Chandler · Arizona
Where Values Make The Difference

July 31, 2019

Leila Kabiri
Intel Corporation
5000 W. Chandler Blvd.
Chandler, AZ 85226

Subject: Industrial User Permit, No. 10, Rev. 01(d) Re-issue

Dear Ms. Kabiri:

The existing Intel Corporation Industrial User Permit No.10, Rev. 01(c) will expire on **August 4, 2019**.

At Intel's request, the Industrial User Permit No.10 was re-issued with an effective date of **August 5, 2019**, and will expire on **August 4, 2020**. Enclosed please find the re-issued Industrial User Permit No. 10, Rev. 01(d) for Intel Corporation. In accordance with Section III.C. of the Pretreatment Program, Intel Corporation has 20 days to submit written comments to the City of Chandler for reconsideration.

1. Permit re-issue and effective dates were changed on page 1
2. Part I Section B & E – Discharge Limits and Monitoring (Sampling) Requirements
3. Part V – Special Conditions
4. Attachment C – Equivalent Mass Metals Discharge Limits Calculations for IWD-4 Compliance Point
5. Attachment D – TTO Discharge Limit Combined Wastestream Calculations for IWD-9 Compliance Point
6. Attachment E – Equivalent Mass Metals Discharge Limits Calculations for IWD-9 Compliance Point
7. Attachment F – Complex Mass Loading Equation with Unit Reduction

Additionally, the permit cover page needs to be signed by an Authorized Representative or Duly Authorized Representative as defined in the Permit under Part IV.M. Signatory Requirements. A copy of the signed permit cover page should then be made and attached to the Intel Corporation Permit. The original signed permit cover page should then be mailed back to the City.

Please note that this Permit replaces all other versions that may exist. If you have any questions regarding this Permit, or any other Pretreatment subject, please contact me at 480-782-3736, or the Wastewater Quality Division at 480-782-3720.

Respectfully,

Matthew Goodreau
Senior Industrial Waste Inspector
City of Chandler

Chandler All-America City

Mailing Address
Mail Stop 396
P.O. Box 4008
Chandler, AZ 85244-4008

Wastewater Quality – Pretreatment
Public Works & Utilities
Telephone (480) 782-3720
Web www.chandleraz.gov

Location
905 E. Queen Creek Rd.
Chandler, AZ 85286

RECEIVED
AUG 2 2019
By Wastewater Quality

INDUSTRIAL USER PERMIT NO. 10, Rev. 01(d)

Business Name: Intel Corporation

Premises Address:
5000 West Chandler Boulevard
Chandler, AZ 85226

Mailing Address:
Same

Based upon the permit application submitted on May 31, 2019 and in accordance with the provisions of the Clean Water Act, (33 U.S.C. 1251, et. seq.), the General Pretreatment Regulations [40 Code of Federal Regulations (CFR) Part 403], and the Program[1] as revised and adopted on November 4, 2013, by Ordinance No. 4503, and any amendments or supplements thereto, Intel Corporation (Permittee) is authorized to Discharge Wastewater into the City of Chandler (City) sanitary sewer system in accordance with the Discharge limitations, monitoring requirements, and other conditions set forth in this Permit.

It is understood by the Permittee that any violation of the Clean Water Act, Federal Pretreatment Standards, applicable state and/or local laws or regulations shall be cause for revocation of this Permit and suspension of sanitary sewer service as well as subjecting the Permittee to the remedies available to the City of Chandler under its Program and the Clean Water Act. **Copies of the Program and other applicable laws, ordinances, and regulations are available from the City for the convenience of Permittee. It is the Permittee's responsibility, however, to ensure compliance with applicable laws.**

This Permit replaces all previously issued Permits and shall become effective at 12:01 a.m. on **August 5, 2019**, and expires at midnight on **August 4, 2020**.

Issued: July 27, 2016; Rev. 01(a)
Re-issued: July 21, 2017; Rev. 01(b)
Re-issued: July 20, 2018; Rev. 01(c)
Re-issued: July 20, 2019; Rev. 01(d)

Lori McCallum
Water Quality Program Manager

A petition for review of the conditions and limitations contained in the Permit may be filed with the City of Chandler Pretreatment Supervisor, or authorized delegate, within twenty (20) calendar days of the receipt of this Permit as provided by Section III.C. 1-6 of the Program (see Part IV.A. of this Permit).

I acknowledge that I am a duly authorized representative of Intel Corporation as defined in this Permit under Part IV.M. Signatory Requirements. I further acknowledge that either myself or a delegated representative has read all the terms and provisions of this IU Permit and agree to abide by the conditions and limitations contained herein.

Name: Jennifer Garrett
Title: Intel Chandler site manager
Date: 8/1/19

PART I - DISCHARGE LIMITS AND MONITORING (SAMPLING) REQUIREMENTS

A. The following process operations are conducted at the facility and result in the Discharge of Wastewater through the compliance sampling point described in Part I.B.:

40 Code of Federal Regulations (CFR) Part 433.17, Subpart A – Metal Finishing, New Source

Intel CH1 Facility – Substrate (PCB) Packaging Manufacturing Operations

Intel CH4 Facility - Semiconductor Assembly and Packaging Operations

Intel CH6 Facility - Research and Development Lab Operations

Intel CH8 Facility - Substrate (PCB) Packaging Manufacturing Operations

B. Wastewater Discharges resulting from operations identified in Part I.A. of this Permit shall be Discharged into the City of Chandler POTW[1] through the compliance sampling point described as follows:

IWD-3: Sampling valve on Discharge piping following Tank 340 Final pH Neutralization Tank of the CH4 AWN System (Metal Finishing Compliance Point for CH4 facility)

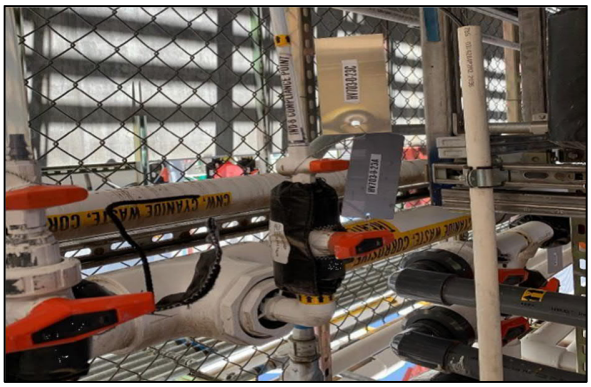
[1] Unless otherwise noted all terms used in this Permit are capitalized and defined in Section I.C. of the Program.

