significant alteration in the volume (greater than 20 percent increase from permit application) or character of the pollutants discharged to the King County sewerage system
3. Discharge of waste streams not listed in the permit application
4. Addition of a new point of discharge or a new chemical, process, product, manufacturing line, or waste processing activity
5. Changes in the potential for spill or slug discharges

No change shall be made until plans have been approved and either written permission or a new or modified permit has been received. In no case are any changes permitted that will cause violation of the effluent limitations specified herein.

C. Installation/Upgrade of Pretreatment System

A Professional Engineer's report per WAC 173-240 must be approved prior to installation or upgrade of pretreatment system.

D. Hazardous Wastes

1. Within 180 days following commencement of discharge or permit issuance, whichever is later, the permittee must notify KCIW, the U.S. EPA, and the Washington State Department of Ecology of any discharge of a listed or characteristic RCRA hazardous waste. Identifying the listed or characteristic RCRA hazardous wastes on the permittee's wastewater discharge permit application serves as notice to KCIW. This is a one-time notification requirement. The contents of the notification may vary according to the quantity of waste discharged. (See "Notification of the Discharge of Hazardous Wastes" in King County Code 28.84.060.)
2. Whenever the U.S. EPA publishes new RCRA rules identifying additional hazardous wastes or new characteristics of hazardous wastes, the permittee must notify KCIW, the U.S. EPA, and the Washington State Department of Ecology if any of these wastes are discharged to the King County sewerage system. Notification must occur within 90 days of the effective date of the published regulation.

E. Continuing Discharge after Permit Expiration Date

This permit does not authorize discharge after its expiration date. If the permittee wishes to continue discharge after the expiration date, an application must be filed for reissuance of this permit at least 180 days prior to the expiration date. If the permittee submits its re-application in the time specified herein, the permittee shall be deemed to have an effective waste discharge permit or authorization until KCIW issues or denies the new waste discharge permit. If the permittee fails to file its re-application in the time period specified herein, the permittee will be deemed to be discharging without a discharge permit after the current permit's expiration date.

S7. MONITORING AND RECORD KEEPING

A. Record Keeping and Retention

1. The permittee shall maintain records relating to all permitted discharges to the King County sewerage system including routine maintenance, waste disposal dates, manifests, self-monitoring reports, analytical lab results, pH monitoring records, and flow records.
2. All records required by the permit shall be available for review at reasonable times by authorized representatives of KCIW.
3. Records of all such testing shall be retained for a period of three years unless litigation or the direction of KCIW requires an extension of that time.

B. Recording of Results

For each measurement or sample taken to comply with this permit, the permittee shall record the following information:

1. Date, exact place, and time of sampling
2. Dates the analyses were performed
3. Person who performed the analyses
4. Analytical techniques or methods used
5. Results of all analyses

C. Representative Sampling

Samples and measurements taken to meet the requirements of this condition shall be representative of the volume and nature of the monitored discharge.

D. Test Procedures

All analyses shall be performed in accordance with procedures established by the administrator of the U.S. EPA pursuant to Section 304(g) of the federal Clean Water Act and contained in 40 CFR Part 136 and amendments thereto or with any other test procedure approved in writing by the U.S. EPA administrator, and/or KCIW. In all cases, except total dissolved sulfide, the detection limit shall be well below the discharge limit. Where 40 CFR Part 136 does not include a sampling or analytical technique for the pollutant in question, sampling and analysis shall be performed in accordance with the procedures set forth in the U.S. EPA publication entitled *Sampling and Analysis Procedures for Screening of Industrial Effluents or Priority*

Pollutants, April 1977 or Standard Methods, latest edition and amendments thereto, or with any other sampling and analytical procedures approved by the U.S. EPA.

E. Lab Accreditation

All self-monitoring data submitted to KCIW that required a laboratory analysis must have been performed by a laboratory accredited by the Washington State Department of Ecology for each parameter tested. This does not apply to field measurements performed by the permittee such as pH, temperature, flow, atmospheric hydrogen sulfide, total dissolved sulfides, settleable solids by Imhoff cone, or process control information.

F. Falsifying Information

The act of knowingly falsifying, tampering with, or knowingly rendering inaccurate any monitoring device, report, or method required pursuant to the federal pretreatment standards, King County Code 28.84.060, or special conditions of this permit shall constitute a violation of this permit, and shall be subject to the legal remedies available under “Revocation of Permit or Authorization” and “Penalties and Enforcements” in King County Code 28.84.060.

G. Toxicity Testing

If KCIW is required by the Washington State Department of Ecology to determine the source of a pattern of acute toxicity pursuant to its treatment plant NPDES permit, the permittee may be required to test its effluent for toxicity according to procedures to be determined by KCIW.

H. Signatory Requirements for Industrial User Reports

Any report required by this permit shall meet the signatory and certification requirements listed in King County Code 28.84.060 and King County Code 28.82.

S8. OPERATIONS AND MAINTENANCE

The permittee shall use waste preventative practices to reduce or eliminate contaminant loading to the King County sewerage system. These practices shall include proper chemical storage, spill prevention and notification, and maintenance and operation of any required pretreatment equipment.

A. Chemical Storage

Chemical solutions, solid chemicals, waste materials, oils, and solvents shall be stored in a manner that will prevent the entry of these materials into the King County sewerage system.

1. Non-compatible chemicals shall be segregated and securely stored in separate containment areas that prevent mixing of incompatible or reactive materials.
2. The permittee shall install shut-off devices to all drains in any hazardous waste storage areas.
3. Chemicals shall be dispensed only in roofed and bermed areas that eliminate potential spills to the King County sewerage system.
4. All empty barrels that have not been cleaned (steam-cleaned or triple-rinsed) shall be adequately stoppered and stored in an upright position.
5. Process tanks shall be located in a secondary containment (bermed) and roofed secured area capable of containing 110 percent of the volume of the largest tank. The secondary containment shall not be used to hold the contents of the process tanks. The permittee shall ensure that process solutions are used and stored in such a manner as to minimize spills of concentrated solutions to the sanitary sewer.

B. Spill or Slug Discharge Control Procedures (See Section S6.A)

1. In the event of a concentrated solution spill such as a tank failure, the permittee shall not discharge any spilled solution to the metropolitan sewer system unless laboratory test results indicate that the substance meets the conditions of this permit and the permittee receives approval from KCIW.
2. Concentrated waste or spilled chemicals that do not meet, or are not treated to meet, the discharge conditions of this permit shall be transported off site for disposal at a facility approved by the Washington State Department of Ecology or appropriate county health department.
3. The permittee shall maintain and inspect all process solution tanks on a regular basis. Any leaks shall be repaired promptly.

4. The permittee shall use spill prevention practices to preclude the discharge of liquids, solids, or gases which by reason of their nature or quantity are, or may be, sufficient either alone or by interaction with other substances to cause fire or explosion.
5. All process tanks and chemical storage containers shall be accurately labeled. Emergency phone numbers of King County, the fire department, the permittee's 24-hour corporate contact, and Washington State Department of Ecology shall be posted at all sites that KCIW requires.
6. The permittee shall ensure that concentrated waste from process tank filters and other equipment is prevented from entering the sanitary sewer unless it is treated to meet the discharge conditions of this permit.
7. The permittee shall maintain and use product recovery options such as drag-out rinses for each plating bath or process as required to meet the discharge conditions of this permit. Recovered materials shall not be discharged to the sanitary sewer unless they are treated to meet the discharge conditions of this permit.

C. Pretreatment Equipment Maintenance and Operations

1. All pretreatment systems used to bring the permittee's discharge into compliance with King County's discharge limitations shall be maintained continuously in satisfactory and effective operations by the permittee at the permittee's expense and shall be subject to periodic inspections by authorized KCIW personnel. These systems shall be attended at all times during discharge to the King County sewerage system. In the event that such equipment fails, the permittee must notify KCIW immediately and take spill prevention precautions.
2. The permittee shall not initiate construction or modification of a pretreatment system prior to receiving KCIW approval of plans and specifications per WAC 173-240. In addition, KCIW may require an engineering report and an operations and maintenance manual.
3. KCIW shall be contacted before the beginning of any limited experimental modifications or new equipment testing that could reasonably be expected to affect effluent quality or quantity. This experimental work shall proceed only after securing written approval from KCIW and following the permittee's adherence to any applicable special conditions.
4. The effluent limitations specified in this permit are to be met by treatment of the wastes for pollutant removal. The use of municipal water, groundwater, seawater, stormwater, or other materials, including waste products, for the purpose of diluting a waste to achieve those limitations is prohibited.

5. The permittee shall adequately maintain and efficiently operate all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit.

D. Water/Sewer Meter Requirements

The permittee shall obtain or maintain access to a water or sewer meter that can provide accurate information regarding industrial process wastewater and cooling water discharge to the sewer. Another method of volume determination may be used only upon approval by KCIW.

E. Solid Waste

1. The permittee shall handle and dispose of all solid waste material (as defined in WAC 173-304-100) not otherwise authorized by this permit in such a manner as to prevent its entry into the King County sewerage system.
2. All covers, screening devices, sumps, hoppers, conveyors, and other facilities provided for the recovery and handling of solid wastes are to be maintained in an efficient operating condition.

F. Stormwater

Stormwater, surface water, groundwater, and roof runoff shall be excluded, except where specifically authorized by this permit or King County Code 28.84.060, from the King County sewerage system.

S9. GENERAL CONDITIONS

- A.** The discharge of any pollutant more frequently than, or at a level in excess of, that identified and authorized by this permit shall constitute a violation of the terms and conditions of this permit. Whenever the permittee refuses to take corrective action or continues the violating condition, the imposition of civil penalties including fines up to \$10,000 for each violation per day and/or termination of this permit may result. Termination of this permit may require disposal of the industrial waste in some manner other than into the public sewer, private sewer, or side sewer tributary to the King County sewerage system at the expense of the person holding the permit. Any person causing damage to a public sewer or treatment facility by discharges in violation of the terms and conditions of this permit shall be liable for any such damage incurred by King County as a result of such damage or discharge. Where criminal enforcement action is considered in a particular case, that case may be referred to state or federal authorities.
- B.** The diversion or bypass of any discharge from any pretreatment facility utilized by the permittee to maintain compliance with the terms of this permit is prohibited except where unavoidable to prevent loss of life or severe property damage. The procedure outlined in Section S4.D shall be followed in case of such a diversion or bypass.
- C.** After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its terms for those causes cited in King County Code 28.84.060.
- D.** If a toxic standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the federal Clean Water Act for a toxic pollutant, which is present in the discharge authorized herein, and such standard or prohibition is more stringent than any limitation upon such pollutant in this permit, this permit will be revised or modified in accordance with the toxic effluent standard or prohibition and the permittee shall be so notified. Section 307(a) requires that the administrator of the U.S. EPA shall promulgate effluent standards (or prohibitions) for toxic pollutants that he or she has listed as such.
- E.** Nothing in this permit shall be construed as excusing the permittee from compliance with any applicable federal, state, or local statutes, ordinances, or regulations.
- F.** All requirements and ordinances of the U.S. EPA and the Washington State Department of Ecology pertaining to hazardous and toxic wastes, disposal facilities, and discharge of wastes into the King County sewerage system, are hereby made a condition of this permit.

S10. WASHINGTON STATE DEPARTMENT OF ECOLOGY CONDITIONS

This permit does not constitute authority for discharge into waters of the state. Any such discharge is subject to enforcement action by the Washington State Department of Ecology.

Upon issuance of this permit, the permittee assumes the responsibility to abide by the following environmental requirements and any other appropriate regulations stipulated by the Department of Ecology. **The Department of Ecology retains authority to enforce these permit conditions (RCW 70.105 and RCW 90.48).**

A. Conditions to Protect Ground and Surface Waters

1. Contaminated waters or wastes shall not be discharged to state waters.
2. Boiler blow down and water shall not be discharged to state waters.
3. Solid chemicals, chemical solutions, waste materials, oils, and solvents shall be stored in a manner that will prevent the entry of these materials into state, ground, or surface waters, and in a manner that will prevent spillage by overfilling, tipping, or rupture.
4. The permittee shall handle and dispose of all solid waste material in such a manner as to not cause any adverse effect on ground or surface water quality.
5. Filtered solids or sludge shall be stored in such a manner that drainage from this material is prevented from either draining across public rights-of-way or entering the local storm drain system or the groundwater.
6. No emulsifiers or dispersants are to be used on waters of the state without approval from the Department of Ecology.
7. If corrosive processing solutions are used, the processing/plating floor shall be sealed with corrosion resistant material that prevents leakage. This coating shall be repaired or replaced as needed.