IWD-4: Sampling valve #1 on 8-inch pipe labeled 'AWN' located on the northwest corner of the CH1 Building in the secondary containment trench prior to the CH1 AWN System (Metal Finishing Compliance Point for CH1 facility)

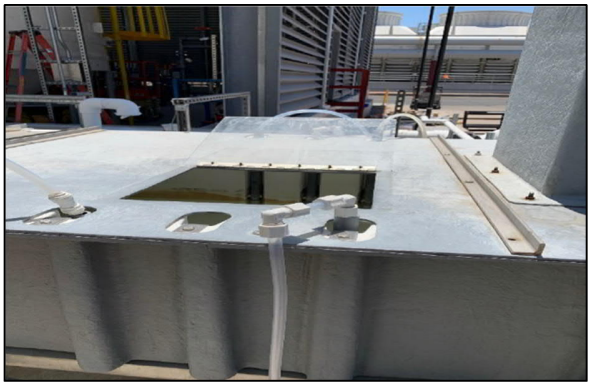
IWD-5: pH Neutralization tank of the CH6 AWN System (Metal Finishing Compliance Point for CH6 facility)

IWD-7: Sewer manhole, located to the southwest of the CH2 Building on Intel's access road that surrounds the Main Chandler Campus. All of the Permittee's wastestreams are Discharged through this combined sewer outfall location (City Discharge Limits Compliance Point)

IWD-8: Sampling valve on Discharge piping following last stage of cyanide treatment system located northwest of UPW Water Purification System (Metal Finishing Cyanide Compliance Point for CH1 facility)



IWD-9: Sampling connection in AWN weir after the CH8 AWN treatment system (Metal Finishing Compliance Point for CH8 facility)



IWD-10: Sampling valve on the Discharge side of the RGC tank prior to entering the CH8 AWN treatment system (Metal Finishing Cyanide Compliance Point for CH8 facility)

C. Permittee shall provide the City adequate access to the compliance sampling point(s).

D. Wastewater Discharged through the compliance sampling point (Part I.B.) must be sampled by the Permittee at the indicated minimum sampling frequency and shall not exceed the Discharge limitations set forth below that are derived from the more stringent Discharge limitation for the particular parameter contained in 40 CFR Part 433.17 and Section II.A.10. of the Program.

Federal Discharge Limitations[2] and Sampling Requirements[3] at the IWD-3 Compliance Point

Parameter	Federal Limits		Minimum Sampling Frequency[4]	Sampling Method[7]
	Daily Maximum	Monthly Average		
Cadmium (Total)	0.11	0.07	2 / year	Composite
Chromium (Total)	2.77	1.71	2 / year	Composite
Copper (Total)	3.38	2.07	2 / year	Composite
Lead (Total)	0.69	0.43	2 / year	Composite
Nickel (Total)	3.98	2.38	2 / year	Composite
Silver (Total)	0.43	0.24	2 / year	Composite
Zinc (Total)	2.61	1.48	2 / year	Composite
Total Toxic Organics[5,6]	2.13	N/A	2 / year	Composite[6]

[2] Unless otherwise noted, all limitations are in concentration units of milligrams per liter (mg/L).

[3] All sampling of the Discharge to evaluate compliance must be conducted at the compliance sampling point described in Part I.B. and depicted in **Attachment A**.

[4] A sample must be taken during the first six (6) months of the calendar year (January through June) and a sample must be taken in the second six (6) months of the calendar year (July through December). It is recommended that the samples be taken in January and July.

[5] Monitoring for Total Toxic Organics (TTO) shall be performed for all toxic organics listed in **Attachment B.** The Permittee may request that the City allow a written certification in lieu of monitoring as permitted by the applicable Federal Categorical Standard.

[6] The volatile toxic organic compounds may not be sampled with automatic sampling equipment (40 CFR Part 136) and shall be collected as Grab Samples.

[7] Additional sampling requirements may be found in Part V - Special Conditions.

Federal Discharge Limitations[2] and Sampling Requirements[3] at the IWD-4 Compliance Point

Parameter	Federal Limits		Minimum Sampling Frequency[4]	Sampling Method[9]
	Daily Maximum[7]	Monthly Average[7]		
Cadmium (Total)	0.0459[8]	0.0292[8]	2 / year	Composite
Chromium (Total)	1.1551[8]	0.7131[8]	2 / year	Composite
Copper (Total)	1.4095[8]	0.8632[8]	2 / year	Composite
Lead (Total)	0.2877[8]	0.1793[8]	2 / year	Composite
Nickel (Total)	1.6597[8]	0.9925[8]	2 / year	Composite
Silver (Total)	0.1793[8]	0.1001[8]	2 / year	Composite
Zinc (Total)	1.0884[8]	0.6172[8]	2 / year	Composite
Total Toxic Organics[5,6]	2.13 mg/L	N/A	2 / year	Composite[6]

[2] Unless otherwise noted, all limitations are in Equivalent Mass units of pounds per day (lbs/day).

[3] All sampling of the Discharge to evaluate compliance must be conducted at the compliance sampling point described in Part I.B. and depicted in **Attachment A**.

[4] A sample must be taken during the first six (6) months of the calendar year (January through June) and a sample must be taken in the second six (6) months of the calendar year (July through December). It is recommended that the samples be taken in January and July.

[5] Monitoring for Total Toxic Organics (TTO) shall be performed for all toxic organics listed in **Attachment B**. The Permittee may request that the City allow a written certification in lieu of monitoring as permitted by the applicable Federal Categorical Standard.