Questions regarding the implementation of conditions outlined in Section S10 should be directed to the regulatory authority, the Washington State Department of Ecology, at 425-649-7000 (Northwest Regional Office, 3190 160th Avenue SE, Bellevue, Washington 98008-5452).

S11. 90-DAY REPORT REQUIREMENTS

In order to comply with 40 CFR 403, the general pretreatment regulations, the permittee shall submit the following information no later than 90 days after the commencement of discharge. For permit renewals, the permittee shall submit the following information with the application for renewal. This information along with your permit application will serve as the 90-Day Report for heavy metal compliance and the Total Toxic Organics (TTO) Baseline Report.

- A.** Your statement indicating whether the discharge limits in Section S4, “Effluent Limitations and Self-Monitoring Requirements,” of this permit are being met on a consistent basis, and if not, what additional operations, maintenance, or pretreatment efforts are necessary to bring your regulated discharge into compliance.
- B.** Your statement establishing the shortest reasonable time schedule for making any necessary changes to enable your discharge to be in consistent compliance with the discharge standards. (The schedule must include milestone dates for interim improvements or any other key actions, which will demonstrate that satisfactory progress is being sustained.)
- C.** Pertinent engineering drawings for pretreatment systems you presently have and/or plan to install, along with operations and maintenance information pertinent to attainment of your discharge limits (if applicable).
- D.** Your TTO Baseline Report and Solvent Management Plan (where applicable). See Section S12.
- E.** An analysis of a representative sample of wastewater from the permittee’s effluent for cadmium, chromium, copper, nickel, lead, zinc, and cyanide. See 40 CFR 403.12. A minimum of four grab samples must be used for cyanide. For metals the sample shall be a 24-hour flow-proportioned composite. If the permittee can show that flow proportioning is infeasible, time composites consisting of a minimum of four grab samples may be used.
- F.** Notification analysis of routine batch discharges, which:
 - 1. Lists the tanks that are routinely discharged with or without treatment
 - 2. Lists frequency and volume of the batch discharge from each tank
 - 3. Lists results from cadmium, chromium, copper, nickel, lead, and zinc testing of a representative sample from each routine batch discharge. The representative sample shall consist of grab samples collected at the beginning, middle, and end of each discharge.
- G.** Your Washington State Hazardous Waste Generator number.

S12. TTO DEFINITION AND REPORTING REQUIREMENTS

A. 40 CFR 469.22 Specialized TTO Definition

The definitions in 40 CFR Part 401 and the chemical analysis methods in 40 CFR 136 apply to this subpart. In addition, the term “total toxic organics (TTO)” means the sum of the concentrations for each of the following toxic organic compounds which is found in the discharge at a concentration greater than ten micrograms per liter:

1,2,4 Trichlorobenzene
chloroform
1,2 Dichlorobenzene
1,3, Dichlorobenzene
1,4 Dichlorobenzene
ethylbenzene
1,1,1 Trichloroethane
methylene chloride
naphthalene
2 Nitrophenol
phenol
bis (2-ethylhexyl) phthalate
tetrachloroethylene
toluene
trichloroethylene
2 Chlorophenol
2,4 Dichlorophenol
4 Nitrophenol
pentachlorophenol
di-n-butyl phthalate
anthracene
1,2 Diphenylhydrazine
isophorone
butyl benzyl phthalate
1,1 Dichloroethylene
2,4,6 Trichlorophenol
carbon tetrachloride
1,2 Dichloroethane
1,1,2 Trichloroethane
dichlorobromomethane

B. Requirements for TTO Baseline Report
(to be included in 90-Day Report)

1. A statement certifying that the permittee does not use any chemical listed in the definition of TTO (as stated in 40 CFR 413.02 or 433.11) in any area that drains to the sanitary sewer.
OR
2. An analysis of the permittee's effluent for those chemicals used in the permittee's facility that are listed in the definition of TTO.
OR
3. An analysis of the permittee's effluent for TTO as defined in 40 CFR 413.02 or 433.11.

C. Requirements for Solvent Management Plan

Required as part of the 90-Day Report for companies that choose to certify that they do not discharge TTOs in lieu of performing laboratory analyses.

Your Solvent Management Plan must include:

1. Which TTOs are used
2. Method of disposal, i.e., reclamation, contract hauling, or incineration
3. Procedures that are used to ensure that TTOs do not routinely spill or leak into the wastewater

Where applicable, the following reports are due each June 30 and December 31.

D. Requirements for Semiannual Updates of Solvent Management Plan

List any changes to the last plan on file or state there are no changes to the plan.

E. Biannual TTO Monitoring Requirements

1. Choose 1, 2, or 3 from the requirements for TTO Baseline Report.
2. If you choose certification use the language below.

CERTIFICATION LANGUAGE FOR TTO REPORT

In lieu of submitting monitoring results, the permittee may make the following certification statement:

“Based on my inquiry of the person or persons directly responsible for my managing compliance with the permit limitation (or pretreatment standard) for total toxic organics (TTO), I certify that, to the best of my knowledge and belief, no dumping of concentrated toxic organics into the wastewaters has occurred since filing of the last discharge monitoring report. I further certify that this facility is implementing the toxic organic management plan submitted to the permitting (or control) authority.

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



Industrial Waste Program Company Fact Sheet

November 4, 2020

COMPANY INFORMATION

Company/Agency name: University of Washington Seattle Campus
Facility address: 4109 Franklin Place
 Seattle, WA 98195
Mailing address: 4109 Franklin Place NE, Box 354110
 Seattle, WA 98195
Treatment plant: West Point
Corp. contact & phone: Douglas Gallucci, 206-616-0595
Site contact & phone: John Wallace, 206-616-5837
Company/Agency type: Electronic Components - CFR 469
Days operating: 365
SIC number: 8221, 3329, 3900, 8021, 8062
EPA ID number: WAD980738652
Compliance investigator: Lydia Eng

PERMIT INFORMATION

Permit number: 7923-02
Effective date: November 7, 2020
Expiration date: November 6, 2025

Description of sample sites, limit types, and discharge volumes:

Sample Site No.	Description	Limit Type	Maximum Discharge Volume (gallons per day)
IW1275A	Nanofabrication Facility - discharge pipe following pH neutralization tank (A2062)	King County Local Limits/40 CFR 469 Subpart B, PSNS	8,000
IW1275B	B Wing basement after Amalgam Separator Units (ASUs) (A20842)	King County Local Limits	6,000
IW1275C	Medical Center, Hall Health (A20053)	King County Local Limits	67,000
IW1275D	D Wing basement after ASUs (A20841)	King County Local Limits	6,000
NA – Miscellaneous Discharges	Misc. discharges: Environmental Health and Safety activities; contaminated groundwater and stormwater; academic, research, and engineering laboratories; health care; animal care; shops and maintenance activities	King County Local Limits	167,000
Total industrial discharge volume (gpd) (add all sites)			254,000
Cooling water (non-regulated) (gpd)			145,000

MONITORING FEE PARAMETER

Compliance Monitoring & Administration (CM&A) Fee

The University of Washington Seattle Campus has a Nanofabrication Facility. The Nanofabrication Facility is designated as 40 CFR Part 469 – Electrical and Electronic Component Point Source Category Subpart B – Electronic Crystals Subcategory. There is one sample site and the maximum permitted daily discharge volume is 8,000 gallons per day. According to the CM&A criteria and tier placement, the University of Washington Seattle Campus is in the CM&A Fee Tire 5 category.

Category: CATEGORICAL
Tier: 5

PERMIT PROCESSING

Permit number: 7923-02

Action	Date
Application due	May 10, 2020
Application received	May 6, 2020
Application sent to local sewer agency	October 12, 2020
Inspection date	October 7, 2020
Final publication date	September 16, 2015
Published volume	250,000 gallons per day
Draft issued	October 27, 2020
Final issued	November 4, 2020

COMMENTS

Nature of Business

The University of Washington Seattle Campus (UW) is a large and complex public educational and research institution that includes a Nanofabrication Facility, School of Dentistry, and Medical Center. In addition to these facilities, the other activities producing wastewater regulated under this permit are academic and research laboratories; engineering laboratories; shops and maintenance; health care; and animal care. Furthermore, general campus operations such as a compost facility, contaminated groundwater at the power plant, motor pool, building maintenance, and some custodial services (i.e., pressure washing) are included. The UW has an established treatment by generator program. The Environmental Program section of Environmental Health and Safety (EH & S) of the University of Washington manages this permit on behalf of the UW.

Several categories of buildings were excluded from this permit due to the lack of industrial activities located on site and are considered to have waste streams that are domestic in nature, or food service that are similar in nature to restaurants, which are not regulated by King County Industrial Waste (KCIW). These are buildings associated with Housing and Food Services, Intercollegiate Athletics, or are primarily comprised of offices, auditoriums, and classrooms.

The processes that generate industrial wastewater regulated under this permit are the following:

Nanofabrication Facility (Site IW1275A)

The UW Nanofabrication Facility operates a full-service micro and nanotechnology user facility with laboratories, cleanrooms, and user spaces focused on enabling basic and applied research, advanced research and development, and prototype production. It is the largest open-use semiconductor research facility in the Pacific Northwest. Clients include UW academics, academics from other institution both within the United States and internationally, and from the industrial and commercial sectors. The Nanofabrication Facility also focuses in the natural and life sciences to semi-conductor processing for use by graduate students as well as private companies.

At the Nanofabrication Facility, electronic sensors and circuit prototypes are manufactured, typically using silicon wafers as starting material. Materials are added or subtracted with a temporary polymeric pattern to create patterned wiring for circuits and micro-machining of materials for creating sensors. Typical materials added are dielectrics (silicon oxides and nitrides), polymeric materials, and metals (typically copper, aluminum, gold, nickel). Subtractive processes are usually wet or plasma etching of silicon and metal films. Solvent processing is used primarily for cleaning substrates and stripping off the temporary polymeric layers.

School of Dentistry (Sites IW1275B and IW1275D)

The UW School of Dentistry (UWSD) is a medium-size dental teaching facility that has various dental clinics primarily associated with teaching, spread over two different wings (B and D) in the UW health sciences division. The UWSD is part of a large, older campus where plumbing is complex and services many different classrooms, clinics, laboratories, and restrooms. Wastewater is generated at this teaching dental clinic (general practice, pediatric, and small specialty practices) and the pollutant of concern is mercury from amalgam.

Medical Center (Hospital) (Site IW1275C) and other Miscellaneous Health Care

The UW Medical Center is the primary health care facility, and wastewater is generated from patient care areas, various clinics, and laboratories with processes such as sterilization, glassware cleaning, pathology units, and slide production.

Miscellaneous Discharges

The remainder of activities on the campus that discharge wastewater to the sanitary sewer are both numerous and complex. However, all are served by the same comprehensive set of environmental policies and programs.

- *Academic and Research Laboratories*
Standard laboratory spaces where students and staff are employing and learning basic laboratory skills, such as preparing solutions, chemical synthesis, and chemical and instrumental analysis. Other processes may include glassware cleaning and cell staining. Activities vary throughout the academic calendar. However, there is a significant amount of ongoing work and the activity during the summer sessions increases each year.
- *Engineering Laboratories*

Lab spaces within the engineering departments may work with plastics, metals, composites, ceramics, electronic, and may other types of materials. Wastewater may be generated from processes, such as glassware cleaning and small-scale metal fabrication.

- *Shops and Maintenance*

Shops in this category are used by both students and union tradespeople. Work includes maintaining the campus, along with student-built miniature racecars. Maintenance of the campus consists of draining fountains, chillers, boilers, oil/water separators; pressure-washing from specific locations like the Motor Pool; managing the contaminated groundwater discharge at the power plant and contaminated stormwater at the compost facility.

- *Animal Care*

There are two main locations within the Health Science Buildings: the Washington National Primate Research Center and the Department of Comparative Medicine. Processes may consist of cage and glassware cleaning and tissue fixing.

Sources of Wastewater

Nanofabrication Facility (Site IW1275A)

The sources of wastewater are from the cleaning of small metal parts, the etching of various wafers, the dicing of wafers, and the rinsing associated with these steps. Wastewater is also generated from the facilities exhaust gas treatment system (fume scrubber). This is a thermal/wet combination system that treats effluent gasses to ensure compliance with the Environmental Protection Agency and the Puget Sound Clean Air Act regulations. All industrial wastewater from the Nanofabrication Facility flows to a holding tank and then to the pH neutralization system for treatment at Site IW1275A.

School of Dentistry (Sites IW1275B and IW1275D)

Wastewater is generated at this teaching dental clinic (general practice, pediatric, and small specialty practices) and the pollutants of concern are mercury from amalgam. The UW School of Dentistry has converted all x-ray units to digital except on occasions, the Endodontics still uses x-ray films. The permittee has no active chemiclaves. There are two wings with two separate sample sites: the B Wing with IW1275B and the D Wing with IW1275D.