[6] The volatile toxic organic compounds may not be sampled with automatic sampling equipment (40 CFR Part 136) and shall be collected as Grab Samples.

[7] The Equivalent Mass limitations calculations are included in **Attachment C**.

[8] Limitation for this parameter is in lbs/day and compliance with this limitation is determined by the following calculation*:

$$(Actual\ flow\ in\ MGD) \times \left(Concentration\ in\ \frac{mg}{L}\right) \times \left(8.34\ \frac{lbs}{gallon}\right) = Discharge\ in\ \frac{lbs}{day}$$

Million Gallons per Day = MGD, (Gallons per Day Conversion Example: 1,000 GPD ÷ 1,000,000 = 0.001 MGD)

* See **Attachment F** for the complex version of the mass loading equation showing unit reduction.

[9] Additional sampling requirements may be found in Part V - Special Conditions.

Federal Discharge Limitations[2] and Sampling Requirements[3] at the IWD-5 Compliance Point

Parameter	Federal Limits		Minimum Sampling Frequency[4]	Sampling Method[7]
	Daily Maximum	Monthly Average		
Cadmium (Total)	0.11	0.07	2 / year	Grab
Chromium (Total)	2.77	1.71	2 / year	Grab
Copper (Total)	3.38	2.07	2 / year	Grab
Cyanide (Total)	1.20	0.65	2 / year	Grab
Lead (Total)	0.69	0.43	2 / year	Grab
Nickel (Total)	3.98	2.38	2 / year	Grab
Silver (Total)	0.43	0.24	2 / year	Grab
Zinc (Total)	2.61	1.48	2 / year	Grab
Total Toxic Organics[5,6]	2.13	N/A	2 / year	Grab

[2] Unless otherwise noted, all limitations are in concentration units of milligrams per liter (mg/L).

[3] All sampling of the Discharge to evaluate compliance must be conducted at the compliance sampling point described in Part I.B. and depicted in **Attachment A**.

[4] A sample must be taken during the first six (6) months of the calendar year (January through June) and a sample must be taken in the second six (6) months of the calendar year (July through December). It is recommended that the samples be taken in January and July.

[5] Monitoring for Total Toxic Organics (TTO) shall be performed for all toxic organics listed in **Attachment B.** The Permittee may request that the City allow a written certification in lieu of monitoring as permitted by the applicable Federal Categorical Standard.

[6] The volatile toxic organic compounds may not be sampled with automatic sampling equipment (40 CFR Part 136) and shall be collected as Grab Samples.

[7] Additional sampling requirements may be found in Part V - Special Conditions.

City Discharge Limitations[2] and Sampling Requirements[3] at the IWD-7 Compliance Point

Parameter	Daily Maximum[5] or Instantaneous Maximum[5]	Minimum Sampling Frequency[4,5]	Sampling Method[6]
Arsenic (Total)	1.83	2 / year	Composite
Boron (Total)	20.02	2 / year	Composite
Cadmium (Total)	0.50	2 / year	Composite
Chloroform	3.09	2 / year	Grab
Chromium (Total)	3.59	2 / year	Composite
Copper (Total)	12.51	2 / year	Composite
Cyanide (Total)	3.00	2 / year	Grab
Lead (Total)	3.84	2 / year	Composite
Manganese (Total)	8.34	2 / year	Composite
Mercury (Total)	0.17	2 / year	Composite
Molybdenum (Total)	0.62	2 / year	Composite
Nickel (Total)	5.00	2 / year	Composite
Selenium (Total)	0.58	2 / year	Composite
Silver (Total)	2.50	2 / year	Composite
Zinc (Total)	75.06	2 / year	Composite
Oil & Grease	834.00	2 / year	Grab
Fluoride	83.40	2 / year	Composite
Biochemical Oxygen Demand (BOD)	1,409	2 / year	Composite
Total Suspended Solids (TSS)	1,820	2 / year	Composite

[2] Unless otherwise noted, all limitations are in Equivalent Mass units of pounds per day (lbs/day).

[3] All sampling of the Discharge to evaluate compliance must be conducted at the compliance sampling point described in Part I.B. and depicted in **Attachment A**.

[4] A sample must be taken during the first six (6) months of the calendar year (January through June) and a sample must be taken in the second six (6) months of the calendar year (July through December). It is recommended that the samples be taken in January and July.

[5] Limitation for this parameter is in lbs/day and compliance with this limitation is determined by the following calculation*:

$$(Actual\ flow\ in\ MGD) \times \left(Concentration\ in\ \frac{mg}{L}\right) \times \left(8.34\ \frac{lbs}{gallon}\right) = Discharge\ in\ \frac{lbs}{day}$$

Million Gallons per Day = MGD, (Gallons per Day Conversion Example: 1,000 GPD ÷ 1,000,000 = 0.001 MGD)

* See **Attachment F** for the complex version of the mass loading equation showing unit reduction.

[6] Additional sampling requirements and limitation details may be found in Part V - Special Conditions.

Federal Discharge Limitations[2] and Sampling Requirements[3] at the IWD-8 Compliance Point

Parameter	Federal Limits		Minimum Sampling Frequency[4]	Sampling Method[5]
	Daily Maximum	Monthly Average		
Cyanide (Total)	1.20	0.65	2 / year	Grab

[2] Unless otherwise noted, all limitations are in concentration units of milligrams per liter (mg/L).

[3] All sampling of the Discharge to evaluate compliance must be conducted at the compliance sampling point described in Part I.B. and depicted in **Attachment A**.

[4] A sample must be taken during the first six (6) months of the calendar year (January through June) and a sample must be taken in the second six (6) months of the calendar year (July through December). It is recommended that the samples be taken in January and July.

[5] Additional sampling requirements may be found in Part V - Special Conditions.