On a routine basis, the vacuum line system is flushed with water once a month and the air/water separators are flushed with fresh water once a week to clean the pipes and units. These wastewaters are treated through the amalgam separator units.

Medical Center (Hospital) (Site IW1275C)

Discharges classified under the Medical Center and other laboratories have similar sources of processes, which include wastewater from preparation of slides, laboratory stains, preservatives, cleaning operations (glassware, other vessels, cages, patient care areas, laboratory work areas, etc.), pharmaceuticals, tissue preservation, and routine sterilization of equipment and work areas.

Miscellaneous Discharges

For shops and maintenance areas, this may include pressure washing vehicles and buildings, maintaining the oil/water separators in the garages and vehicle maintenance shop, cleaning up painting activities, and cleaning the streets and parking lots. In addition, there may be periodic

draining and cleaning of the main campus fountain and other cleaning events to maintain the exteriors of the large and multi-use buildings.

Contaminated stormwater is permitted from a 1,680 square foot compost facility. Using the 2-inch rainfall criteria, the discharge from this site can be up to 2,100 gallons per day.

Contaminated groundwater from an underground fuel storage tank containment area is discharged through a Seattle Public Utilities metered site and discharges approximately 10,000 gallons each year.

Treatment System

Nanofabrication Facility (site IW1275A)

The waste streams from the reverse osmosis, deionized water, photoresist development, dielectric etching/wafer clean, metal etching, wafer dicing/grinding, and pyrophoric fume scrubber all drain to a central pH neutralization batch discharge system. The tank discharges a set volume of 343 gallons each time the level in the tank reaches the discharge set point. Each batch discharge is recorded and tracked for reporting purposes. The pH is monitored continuously. Sulfuric acid or caustic soda are automatically injected as needed to ensure compliance with the pH discharge limits.

School of Dentistry (Sites IW1275B and IW1275D)

The B and D Wings of the dental clinics have identical collection and treatment systems for the vacuum lines. During the monthly flush, water from the vacuum line system is discharged to a 500-gallon batch tank. The water totals from 350 to 400 gallons each week. When the wastewater is ready to be treated, the batch tanks are drained and the wastewater is diverted through four separate International Organization for Standardization (ISO) certified amalgam separator units (ASUs), each followed by one additional filter. The separator units and filters are provided by the manufacturer, Rebec.

The Dental School may also conduct cleaning of accumulated solids in the air separators by an appropriate vendor and the waste is disposed of at an off-site facility.

Best management practices (BMPs) in the B and D Wings include regular disposal of chair side traps and the use of non-oxidizing line cleaners. In the B Wing, the endodontic clinic uses bleach in certain procedures. In order to prevent a buildup of bleach in the vacuum system, which has been shown that bleach dissolves amalgam and releases mercury in a soluble form, the clinic follows each use of bleach with sodium thiosulfate. The sodium thiosulfate stops the oxidizing effects of the bleach and prevents the release of mercury from the amalgam particle.

Medical Center (IW1275C) and Miscellaneous Discharges

The Medical Center and the miscellaneous discharges are mainly controlled through BMPs. The UW Environmental Program has established a set of treatment protocols to manage several different chemical wastes that is implemented across all permitted sites.

All wastes to be disposed of are screened to identify any hazards, the appropriate disposal options, and whether the waste stream is eligible for treatment or recycling. Participating sites are instructed on treatment by generator requirements such as managing hazardous waste correctly, documenting any appropriate training, following an approved procedure, and ensuring the use of a chemical treatment log.

Established procedures are in place to treat or otherwise manage each waste either at the individual facility or at the Environmental Health and Safety building.

The UW has developed chemical waste treatment and recycling programs for the following:

- Acid/base neutralization
- Cidex ortho-phthalaldehyde treatment
- Ethidium bromide filtration
- Formaldehyde treatment
- Glutaraldehyde treatment
- Silver recovery
- Xylene distillation

The UW is continuing to develop two new treatment programs:

- Mercuric chloride treatment
- Diaminobenzidine (DAB) destruction

In the meantime, wastes associated with mercuric chloride and DAB are collected and disposed of offsite.

Established procedures are in place to treat or otherwise manage each waste either at the individual facility or at the Environmental Health and Safety Building.

The UW is phasing out their photo-recovery systems (cartridge systems treating silver-bearing effluent). Only a few are left on campus and all may be removed in the next five years.

Oily wastes are containerized and shipped off site for disposal. The UW has also expanded the ability to recycle wastes by expanding current contracts and using a local recycling facility, such as Emerald Services.

The oil/water separators on site are intended to capture and manage indirect sources such as groundwater under the Power Plant, decanting the street sweeper, or small volumes of wash water from the trades and mason's shop.

Compliance History

To qualify for a Gold Award or Silver Award, permittees must have had an active industrial wastewater discharge permit each month of the calendar year and have discharged industrial wastewater at least three months. A Gold Award is presented to companies who had no discharge violations (King County or self-monitoring) and submitted no late reports. A Silver Award is presented to companies with no more than one self-monitoring discharge violations and no more than one late report submittal. A KCIW compliance monitoring violation yields no awards.

In the current permit cycle, the UW has received the Silver Award for 2016 and 2019 and no awards for 2017, 2018, and award determination for 2020 is to be determined.

Year	Award	Reason
2016	Silver	<ul style="list-style-type: none"> 1 late monthly self-monitoring report (April) from Nanofabrication Facility
2017	None	<ul style="list-style-type: none"> 1 late self-monitoring report (September) from the Nanofabrication Facility 1 self-reported violation – discharge of untreated ortho-phthalaldehyde (OPA) Cidex
2018	None	<ul style="list-style-type: none"> 4 late self-monitoring reports (December 2017, January, May, and August) from the Nanofabrication Facility
2019	Silver	<ul style="list-style-type: none"> 1 late BMPs semi-annual report, due by 7/31/2019
2020	None (pending)	<ul style="list-style-type: none"> 1 late BMPs semi-annual report, due by 1/31/2020 2 late School of Dentistry quarterly (Q1 & Q2) self-monitoring reports 1 late self-monitoring report (August) from the Nanofabrication Facility

Nanofabrication Facility (Site IW1275A)

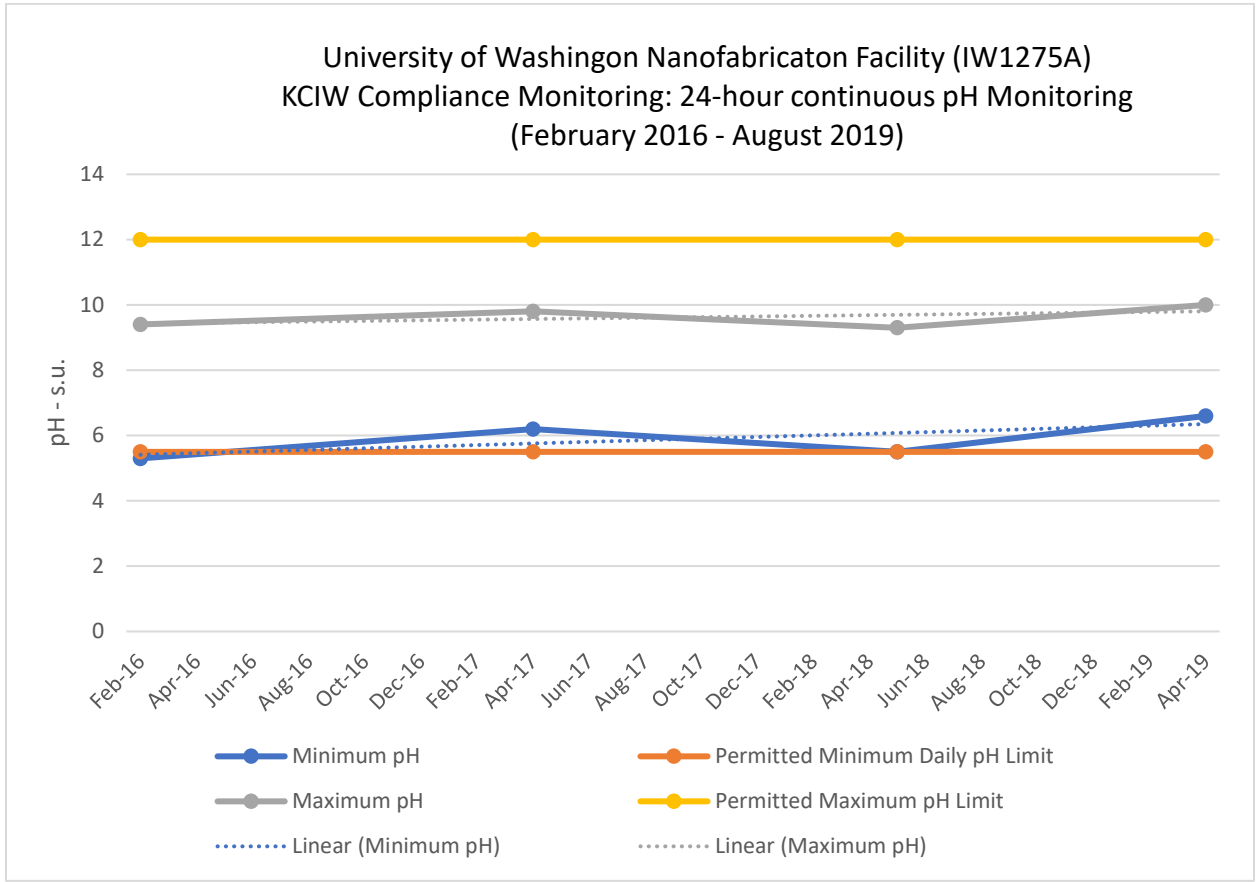
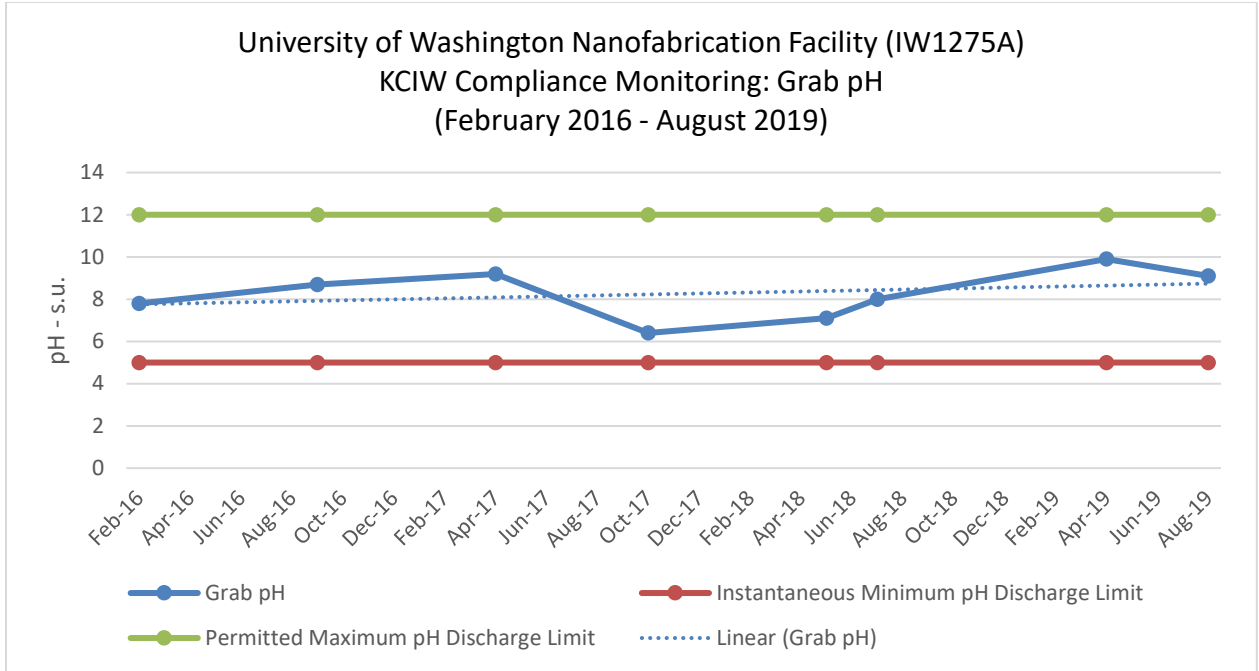
In the last five years, there have been no discharge violations during KCIW compliance monitoring sampling and self-monitoring at this site. Since the Nanofabrication Facility is regulated by 40 CFR 469, Subpart B, PSNS, KCIW performs compliance monitoring for pH, volatile organics analysis (VOAs) (4-grab composite), and composite base neutral acid (BNAs). Self-monitoring by the permittee includes pH and daily discharge volumes. In lieu of sampling for total toxic organics (TTOs), the facility submits a solvent management and total toxic organics (TTO) certification statements.

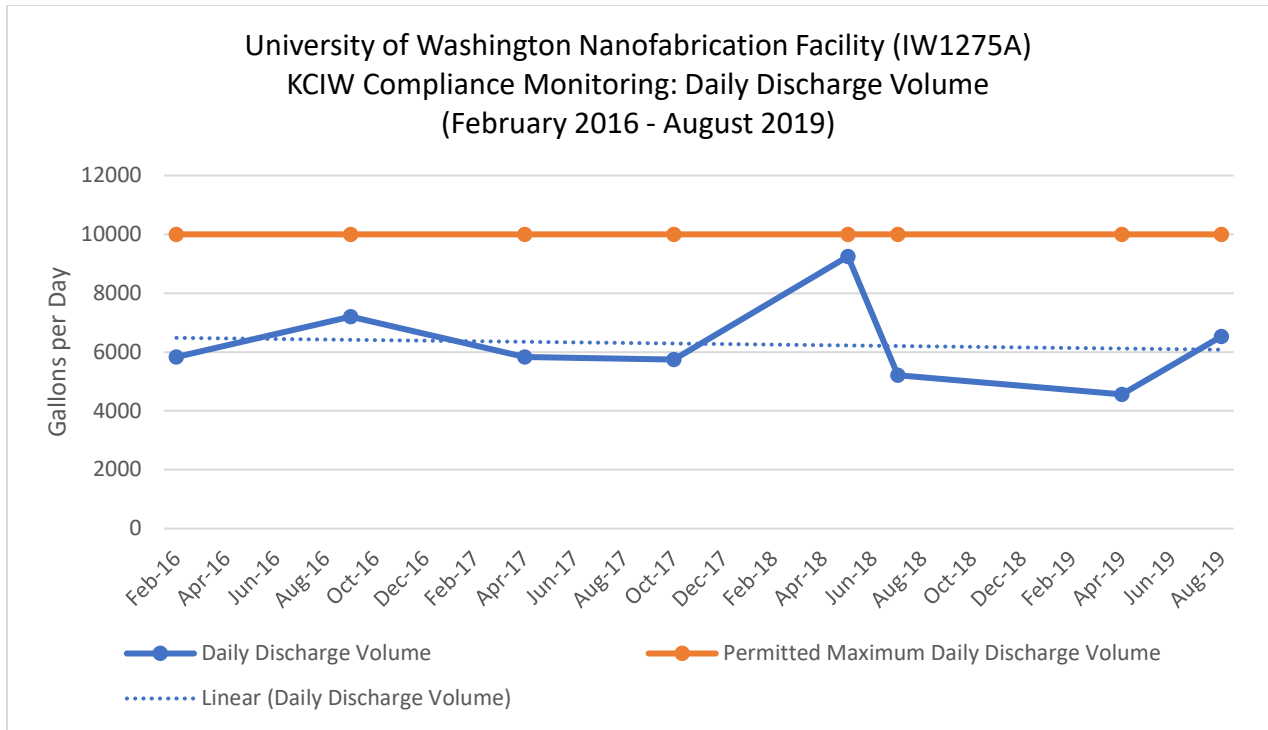
***KCIW Compliance Monitoring: Nanofabrication Facility (IW1275A)
February 2016 – August 2019***

IW1275A Parameter	Result		Permitted Daily Discharge Limit
	Minimum	Maximum	
Grab pH	6.4	9.9	5.0 s.u. – 12.0 s.u.

IW1275A Parameter	Result		Permitted Daily Discharge Limit
	Minimum	Maximum	
24-hour continuous pH	5.3 s.u.*	10.0 s.u.	5.5 s.u. – 12.0 s.u.
Daily Discharge Volume	4,562 gpd	9,250 gpd	10,000 gpd

*pH 5.3 s.u. was less than 15-minutes duration; not a discharge violation.





Total Toxic Organics

One organic compound which is not on the list of TTOs for metal finishing or 40 CFR 469 Pretreatment Standards for New Sources Subpart B is acetone. Acetone was detected during KCIW compliance monitoring and it was below King County’s screening level of 1,200 mg/L.

Date	VOA Compound	Result (mg/L)	Discharge Screening Level (mg/L)
2/4/2016	Acetone	0.043	1,200
9/20/2016	Acetone	3.14	
4/18/2017	Acetone	0.321	
10/9/2017	Acetone	0.128	
7/30/2018	Acetone	0.861	
4/4/2019	Acetone	0.115	
8/15/2019	Acetone	0.137	

The following compounds detected from compliance monitoring are on the TTOs list but not on the 40 CFR 469’s list:

Date	Organic Compound	Concentration (mg/L)	Threshold Level (mg/L)
10/9/2017	Diethyl phthalate	0.0024	0.01
7/30/2018		0.0020	
8/15/2019		0.0012	
10/9/2017	Dimethyl phthalate	0.0016	
4/4/19	Diethyl phthalate	0.0055	

The following compounds detected from compliance monitoring are on the TTOs list for 40 CFR 469:

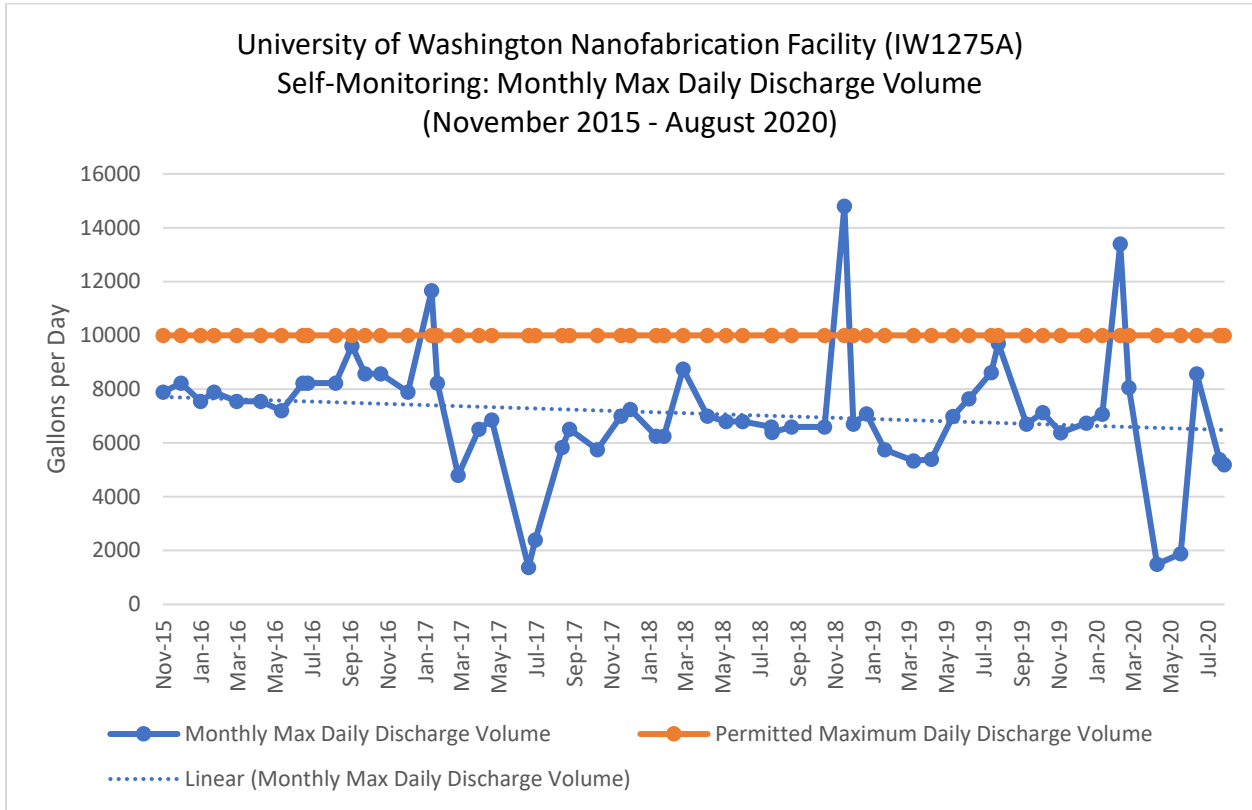
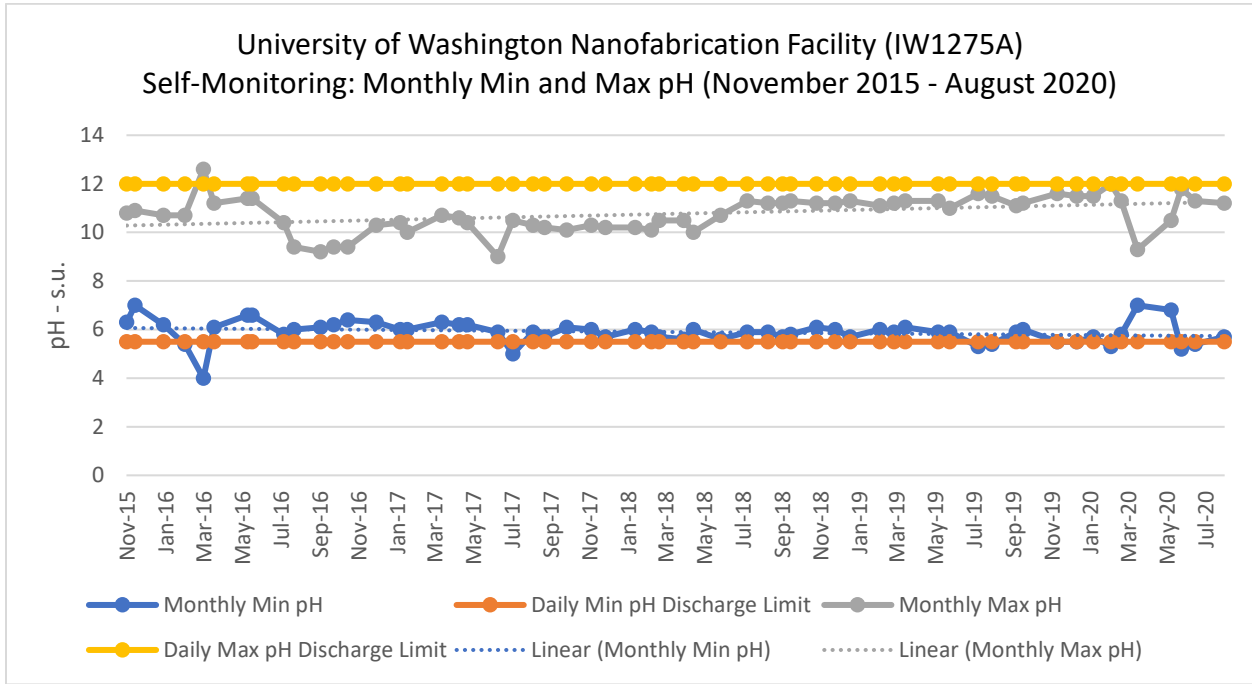
Date	Organic Compound	Concentration (mg/L)	Threshold Level (mg/L)
4/18/2017	2-Nitrophenol	0.0017	0.01
7/30/2018		0.0031	
9/20/2017	Bis(2-Ethylhexyl) phthalate	0.0032	
10/9/2017	Bis(2-Ethylhexyl) phthalate	0.0016	
4/4/2019	Bis(2-Ethylhexyl) phthalate	0.019	
4/18/2017	Chloroform	0.005	
5/21/2018	Chloroform	0.0069	
7/30/2018	Chloroform	0.0058	
4/4/2019	Chloroform	0.0093	
8/15/2019	Chloroform	0.0054	

Date	Organic Compound	Concentration (mg/L)	Permitted Daily Average Discharge Limit (mg/L)
4/18/2017	2-Nitrophenol	0.0017	1.37
	Chloroform	0.005	
	Summation equals to:	0.0067	
7/30/2018	2-Nitrophenol	0.0031	
	Chloroform	0.0058	
	Summation equals to:	0.0089	

*University of Washington Nanofabrication Self-Monitoring (IW1275A)
November 2015 – August 2020*