Federal Discharge Limitations[2] and Sampling Requirements[3] at the IWD-9 Compliance Point

Parameter	Federal Limits		Minimum Sampling Frequency[4]	Sampling Method[8,11]
	Daily Maximum[9]	Monthly Average[9]		
Cadmium (Total)	0.1865[10]	0.1187[10]	2 / year	Composite
Chromium (Total)	4.6966[10]	2.8993[10]	2 / year	Composite
Copper (Total)	5.7309[10]	3.5097[10]	2 / year	Composite
Lead (Total)	1.1699[10]	0.7291[10]	2 / year	Composite
Nickel (Total)	6.7482[10]	4.0353[10]	2 / year	Composite
Silver (Total)	0.7291[10]	0.4069[10]	2 / year	Composite
Zinc (Total)	4.4256[10]	2.5094[10]	2 / year	Composite
Total Toxic Organics[5,6]	1.7843[7,8]	N/A	2 / year	Composite[6]

[2] Unless otherwise noted, all limitations are in Equivalent Mass units of pounds per day (lbs/day).

[3] All sampling of the Discharge to evaluate compliance must be conducted at the compliance sampling point described in Part I.B. and depicted in **Attachment A**.

[4] A sample must be taken during the first six (6) months of the calendar year (January through June) and a sample must be taken in the second six (6) months of the calendar year (July through December). It is recommended that the samples be taken in January and July.

[5] Monitoring for Total Toxic Organics (TTO) shall be performed for all toxic organics listed in **Attachment B**. The Permittee may request that the City allow a written certification in lieu of monitoring as permitted by the applicable Federal Categorical Standard.

[6] The volatile toxic organic compounds may not be sampled with automatic sampling equipment (40 CFR Part 136) and shall be collected as Grab Samples.

[7] The Metal Finishing TTO Discharge limitation calculations for IWD-9, using the combined wastestream formula to account for dilution wastestreams, are included in **Attachment D**.

[8] Since, the dilute wastestreams that combine with the Metal Finishing regulated process wastestreams at IWD-9 are episodic in nature, the Permittee has chosen not to track the Discharge of these wastestreams for this parameter and has agreed to abide by the most stringent Metal Finishing Discharge limitation that include the Permittee's worst case scenario dilute wastestreams.

[9] The Equivalent Mass limitations calculations are included in **Attachment C**.

[10] Limitation for this parameter is in lbs/day and compliance with this limitation is determined by the following calculation*:

$$(Actual\ flow\ in\ MGD) \times \left(Concentration\ in\ \frac{mg}{L}\right) \times \left(8.34\ \frac{lbs}{gallon}\right) = Discharge\ in\ \frac{lbs}{day}$$

Million Gallons per Day = MGD, (Gallons per Day Conversion Example: 1,000 GPD ÷ 1,000,000 = 0.001 MGD)

* See **Attachment F** for the complex version of the mass loading equation showing unit reduction.

[11] Additional sampling requirements may be found in Part V - Special Conditions.

Federal Discharge Limitations[2] and Sampling Requirements[3] at the IWD-10 Compliance Point

Parameter	Federal Limits		Minimum Sampling Frequency[4,5]	Sampling Method
	Daily Maximum[7]	Monthly Average		
Cyanide (Total)	1.20	0.65	2 / year	Grab

[2] Unless otherwise noted, all limitations are in concentration units of milligrams per liter (mg/L).

[3] All sampling of the Discharge to evaluate compliance must be conducted at the compliance sampling point described in Part I.B. and depicted in **Attachment A**.

[4] A sample must be taken during the first six (6) months of the calendar year (January through June) and a sample must be taken in the second six (6) months of the calendar year (July through December). It is recommended that the samples be taken in January and July.

[5] Additional sampling requirements may be found in Part V- Special Conditions.

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E. The flow volume of Discharges through the compliance sampling point **IWD-7** averages **762,000** gallons per day (**0.762** million gallons per day), and shall not exceed **2,224,000** gallons, (**2.224** million gallons) during any single day.

F. Definitions

1. **Best Management Practices (BMP)** – means schedules of activities, prohibitions of practices, maintenance procedures, or other management practices to satisfy Pretreatment Requirements. BMP's may include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw materials storage.

2. **Biochemical Oxygen Demand (BOD)** – means the quantity of oxygen utilized in the biochemical oxidation of organic matter under standard laboratory procedures – five (5) days at 20 degrees centigrade (°C) – expressed in terms of concentration.

3. **Bypass** – means the intentional diversion of Wastewater from any portion of an IU's apparatus or control mechanism to treat Wastewater prior to Discharge.

4. **Categorical Standards** – means any Federal Pretreatment standard adopted pursuant to 33 USC 1317(b) or (c) -- as codified under 40 CFR Part Chapter 1 Subchapter N Parts 401-471.

5. **Compliance Sample** – means any sample for a Pollutant for which a Discharge standard or prohibition is identified in the Program that is collected at a specified compliance sampling point and analyzed by an United States Environmental Protection Agency (EPA) approved method pursuant to 40 CFR Part 136.

6. **Composite Sample** – means a combination of at least four (4) Grab Samples obtained at regular intervals (based on either flow or time) during normal operations or a 24-hour period on any calendar day. Each Grab Sample is either combined with the others or analyzed individually and the results averaged so as to be representative of the Discharge during the entire Discharge period.

7. **Daily Maximum** – means the average maximum concentration of a Pollutant allowed to be Discharged on any calendar day, as determined by the analysis of all Grab Samples collected at a specified compliance sampling point during normal operations. If only one Grab Sample has been taken, that Grab Sample becomes the Daily Maximum (as well as the Instantaneous Maximum). A Composite Sample, by definition, becomes the Daily Maximum for the calendar day in which it is collected.

8. **Grab Sample** – means an individual sample for a Pollutant that is collected in less than fifteen (15) minutes without regard for flow or time of day.

9. **Immediately** – means as soon as possible, but in no event more than twenty-four (24) hours.

10. **Industrial Discharge** – means any Discharge into a POTW other than a Residential Discharge.

11. **Industrial User (IU)** – means a Person who:

    (a) Causes an Industrial Discharge;

(b) Has control over the disposal of any Pollutant which ultimately becomes all or part of any Industrial Discharge; or

(c) Has the right of possession and control over any property from which an Industrial Discharge is made.

12. **Instantaneous Maximum** – means the maximum concentration of a Pollutant allowed to be Discharged at any time determined from the analysis of a Grab Sample collected at a specified compliance sampling point.

13. **Monthly Average** – means the average of the values of all Compliance Samples collected over a calendar month for a Pollutant. The Monthly Average may be either the average of all Grab Samples taken in a given calendar month, or the average of all Composite Samples taken in a given calendar month.

14. **Pollutant** – means any dredged spoil, solid waste, hazardous waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical waste, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, dirt, Industrial Waste, municipal or agricultural waste and any other substances subject to a Pretreatment Requirement.

15. **Pretreatment** – means the physical, chemical, biological, or other treatment of any Industrial Discharge, prior to Discharge to a POTW, for the purpose of:

    (a) Reducing the amount or concentration of any Pollutant;

    (b) Eliminating the Discharge of any Pollutant; or

    (c) Altering the nature of any Pollutant characteristic to a less harmful state.

16. **Pretreatment Requirement** – means compliance with all Discharge standards and prohibitions set forth in the Program including, without limitation, Categorical Standards, and all of the other duties or responsibilities imposed upon the IU under the Program or any order or Permit issued pursuant to the Program.

17. **Program** – means the City of Chandler Wastewater Pretreatment Program as adopted by Ordinance No. 4503.

18. **Publicly Owned Treatment Works (POTW)** – means the sewage treatment work(s) and connecting sewer connection system(s), which are owned and/or operated, in whole or in part, by the City and which provide the City with Wastewater collection, treatment and disposal services.

19. **Residential Discharge** – means a Discharge into a POTW of Sanitary Waste produced entirely from either a single or multi-family dwelling or any other facility, not utilized for any industrial or manufacturing process that the Director determines will produce a wastestream substantially identical to that produced by a single or multi-family dwelling.

20. **Sanitary Waste** – means any liquid or waterborne wastes derived from ordinary living processes, free from Industrial Wastes, and of such a character as to not require any special treatment or Pretreatment under the Program before being Discharged into a POTW.

21. **Significant Industrial User (SIU)** – means:

    (a) An IU subject to any Categorical Standard; or

    (b) Any other IU that:

        (i) Discharges an average of twenty-five thousand (25,000) gallons per day or more of Wastewater to a POTW (excluding Sanitary Wastes and noncontact cooling and boiler blowdown Wastewaters);

        (ii) Contributes a flow of Wastewater which makes up five (5) percent or more of the average dry weather hydraulic or organic capacity of a POTW; or

        (iii) Is designated as such by the Director on the basis that it has a reasonable potential for adversely affecting a POTW's operation or for violating any Pretreatment Requirement.

22. **Significant NonCompliance (SNC)** – means violations of Section II of the Program, which meet one or more of the following criteria:

    (a) Chronic violations of any Discharge limits, defined here as those in which sixty-six percent (66%) or more of all of the measurements taken for the same Pollutant during a six (6) month period exceed (by any magnitude) the Daily Maximum, Instantaneous Maximum or Monthly Average for that Pollutant;

    (b) TRC violations, defined here as those in which thirty-three percent (33%) or more of all of the measurements taken for the same Pollutant during a six (6) month period equal or exceed the product of the Daily Maximum, Instantaneous Maximum or Monthly Average for that Pollutant multiplied by the applicable TRC (TRC = 1.4 for BOD, TSS, fats, oil, and grease, and 1.2 for all other Pollutants except pH);

    (c) Any other violation that the Director determines has **,** alone or in combination with other Discharges, caused Interference or Pass Through or endangered the health of POTW personnel or the public;

    (d) Any Discharge of a Pollutant that has caused imminent endangerment to human health or welfare or to the environment, and has resulted in the Director's exercise of his or her emergency authority to halt or prevent such a Discharge;

    (e) Violations of Compliance Schedule milestones contained in a SIU Permit or enforcement order, for starting construction, completing construction, or obtaining final compliance, by ninety (90) calendar days or more after the scheduled date for that milestone;

    (f) Failure to provide reports for Compliance Schedules, self-monitoring data and applicable Pretreatment Requirements within forty-five (45) calendar days from the due date;

    (g) Failure to accurately report non-compliance; or

    (h) Any other violation or group of violations of the Act, the Program or the conditions of any Permit or order issued pursuant to the Program, including a violation of BMP’s that the Director determines to be significant.

23. **Slug Discharge** – means any Discharge of a non-routine, episodic nature including, but not limited to, an accidental spill or a non-customary Batch Discharge, which has a reasonable potential to cause Interference or Pass Through, or in any other way violate the Program or any Permit issued pursuant to the Program.

24. **Total Suspended Solids (TSS)** – means the total suspended matter that floats on the surface of, or is suspended in, Wastewater.

25. **Upset** – means an exceptional incident in which there is an unintentional and temporary violation of a Pretreatment Requirement because of factors beyond the reasonable control of the IU. An Upset does not include a violation caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.

26. **Wastewater** – means any liquid, or any combination of water-carried Pollutant(s), which is Discharged into a POTW from any dwelling, commercial building, industrial facility, or institution together with such ground, surface, and storm water as may be present.

PART II – DISCHARGE PROHIBITIONS

A. No IU shall Discharge to a POTW any Pollutant or Wastewater, which will cause Pass Through or Interference. Such Discharge prohibitions include, but are not limited to, the types of Discharges which are set forth below.

1. Flow and Concentration. Discharges that are released at a flow rate and/or Pollutant concentration which will cause Interference.

2. Fire and Explosion Potential. Discharges that create a fire or explosion hazard to a POTW including, but not limited to, Discharges with a closed cup flashpoint of less than 60°C (140°F) using the test methods specified in 40 CFR Part 261.21.

3. Viscous Substances. Discharges that contain any solid or viscous substances in amounts, which will obstruct Wastewater, flow in any POTW resulting in Interference.