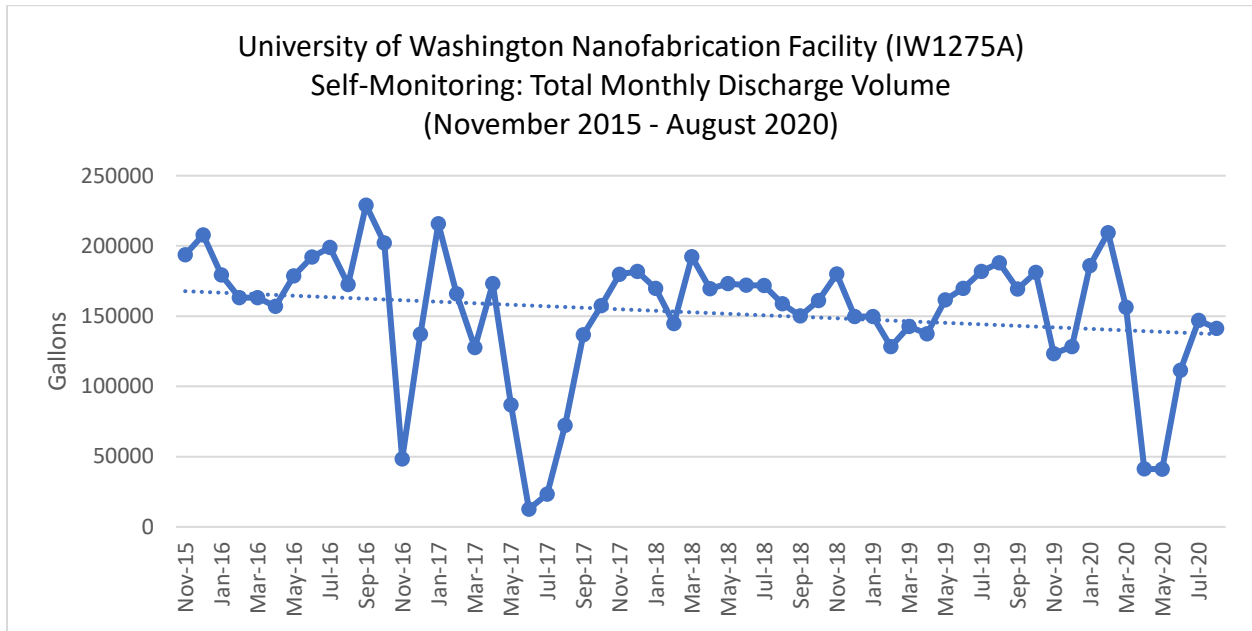
IW1275A Parameter	Result		Permitted Discharge Limits
	Minimum	Maximum	
Monthly Minimum pH	4.0 s.u.*	7.0 s.u.	5.5 s.u. – 12.0 s.u.
Monthly Maximum pH	9.0 s.u.	12.6 s.u.*	
Monthly Maximum Daily Discharge Volume	1,372 gals	14,800 gals	10,000 gpd
Total Monthly Discharge Volume	12,691 gals	229,124 gals	NA

*pH's exceeding the permitted discharge limits were spikes and were not discharge violations.



*Per the UW, the November 2018 discharge volume did not exceed the maximum daily discharge volume. The treatment system kept recirculating the wastewater and instead of draining to the sanitary sewer, it refilled the holding tank and recorded the refilling of the volume.

*The UW discovered there was a leak in the facility during the month of February 2020 and it resulted in exceeding the maximum daily discharge volume.

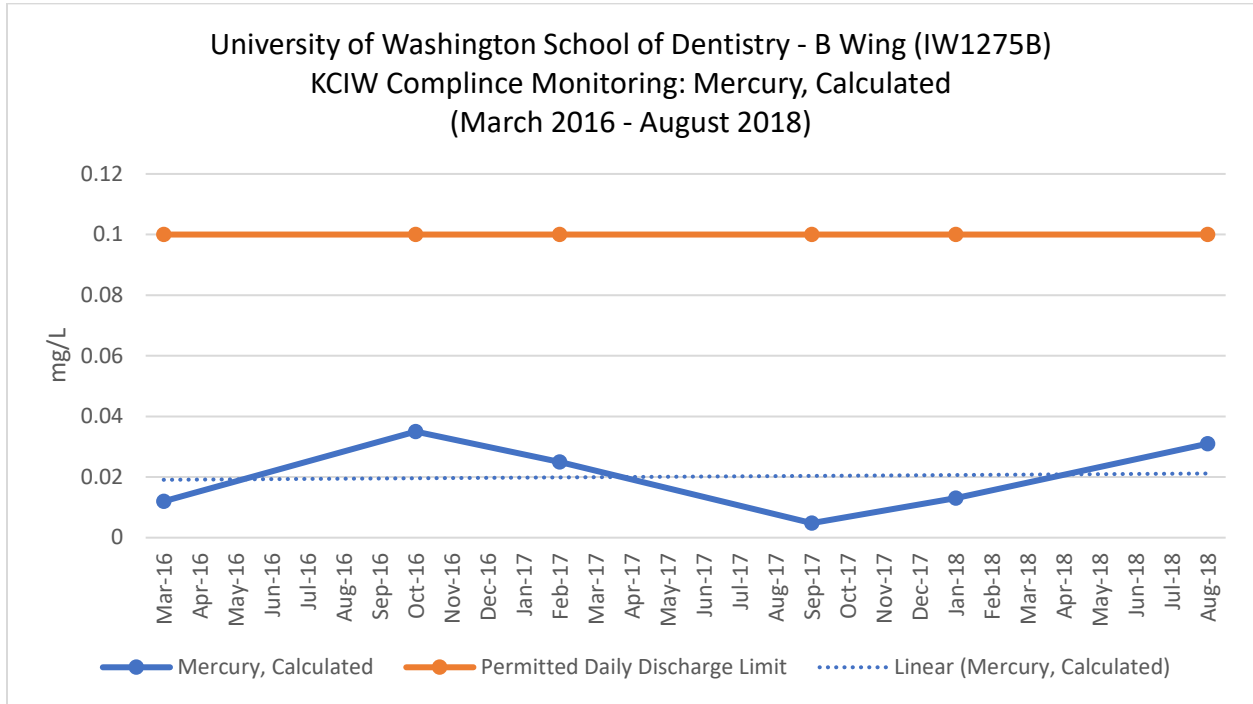


School of Dentistry (IW1275B and IW1275D)

In the past five years and beyond, the School of Dentistry has maintained compliance with calculated mercury limits and other parameters as evidenced by KCIW compliance monitoring and self-monitoring by UWSD. KCIW sampled for heavy metals from 2016 to 2018 and the results met the permitted daily discharge limits and thus was exempt from KCIW compliance sampling after 2018.

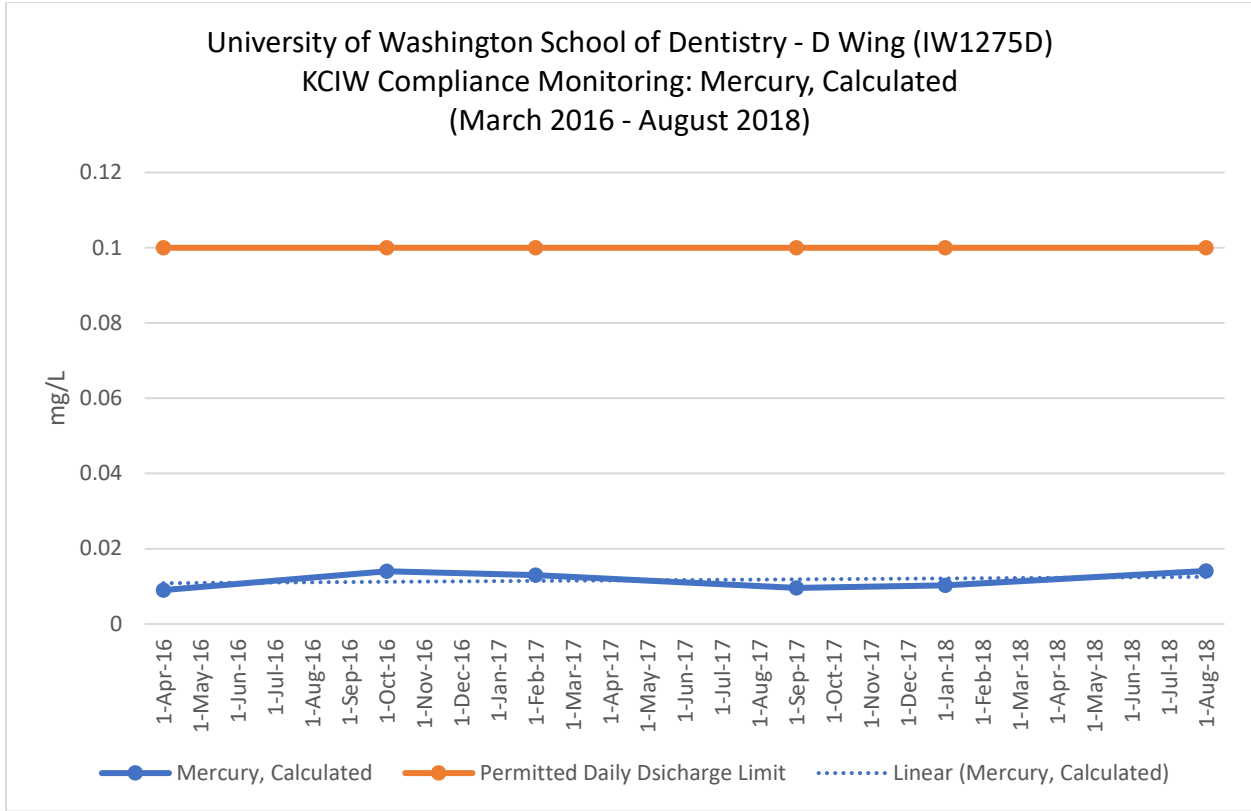
**KCIW Compliance Monitoring: School of Dentistry (IW1275B)
February 2016 – August 2018**

IW1275B Parameter	Composite Result (mg/L)		Permitted Daily Average Discharge Limit (mg/L)
	Minimum	Maximum	
Arsenic	Non-Detect	Non-Detect	1.0
Cadmium	Non-Detect	Non-Detect	0.5
Chromium	Non-Detect	Non-Detect	2.75
Copper	1.1	4.3	3.0
Lead	Non-Detect	0.095	2.0
Mercury, Calculated	0.0048	0.035	0.1
Nickel	0.045	0.107	2.5
Silver	0.1	0.719	1.0
Zinc	2.1	4.3	5.0
	Result		Permitted Daily Discharge Limit
	Minimum	Maximum	
Daily Discharge Volume	175 gpd	350 gpd	6,000 gpd



KCIW Compliance Monitoring: School of Dentistry (IW1275D)
February 2016 – August 2018

IW1275D Parameter	Composite Result (mg/L)		Permitted Daily Average Discharge Limit (mg/L)
	Minimum	Maximum	
Arsenic	Non-Detect	Non-Detect	1.0
Cadmium	Non-Detect	0.0025	0.5
Chromium	Non-Detect	Non-Detect	2.75
Copper	0.669	1.59	3.0
Lead	Non-Detect	0.069	2.0
Mercury, Calculated	0.009	0.014	0.1
Nickel	0.044	0.11	2.5
Silver	0.12	0.22	1.0
Zinc	0.313	2.9	5.0
	Result		Permitted Daily Discharge Limit
	Minimum	Maximum	
Daily Discharge Volume	150 gpd	350 gpd	6,000 gpd