4. Corrosiveness. Discharges that will cause corrosive structural damage to a POTW. In no case shall a Discharge to a POTW have a pH lower than 5.0 or greater than 12.5, unless the City determines that a POTW is specifically designed to accommodate such Discharges.

5. Heat. Discharges that will inhibit biological activity in any POTW sewage treatment works resulting in Interference. In no case shall a Discharge cause heat in such quantities that the temperature at any POTW treatment works exceeds 40°C (104°F) unless the City determines that alternate temperature limits are appropriate.

6. Slug Discharge. Discharges that constitute or contain any Slug Discharge.

7. Noxious Substances. Discharges that contain any noxious or malodorous liquids, gases or solids which, either singly or by interaction with other substances, will create a public nuisance, a hazard to life, prevent entry into a POTW for maintenance and repair purposes or otherwise cause acute worker health and safety problems.

8. Dilution. Discharges that have in any way been diluted as a substitute for Pretreatment for the purpose of obtaining compliance with any Pretreatment Requirement imposed by the Program. However, Dilution is allowed to the extent that it is expressly authorized by any applicable Categorical Standard.

9. Rainwater. Discharges that consist of unpolluted rainwater run-off or single pass cooling water unless no other disposal option is feasible and the Discharge is expressly approved by the City prior to Discharge.

10. Local Limits. Discharges that exceed the Daily Maximum or Instantaneous Maximum limits specified below for the following substances[1]:

Parameter	Limitation (mg/L)	Sampling Method
Arsenic (Total)	0.22	Composite
Boron (Total)	2.40	Composite
Cadmium (Total)	0.06	Composite
Chloroform	0.37	Grab
Chromium (Total)	0.43	Composite
Copper (Total)	1.50	Composite
Cyanide (Total)	0.36	Grab
Lead (Total)	0.46	Composite
Manganese (Total)	1.00	Composite
Mercury (Total)	0.02	Composite
Molybdenum (Total)	0.074	Composite
Nickel (Total)	0.60	Composite
Selenium (Total)	0.07	Composite
Silver (Total)	0.30	Composite
Zinc (Total)	9.00	Composite
Oil & Grease	100.0	Grab
Fluoride	10.0[2]	Composite

[1] The Permittee is not required to self-monitor for these parameters at their compliance sampling locations unless specifically listed on Part I of this Permit. However, the City may monitor quarterly for all these City parameters to determine compliance.

[2] Unless the IU is in compliance with a Fluoride BMP pursuant to Section II.E.1 of the Program.

11. Categorical Standards. Discharges that will cause the violation of any applicable Categorical Standard.

12. Pumped Wastes. Discharges of Pollutants that are transported to a POTW by any septic tank pumper**,** chemical waste hauler or similar transporter except at specified Discharge points, if any, designated by the City.

13. Toxic Materials. Discharges that are a toxic or poisonous substance in a sufficient amount to either cause Interference or constitute an acute hazard to humans or animals in the receiving stream.

14. Oil Products. Discharges that contain petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin in amounts that will cause Interference or Pass Through.

B. BOD, TSS and Ammonia Levels

1. Pollutant Charges

   IU's exceeding the TSS, BOD, or ammonia surcharge levels set forth below shall pay the fee provided in Section 50-13, Chandler City Code:

   (a) 350.00 mg/L TSS;
   (b) 300.00 mg/L BOD; or
   (c) 35.00 mg/L ammonia.

2. BOD Trigger Level

   If an SIU is currently Discharging or proposes to Discharge more than 63 lbs./day of BOD, the City shall set an individual mass based BOD limit in the SIU Permit. The City shall set the BOD limit considering the following factors:

   (a) The existing BOD loading; and
   (b) The future, additional BOD loading anticipated from IUs, SIUs and Residential Discharges at the POTW that will receive Discharges from that SIU.

3. TSS Trigger Level

   If an SIU is currently Discharging or proposes to Discharge more than 73 lbs./day of TSS, the City shall set an individual mass based TSS limit in the SIU Permit. The City shall set the TSS limit considering the following factors:

   (a) The existing TSS loading; and
   (b) The future, additional TSS loading anticipated from IUs, SIUs and Residential Discharges at the POTW that will receive Discharges from that SIU.

PART III - REPORTING REQUIREMENTS

A. Compliance Monitoring Report

1. All reporting (including written notifications and compliance monitoring reports) required by this Permit shall, unless otherwise specified, be addressed to:

   City of Chandler
   Wastewater Quality Division
   Industrial Pretreatment Program
   Mail Stop 396
   P. O. Box 4008
   Chandler, Arizona 85244-4008

   During normal business hours (8:00 am - 5:00 pm) the City of Chandler, Wastewater Quality Division should be notified by telephone at (480) 782-3720, or by facsimile (FAX) at (480) 782-3735.

2. Each submitted compliance monitoring report must be signed in accordance with the requirements set forth in Part IV.M. of this Permit.

3. Permittee shall submit a SIU Self-Monitoring Report no less than twice annually pursuant to Section II.L.9.(d) and (e) of the Program. These reports shall be submitted by January 15th for the July through December reporting period, and July 15th for the January through June reporting period.

4. The Self-Monitoring Reports required above shall contain the results of sampling and analysis of all Pollutants and Wastewater Discharged, including the flow and the nature, and the concentration of Pollutants required by this Permit. Both maximum and average daily flows shall be reported for each reporting period. Unless otherwise specified by the City, maximum and average daily flows may be estimated. At the discretion of the City, more detailed reporting of flows may be required. The results of all Compliance Samples taken during any reporting period shall be summarized and reported by the due dates mentioned above.

5. If Permittee monitors for a Pollutant during a reporting period more frequently than required by this Permit at a compliance sampling point, using test procedures approved under 40 CFR Part 136, then the results of such monitoring shall be included in the report submitted for that reporting period or at the frequency required pursuant to this Permit. A required increase in the frequency of reporting may be found in Part V - Special Conditions. Such increased monitoring frequency shall also be noted on the report.

6. Written reports will be deemed to have been submitted on the date postmarked. For reports that are not mailed, the date of receipt of the report shall govern.