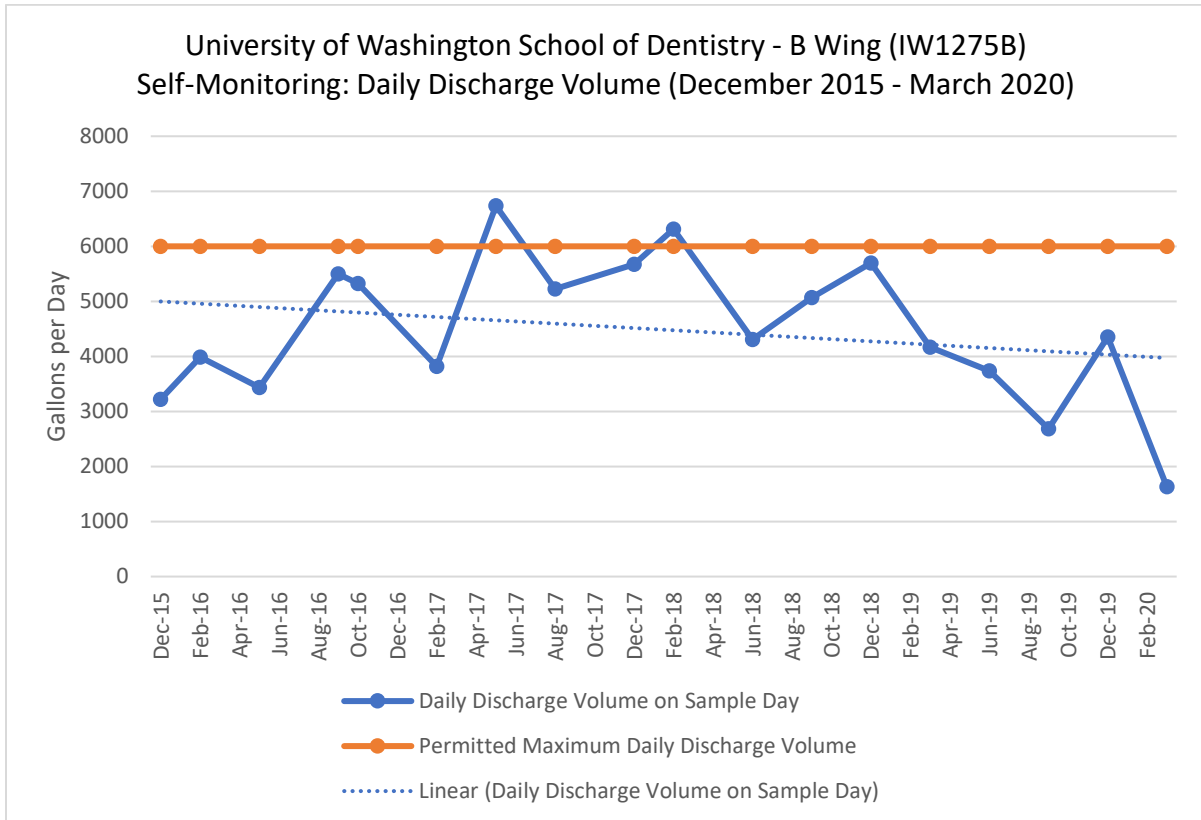
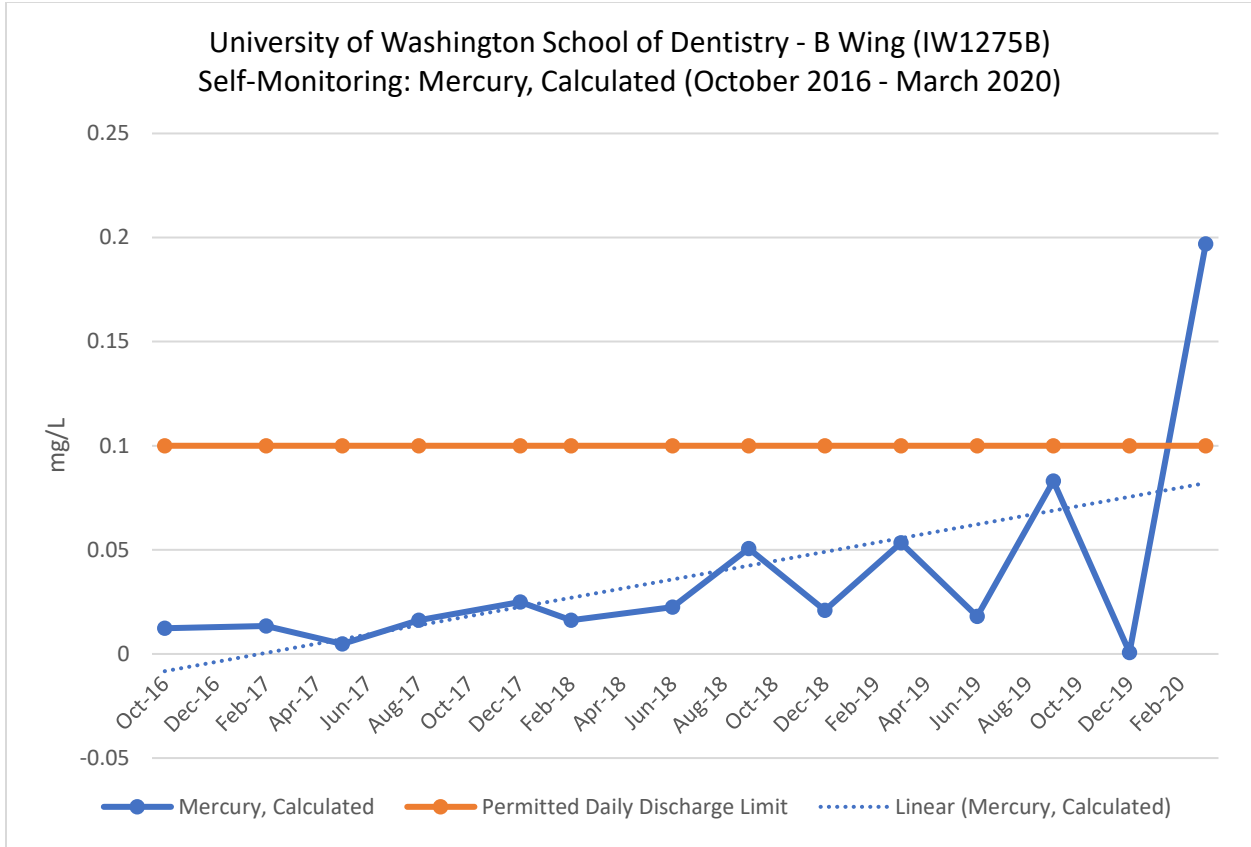


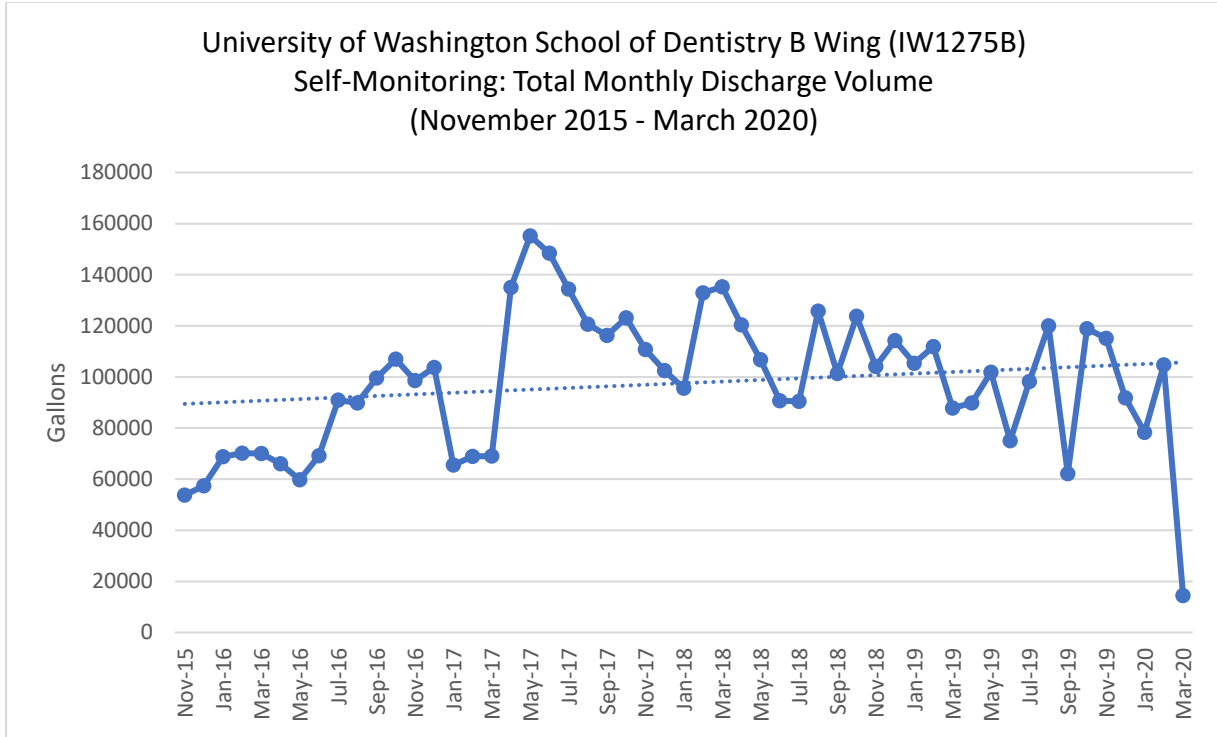
University of Washington School of Dentistry (IW1275B)
Self-Monitoring: November 2015 – August 2020

IW1275B Parameter	Composite Result (mg/L)		Permitted Daily Average Discharge Limit (mg/L)
	Minimum	Maximum	
Mercury, Calculated	0.0007	0.197*	0.1
	Result		Permitted Daily Discharge Limit
	Minimum	Maximum	
Daily Discharge Volume	1,633 gpd	6,736 gpd**	6,000 gpd
Total Monthly Discharge Volume	14,458 gals	155,220 gals	

*This exceedance of the discharge limit was calculated to determine mass loading and it was determined there was no mass loading violation.

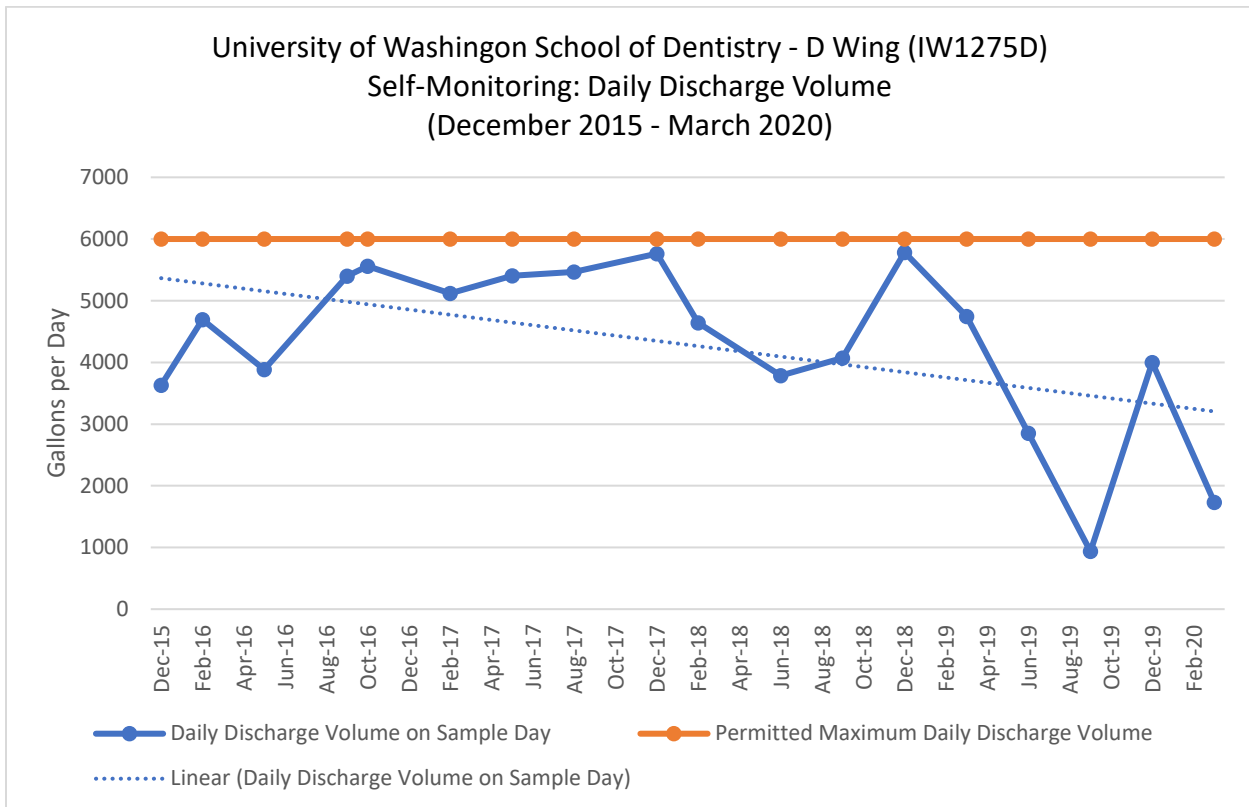
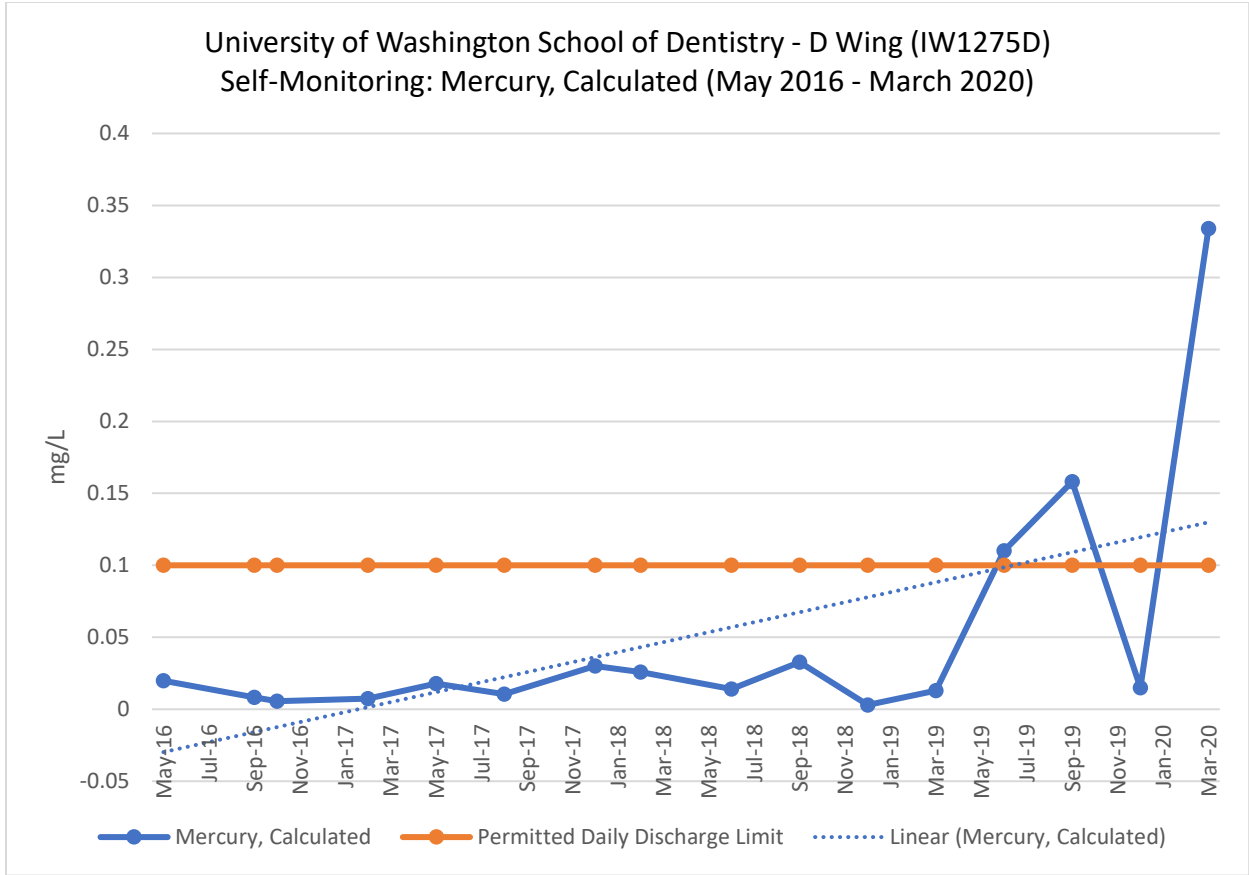
** The exceeded maximum daily discharge volumes were not considered a discharge violation as the volumes were under the 20% allowance and it also did not meet the of 3 out of 4 self-monitoring discharge violation criteria for an enforcement action.