B. Monitoring and Records

1. All IU Compliance Samples shall be taken at the compliance sampling point(s) specified in this Permit. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored Discharge and shall consist of the following:

a. Grab Samples must be used for pH, cyanide, oil and grease, ammonia, and volatile organic compounds. For all other Pollutants, 24-hour Composite Samples must be obtained through flow-proportional Composite Sampling techniques, unless time-proportional Composite Sampling or Grab Sampling is authorized by the City.

b. Where time-proportional Composite Sampling or Grab Sampling is authorized by the City, the samples must be representative of the Discharge and the decision to allow the alternative sampling must be documented in the IU file for that facility or facilities.

c. Using protocols (including appropriate preservation) specified in 40 CFR Part 136 and appropriate EPA guidance, multiple Grab Samples collected during a 24-hour period may be composited prior to the analysis as follows: for cyanide and ammonia the samples may be composited in the laboratory or in the field; for volatile organics and oil and grease the samples may be composited in the laboratory. Composite samples for other parameters unaffected by the compositing procedures as documented in approved EPA methodologies may be authorized by the City, as appropriate.

2. Sampling and Flow Monitoring Equipment

The City may require the SIU to install monitoring equipment as necessary. Any required sampling and monitoring equipment shall be maintained at all times in a safe and proper operating condition by the SIU at its own expense. All equipment used to measure Wastewater flow shall be maintained and calibrated in accordance with the manufacturer's recommendation, but such calibration shall occur no less than annually.

3. Maintenance of Sampling and Flow Monitoring Equipment

All Wastewater samples must be representative of the SIU Discharge. Wastewater monitoring and flow measurement equipment shall be properly operated, kept clean, and maintained in good working order at all times. The failure of a SIU to keep its monitoring equipment in good working order shall not be grounds for the SIU to claim that sample results are not representative of its Discharge.

4. Analytical Methods to Demonstrate Continued Compliance

The analysis of all Compliance Samples shall be performed in accordance with procedures established under the Program and 40 CFR Part 136, or with any other test procedures approved by the EPA. Where 40 CFR Part 136 does not include sampling or analytical techniques for the Pollutants in question, or where the EPA determines that the Part 136 sampling and analytical techniques are inappropriate for the Pollutant in question, sampling and analyses shall be performed using validated analytical methods.

5. Retention of Records

Each IU shall maintain all applicable records regarding compliance with the Program for a minimum period of three (3) years and such records shall be made available for inspection and copying by the City upon request.

6. Sampling Record Contents

   These reports must be based upon data obtained through appropriate sampling and analysis performed during the period covered by the report, which data are representative of conditions occurring during the reporting period.

   Sampling Records information shall include:

   a. The date, exact place, method of sampling, sample preservation techniques or procedures, time of sampling and the names of the Person or Persons taking the samples;

   b. The date(s) analyses were performed;

   c. The name of laboratory and/or Person who performed the analyses;

   d. The analytical techniques/methods used;

   e. The results of each analyses; and

   f. A copy of chain of custody documentation from the sampling event.

C. Notice of Violation

Permittee shall notify the Wastewater Quality Division Immediately upon becoming aware of any violation of this Permit or Program. For Discharge violations, such notice shall be provided to the City Immediately after the Permittee's receipt of analytical sampling results. This notification shall be followed within five (5) calendar days by a detailed written statement describing the:

1. Location of the Discharge;

2. Known or estimated nature**,** concentration, and volume of the Discharged Pollutant(s);

3. Causes of the Discharge; and

4. Duration of the Discharge, including exact dates and times of the start and end of the Discharge violation;

5. Corrective action(s) undertaken**,** being undertaken and/or to be undertaken by the Permittee. The Permittee causing such a Discharge shall also initiate all appropriate corrective action(s), which are needed to:

   a. Prevent any further injury to human health or safety, or to the environment, a POTW, or any other property;

   b. Promptly assess, mitigate, repair, restore or remediate all or part of any injury or damage caused by such Discharge; and

   c. Prevent a future occurrence.

Such notification shall not relieve the Permittee of liability for any expense, loss or damage to a POTW, or for any fines or penalties imposed on the City on account thereof and/or for any enforcement action pursuant to this occurrence.

D. Automatic Resampling

1. If a Discharge violation relates to a Compliance Sample taken by either the Permittee or the City, the Permittee shall repeat the sampling and analysis establishing the violation and submit, in writing, the results of the second analysis within thirty (30) calendar days of becoming aware of the violation. This paragraph does not apply to a violation of the pH standards set forth in Section II.A.4. of the Program when the Permittee continuously monitors for pH pursuant to Section II.D. of the Program.

2. The Permittee is not required, unless specifically ordered by the City, to resample if the City obtained a sample at the same Discharge point for the same Pollutant(s) between the time the Permittee performed its sampling and the time the Permittee receives the results of the sampling.

PART IV - STANDARD CONDITIONS

A. Petitions for Reconsideration (Section III.C.1-6 of the Program)

1. Any Permit applicant or Permittee (aggrieved party) may petition the City to reconsider the conditions and limitations of a Permit issued or amended pursuant to the Program or the failure to issue or modify a Permit as requested, by filing a written petition for review with the City within twenty (20) calendar days of receipt of the Permit or amended Permit. In its petition, the aggrieved party must identify the Permit provisions objected to, specify in detail the reasons for objection, and present the alternative condition(s), if any, it seeks to place in the Permit. A petition for review shall not be deemed to authorize a SIU to Discharge without first obtaining a SIU Permit.

2. An IU may petition the City to reconsider an administrative finding of violation, an action taken or proposed to be taken relating to a violation or an order issued by the City relating to a violation by filing a written petition for review with the City within twenty (20) calendar days of receipt of notice of any finding, order or action taken or to be taken by the City. In its petition, the IU must identify the specific findings, order provisions or proposed activities objected to, specify in detail the reasons for, and basis of, the objection and present alternative findings, provisions or activities, if any, that should be substituted for those proposed by the City.