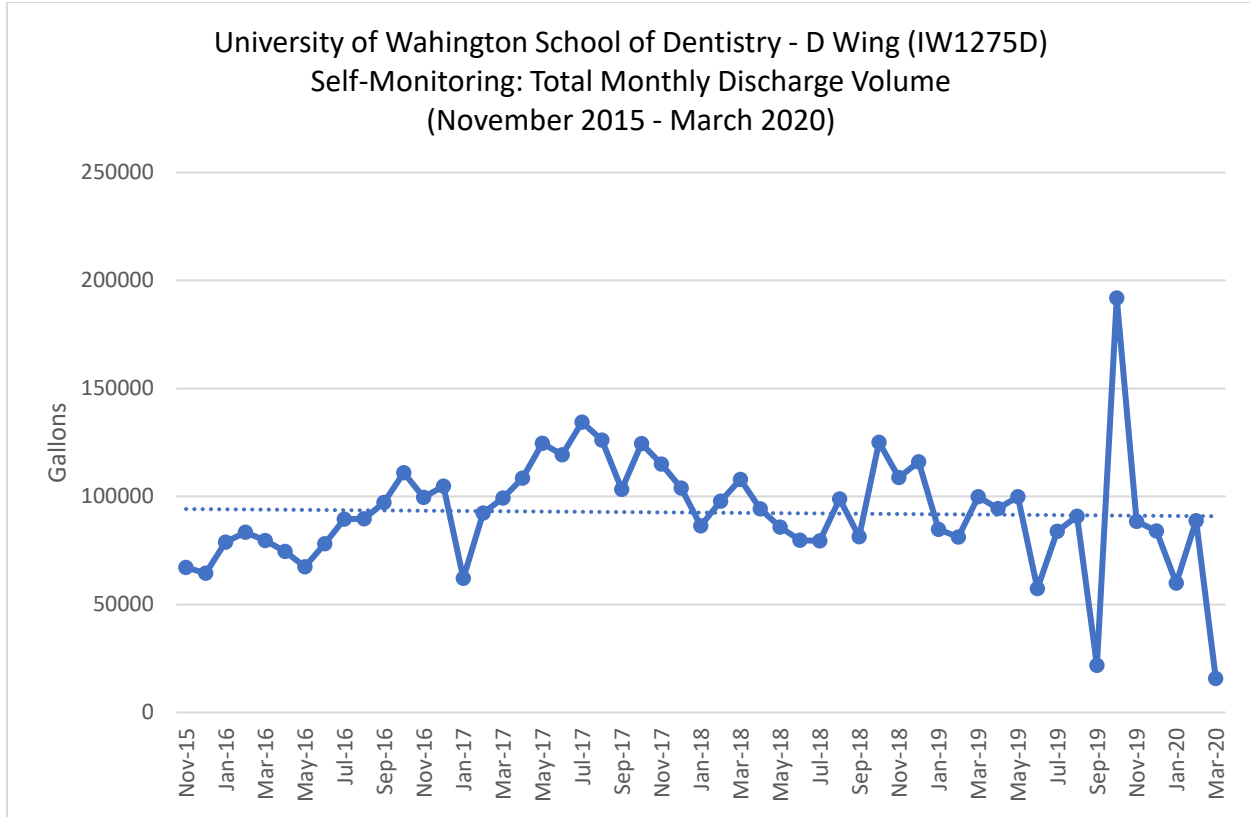




IW1275D Parameter	Composite Result (mg/L)		Permitted Daily Average Discharge Limit (mg/L)
	Minimum	Maximum	
Mercury, Calculated	0.003	0.334*	0.1
	Result		
	Minimum	Maximum	Permitted Daily Discharge Limit
Daily Discharge Volume	936 gpd	5784 gpd	6,000 gpd
Total Monthly Discharge Volume	15,796 gals	191,947 gals	

*All exceedances of the discharge limit were calculated to determine mass loading and it was determined there were no mass loading violations.





Trends in Discharge of Pollutants of Concern

The pollutant of concern at the Nanofabrication Facility is pH. In the past five years, pH seems to be showing a steady inclining trend. The daily discharge volumes indicate a decreasing trend.

At the School of Dentistry, B Wing and D Wing, the mercury concentrations have been steady. There were a few outliers exceeding the 0.1 mg/L mercury discharge limit but upon calculating the mercury mass loading (pounds per day), the mercury loading was not in violation. The daily discharge volumes at the B Wing and D Wing suggests a decreasing trend.

Slug and/or Spill Control Plan

A Slug/Spill Control Plan is to ensure the permittee has appropriate measures in place to prevent, control and respond to spills and slug discharges to the sanitary sewer system.

The UW submitted a Spill Prevention and Containment Plan with its permit application for the Nanofabrication Facility and the School of Dentistry, received on May 6, 2020. The plans were reviewed and found to be adequate and current.

Self-Monitoring Requirements

Nanofabrication Facility (Site IW1275A)

The Nanofabrication Facility is required to monitor continuously for pH and the daily discharge volumes by the number of batches discharged. Each batch discharge is recorded as one batch and the volume of each batch is set at 343 gallons. Total Toxic Organics reporting is required semi-annually. However, the permittee may submit a solvent management plan in lieu of sampling.

School of Dentistry (Sites IW1275B and IW1275D)

There are no self-monitoring requirements for sites IW1275B and IW1275D in this renewed permit. The School of Dentistry is required to follow BMPs in lieu of monitoring per 40 CFR 441.

Medical Center (IW1275C) and Miscellaneous Discharges

There are no self-monitoring requirements. The Medical Center and the other entities follow BMPs. They only need to maintain records for individual waste streams and retain on site for a minimum of three years. The UW is required to report on compliance with BMPs semi-annually and annually report on wastes treated and discharged on site.

King County Compliance Monitoring Program

Nanofabrication Facility (Site IW1275A)

The Nanofabrication Facility is sampled for compliance annually at IW1275A for pH, VOAs (4-grab composite), and composite BNAs. Since they are no longer categorized under 40 CFR 433 and have historically low metals concentrations, KCIW no longer routinely samples for the heavy metals. The only applicable sample requirement per the 40 CFR 469 PSNS is for TTOs and the maximum daily limit is 1.37 mg/L.

School of Dentistry (Sites IW1275B and IW1275D)

KCIW is not required to sample at the two sites. However, KCIW may sample as needed. If so, KCIW will sample for compliance metals (including mercury), discharge volume in batch tank, and grab pH. The UW will provide calculations for total facility flow as outlined in the Special Conditions section of the permit.

Medical Center (Site IW1275C) and Miscellaneous Discharges

King County does not intend to develop a routine monitoring program for these discharges, but depending on KCIW program needs or compliance evaluation, KCIW may sample different waste streams on an *ad hoc* basis.

Monitoring Methods

(Medical Center (Site IW1275C) and Miscellaneous Discharges – routine monitoring is not required.)

Physical samples:

For daily average limits, the following sample collection type is representative: Time-composite at all sites monitored.

Nanofabrication Facility (Site IW1275A)

Time-composite samples are representative for BNA composite sampling because the discharge is from a well-mixed chamber. In addition, the Nanofabrication Facility is not required to collect composite samples at this site; the flow-proportional monitoring evaluation is not applicable.

School of Dentistry (Sites IW1275B and IW1275D)

If samples are collected, the UW monitors only the vacuum system discharges for compliance. The flow rate from each 500-gallon batch tank is restricted to take about eight hours and once started, it is not changed throughout the discharge. The flow rate is restricted primarily to reduce the flow rate through each individual amalgam separator

unit after which the discharge is routed through a single sample point. Since the flow rate in any given day is constant during duration of discharge, time-proportional sampling is assumed to be equivalent to flow-proportional sampling and provides a representative sample.

pH monitoring:

Nanofabrication Facility (Site IW1275A)

Continuous pH monitoring with in-line meter

School of Dentistry (Sites IW1275B and IW1275D)

Not required

Flow monitoring:

The Nanofabrication Facility and the School of Dentistry monitor discharge volumes by known batch tank volumes.

Nanofabrication Facility (Site IW1275A)

Each batch is 343 gallons and this volume is recorded using a data logger. The system batch discharges and is equipped with continuous pH recording. The volume discharged is tracked by recording the number of batches discharged.

School of Dentistry (Sites IW1275B and IW1275D)

Flow monitoring is no longer required but if flow is needed, both sites (IW1275B and IW1275D) have the ability to monitor the discharge volumes as measured from known batch tank volumes. The Dental School can then calculate the total daily discharge volume from its facility using calculations based on the number of patients, students, and staff. The calculation and water use were developed for the initial permit and is modified as site conditions change. Because the tanks have a buildup of biological growth within the tanks making it difficult to accurately gauge water levels, the UW installed a mechanical level and meter system with calibration that will allow a direct reading of the tank volume each time.

Special Conditions

Nanofabrication Facility (Site IW1275A)

There are no special conditions specific to this site.

School of Dentistry (Sites IW1275B and IW1275D)

Special conditions S3.E and S3.F concerning the determination of total facility discharge volumes and metals concentrations for compliance are unique to this permit, but consistent with KCIW's approach to regulating dental clinics.

These conditions outline that actual mercury values need to be submitted (if required) and if needed to demonstrate compliance, the concentration of mercury and other metals as needed may be calculated to include the addition of process water that does not go through the sample site.

This is done because the sample sites are located on vacuum line that collects majority of metals waste expected to be found at a dental office. The amount of water discharged through vacuum line is small (approximately 300 to 400 gpd) compared to total process flow (3,000 to 6,000

gpd). Requiring the School of Dentistry to reconfigure the plumbing and direct wastewater to one or two sample sites would be cost-prohibitive.

The special conditions require that an accurate accounting of facility discharge volumes will now only be conducted if sampling occurs or KCIW requests a flow or on the day a sample is collected to ensure that we are getting a true representation of discharge metals concentrations through this method. The conditions also outline how and when the calculations are to be performed.

Miscellaneous Discharges

BMPs that have been accepted by KCIW as sufficient to protect King County sanitary sewer system and worker safety are required in Special Condition S3.C in lieu of establishing multiple discharge monitoring sites for the miscellaneous discharges outline in Special Condition S3.B, which also provides general operating conditions for those discharges.

Limit Calculations

Nanofabrication Facility (Site IW1275A)

The Nanofabrication Facility opened its doors in 1991. Since the semiconductor fabrication process started in 1991 (after the publication date of 40 CFR 469 in 1983), the 40 CFR 469 Pretreatment Standards for New Sources (PSNS) Subpart B of the Electrical and Electronic Component Point Source Category and King County local limits apply to this facility. The 40 CFR 469 Subpart B also provides a specific limit for total arsenic and requires monitoring and reporting if the permittee manufactures gallium or indium arsenide crystals. The Nanofabrication Facility does not manufacture gallium or indium arsenide crystals and thus, the 30-day average limit for arsenic does not apply. (Refer to 40 CFR 469.28)

This facility was previously regulated under 40 CFR 469 and 40 CFR 433 Metal Finishing (Metal Finishing regulated prior to 2015) but upon reviewing 40 CFR Part 469 – Electrical and Electronic Component Point Source Category Subpart B – Electronic Crystals Subcategory and the Permitting Guidance for Semiconductor Manufacturing Facilities published by the U.S. Protection Agency on April 21, 1998, it was determined that only Subpart B of 40 CFR 469 applies at this site and not 40 CFR 433. The reason 40 CFR 433 no longer applies is that the final assembly process does not take place at this facility which consists of large-scale electroplating on the wafers. Metals monitoring is not required under 40 CFR 469 and was removed from the metals monitoring requirements. The facility has low levels of metals in the wastewater and is not required to provide pretreatment for metals removal. The pH and daily discharge volumes are monitored continuously.

The Nanofabrication Facility is not required to monitor for organics under 40 CFR 469.23 if they follow guidelines under 40 CFR 469.13, which are:

- 1) Submit a solvent management plan
- 2) Submit periodic certification reports required by 40 CFR 403.12(e)

KCIW samples semi-annually for TTOs and there were no discharge violations for organics since UW was permitted. In addition, the levels of organics that discharge to the pretreatment system are very low.

This renewed permit will continue to reflect the applicable TTO limits from 40 CFR 469 and will include the applicable King County local discharge limits. The 90-Day reporting requirements were adjusted to remove sections not applicable to 40 CFR 469. The permittee is required to submit an updated solvent management plan within 90 days of this renewed permit's effective date and to submit their total toxic organics certification semi-annually.

School of Dentistry (Sites IW1275B and IW1275D)

King County local limits (greater than 5,000 gpd) applies to this permitted site. The renewed permit will require federal categorical 40 CFR 441 BMPs in lieu of sampling. Discharge volume was established at 6,000 gpd to account for growth and variations associated with the dental school schedule. (UW's permit application indicated the maximum daily discharge volume at 5,000 gpd at both the B and D wings.)

In lieu of reconfiguring the plumbing in the dental facility to allow for the installation of a water or sewer meter that accurately represents the amount of daily process water used at the dental facility served for each sample site, the School of Dentistry is allowed to calculate the total volume from vacuum line and total volume of process water from dental facility (Section S3.E).

Additionally, in lieu of reconfiguring the plumbing in the dental facility to allow for the installation of representative sampling sites that all regulated processes flow through prior to the addition of dilution (non-process) water, the School of Dentistry is allowed to calculate the mercury and other metals concentrations as needed.

Special Condition S3.F gives KCIW and the permittee the opportunity to calculate the concentration of all metals on an "as needed" basis. King County Code and Special Condition S3.F give KCIW the option to apply the King County local limits directly at the sample site if the School of Dentistry is not forthcoming with the daily discharge volume information.

Given that the purified water is generally used for rinsing the patients' mouths (except at endodontic lab where bleach is still used in small quantities) and the primary metals in amalgam are mercury and silver (copper and tin in lesser amounts), KCIW originally expected that the only metals that will be found in concentrations above the permit limits would be mercury and silver. However, silver has not exceeded the concentration limit at the two sample sites under King County Wastewater Discharge Permit No. 7797-03 when the School of Dentistry was under Permit No. 7797-03. Silver monitoring was thus removed from sampling requirements under Wastewater Discharge Permit No. 7923-02.

Medical Center and Miscellaneous Discharges

King County local limits (greater than 5,000 gpd) apply to these permitted non-categorical discharges.

Changes since the Last Permit

Minor changes include daily discharge volumes:

- The Nanofabrication Facility's maximum permitted daily discharge volume has decreased from 10,000 gpd to 8,000 gpd.

- The Medical Center’s maximum daily discharge volume has increased from 66,000 gpd to 67,000 gpd.
- Miscellaneous Discharges’ cooling water tower at the power plant discharges has increased from 110,000 gpd to 145,000 gpd. The cooling water is not regulated.

The main changes to this renewed permit affect the School of Dentistry.

KCIW issued a Notice of Intent to Revise Wastewater Discharge Permit No. 7923-01 on October 24, 2017 after evaluation of how the July 2017 Dental Office Point Source Category codified as 40 CFR 441 affected the status of the dental school’s sites under their permit and determined that a KCIW-initiated permit revision was the most appropriate action. This decision takes into account their good compliance record since 2012 and is in accordance with Chapter 90.48 RCW as Amended, Public Law 92-500, and King County Code 28.84.060. However, due to unforeseen events with personnel changes, the revision to the UW’s School of Dentistry was not issued.

Now that the UW’s current Wastewater Discharge Permit No. 7923-01 is up for renewal, changes made to this permit are to facilitate change from the use of King County local limits to determine compliance to implementing federal regulations under 40 CFR 441 which have BMPs in lieu of discharge limits for dental facilities. To accomplish this, KCIW replaced sampling requirements for sites IW1275B and IW1275 D with BMPs from 40 CFR 441 (refer to S3.C and S4.A).

If the School of Dentistry does not follow the BMPs, KCIW may require the UW to perform self-monitoring on the School of Dentistry’s wastewater to determine compliance.

KCIW also modified S3.E and S3.F regarding calculating discharge volumes and metals concentrations for Sites IW1275B and IW1275D. Even though routine monitoring is not required, if KCIW or the UW decide to collect samples in the future, these special conditions allow the ability to continue to calculate flows and mercury concentrations on an as-needed basis. The language in these conditions were changed to remove requirements to perform these calculations on a routine basis.

Comments

Publication:

NA – The UW published for 250,000 gallons per day in September 2015.

Application:

There were no comments from Seattle Public Utilities or from the Washington State Department of Ecology.

First draft:

Issued on October 27, 2020.

Comments/Questions on the First Draft:

On October 29, 2020 Maia Hoffman, Washington State Department of Ecology, submitted questions and comments. KCIW replied on October 29, 2020. Ms. Hoffman followed up on October 30, 2020 and indicated that she had no further questions/comments:

Draft Permit: S3.B. Approved Miscellaneous Discharges

- Ms. Hoffman had a question on the date of June 8, 2015 and suggested that it should state the most recent permit application.

KCIW Response: Ms. Hoffman is correct, and the date was a typo error. The date has been corrected to May 6, 2020.

Draft Permit: S4.A.1. Effluent Limitations and Self-Monitoring Requirements

- Ms. Hoffman: *Unclear why 40 CFR 469 Subpart A not applicable? Fact sheet page 3 states, "electronic sensors and circuit prototypes are manufactured, typically using silicon wafers as starting material". Fact sheet page 21 also indicates this site fabricates semiconductors.*

KCIW Response: Subpart B was applied because the facility has the ability to perform etching, deposition, sputter, electroplating and other options. The electroplating, deposition and sputter are not included in Subpart A.

Company Fact Sheet: Page 14: ** The exceeded maximum daily discharge volumes were not considered a discharge violation as the volumes were under the 20% allowance and it also did not meet the of 3 out 4 self-monitoring discharge violation criteria for an enforcement action.

- Ms. Hoffman: *Is the 20% flow allowance over the permitted limit a provision in County code? Consider citing this provision. As stated, it does not really make sense why an exceedance of a permitted flow limit is not a violation.*

KCIW Response: We give allowances for self-monitoring reporting but if the volume is exceeded frequently (i.e., 3 out of 4 times), then we may proceed with an enforcement action and may require the permittee to republish in the newspaper.

Company Fact Sheet: Page 23: ... However, silver has not exceeded the concentration limit at the two sample sites under King County Wastewater Discharge Permit No. 7797-03 when the School of Dentistry was under Permit No. 7797-03...

- Ms. Hoffman: *Confusing here. When was the School of Dentistry under a separate permit? What were the effective dates of 7797-03?*

KCIW Response: The School of Dentistry was under a separate permit. The previous permit manager decided to put all the various discharges at UW under one permit. For the School of Dentistry, the effective dates of 7797-03 were from 11/7/2010 to 11/6/2015.

On October 30, 2020 John Wallace, University of Washington Seattle Campus, submitted questions and comments. KCIW replied on October 30, 2020 and Mr. Wallace had no further questions/comments:

- Mr. Wallace: *The reduction in the daily discharge at WNF has been reduced to 8,000 gpd. However, they will soon replace the current "burn box" and likely drop its water*

use significantly. That new volume is not yet available. We will submit design documents and equipment specifications once they are available.

KCIW Response: KCIW acknowledged that in our previous meeting you mentioned that a “burn box” will be purchased for the Nanofabrication Facility and that this system will greatly reduce the discharge volume. Please submit information of the “burn box” and plans prior to the installation. We can revise the permit as needed later.

- *Mr. Wallace: Please confirm that UW School of Dentistry will only need to sample and provide water use calculations upon request.*

KCIW Response: Yes, that is correct – the UW School of Dentistry will only need to sample and provide water use calculations upon request.

- Mr. Wallace:
I'd like to provide clarification on the “Industrial Waste Program – Company Fact Sheet, page 6.
 - a. The UW is phasing out our photo-recovery systems. (cartridge systems treating silver-bearing effluent) Only a few left on campus, and all may be removed by the end of this permit cycle.*
 - b. Our oily wastes are containerized and shipped off site for disposal. They are not directed to a pre-treatment system such as a separator. We've also expanded our ability to recycle such wastes by expanding our current contracts and using a local recycling facility. (Emerald Services) The oil/water separators we have are intended to capture and manage indirect sources such as groundwater under the Power Plant, decanting our street sweeper, or small volumes of wash water from our trades and mason's shop.*
- KCIW Response: KCIW will edit the information you provided with the language in the Company Fact Sheet. Thank you for the clarification.

Second draft: NA

Safety

Nanofabrication Facility

Safety glasses are required. Clean room attire is required if entering one of the clean rooms.

School of Dentistry

The waste may contain biohazard materials and it's recommended to wear gloves and other appropriate personal protection (safety glasses) when sampling or inspecting the sample site. In addition, it's recommended that all employees responsible for sampling and inspecting to check with King County Waste Treatment Division Safety Officer to ensure that safety protocols are followed in event of accidental exposure and if immunizations are appropriate and up to date.

Miscellaneous Areas

Inspecting and/or sampling at the UW Campus other than the Nanofabrication Facility or the School of Dentistry, it's recommended to wear safety glasses and steel-toed shoes especially if visiting shops and maintenance shops.



King County

Industrial Waste Program Monthly Self-Monitoring Report

Send to: King County Industrial Waste Program
 201 S. Jackson Street, Suite 513
 Seattle, WA 98104-3855
 Phone 206-477-5300 / FAX 206-263-3001
 Email: info.KCIW@kingcounty.gov

Company Name: University of Washington Seattle Campus - Nanofab Sample Site No. IW1275A Permit/DA No.: 7923-02

Please Specify Month & Year: Month: 20

This form is available at www.kingcounty.gov/industrialwaste.

Sample Date (circle)	Sample Type C (Composite) G (grab) BC (batch)	pH													Daily Flow (GPD) Industrial	Notes (indicate Batch Discharge where applicable)	
		Min	Max														
1																	
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	
18																	
19																	
20																	
21																	
22																	
23																	
24																	
25																	
26																	
27																	
28																	
29																	
30																	
31																	
Monthly Min pH				& Date		Total Monthly Flow (gallons)											
Monthly Max pH				& Date		Maximum Daily Flow											& Date

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further certify that all data requiring a laboratory analysis were analyzed by a Washington State Department of Ecology accredited laboratory for each parameter tested.

Signature of Principal Executive or Authorized Agent

Date

PLEASE CIRCLE ALL PERMIT VIOLATIONS

Due Date: Monthly report is due by the 15th each following month.