3. Failure to submit a timely petition for review shall be deemed to be a waiver of the IU review rights under this subsection.

4. If the City fails to act within thirty (30) calendar days from receipt of the petition, it shall be deemed denied. Decisions not to reconsider, or modifications made to any findings, order provisions, or proposed activities resulting from the review process, shall be considered final administrative actions for purposes of judicial review.

5. An IU seeking judicial review of a final decision may file a complaint with the Superior Court for Maricopa County, Arizona. In the absence of a Court Order to the contrary, final decisions made by the City shall not be stayed pending judicial review.

6. This subsection shall not be construed to in any way alter, modify, or affect the City's ability to pursue enforcement action pursuant to Sections III.B.11. and 12. of the Program.

B. Adverse Impact

Each IU shall take all reasonable steps to minimize or correct any adverse impact to a POTW or the environment resulting from any non-compliance with the Act, the Program or the provisions of any SIU Permit issued, including such accelerated or additional monitoring as necessary to determine the nature and impact of any non-complying Discharge to a POTW. Upon reduction of efficiency of operations, or loss or failure of all or part of an IU's Pretreatment capabilities, each IU shall control its operations or Discharges (or both) until the IU's Pretreatment capabilities are restored or an adequate alternative method of Pretreatment is provided.

C. Cooperation

Each IU shall assist the City to determine the exact nature **,** concentration, and volume of any Pollutant or Wastewater intended for Discharge to the POTW. Therefore, upon request, the IU shall promptly:

1. Allow the examination and copying of all relevant records or documents available to the IU;

2. Allow the inspection of all business locations served by a POTW **,** including all Pretreatment equipment, methods and activities utilized by the IU at such locations;

3. Install and maintain **,** at the IU's expense**,** convenient and adequate monitoring, and/or sampling point(s) needed by the City for monitoring and/or sampling purposes;

4. Allow the taking and removal of samples from any Wastewater; and

5. Provide the City with any other information, including but not limited to chemical analyses of Wastewater and architectural or engineering design data and drawings etc., which are reasonably needed by the City for the purpose of determining such IU's compliance with the Program.

D. Permit Action

1. Revoke or Suspend Permits

   This Permit may be revoked or suspended for good cause, including, but not limited to:

   a. Misrepresentation or failure to fully disclose all relevant facts in a Permit application;

   b. Falsifying self-monitoring reports;

   c. Tampering with monitoring equipment;

   d. Refusing to allow the City timely access to the facility premises and records;

   e. Failure to meet Discharge limitations;

f. Failure to pay fines and penalties;

g. Failure to pay fees;

h. Failure to meet Compliance Schedules; or

i. Violation of any applicable Pretreatment Requirement.

2. Modify or Amend Permits

This Permit may be modified or amended for good cause, including, but not limited to:

a. Reflect relevant changes to the Act or the Program;

b. Reflect the results of sampling performed pursuant to the Act, the Program, or any Permit issued thereunder;

c. Prevent endangerment to the environment or to the health or welfare of any Person resulting from the continued Discharge of Pollutants in accordance with the terms of a Permit that has been issued pursuant to the Program;

d. Prevent the continued Discharge of Pollutants in accordance with the terms of a Permit that has been issued pursuant to the Program which threatens to damage property or otherwise cause Pass Through or Interference;

e. Reflect a change in the nature, concentration or volume of an Industrial Discharge; or

f. Correct errors in the Permit issued.

E. Permit Not Transferable

SIU Permits are issued to a specific user for a specific operation and are not assignable to another user or transferable to any other location. In the event of sale or transfer of ownership, the Permittee must provide a copy of this Permit to the purchaser and give written notification to the Wastewater Quality Division prior to the effective date of sale or ownership transfer. **THE PURCHASER MUST OBTAIN A NEW PERMIT PRIOR TO THE DISCHARGE OF ANY INDUSTRIAL WASTEWATER TO THE POTW.**

F. Duty to Reapply; Automatic Extension of Existing Permit

1. If a SIU wishes to continue to Discharge after the expiration date of a previously issued Permit, the SIU **must apply for and obtain a new Permit**. The application must be submitted to the Wastewater Quality Division at least sixty (60) calendar days **before** the expiration date of the previously issued Permit, unless written permission for an extension of time is timely requested and the Wastewater Quality Division grants the request.

2. Subject to the City's right to modify, revoke or terminate any SIU Permit, a previously issued Permit shall continue to remain in full force and effect after the date of expiration if the SIU has applied for a new SIU Permit in accordance with the timeframe required by this section, and a new Permit is not issued prior to the expiration date of the previously issued Permit.

G. Proper Operation and Maintenance

The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this Permit. Proper operation and maintenance includes but is not limited to: effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the Permit.

H. Duty to Halt or Reduce Activity

1. Each IU shall comply with any demand of the City to halt any actual or threatened Discharge to a POTW when the City has given notice that such actual or threatened Discharge:

   a. Presents or may present an imminent or substantial endangerment to the health or welfare of any Person or to the environment; or

   b. Will cause Interference or Pass Through.

I. Bypass

1. An IU may allow a Bypass to occur which does not cause a violation of any Pretreatment Requirement, but only if such Bypass is for essential maintenance to assure efficient operation. These Bypasses are not subject to the provisions of paragraph (4) of this subsection **.**

2. If an IU knows in advance of the need for a Bypass, it shall submit prior notice to the City, if possible, at least ten (10) calendar days before the date of the Bypass.

3. An IU shall submit verbal notice of an unanticipated Bypass that causes a violation of any Pretreatment Requirements to the City Immediately upon becoming aware of the Bypass. A written submission shall also be provided within five (5) calendar days of the time the IU becomes aware of the Bypass. The written submission shall contain a description of the Bypass and its cause; the duration of the Bypass, including exact dates and times, and, if the Bypass has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the Bypass. The City may waive the written report on a case-by-case basis if the verbal report has been received as set forth above.

4. Bypass is prohibited, and the City may take enforcement action against an IU for a Bypass unless the IU can clearly establish that:

   a. Bypass was unavoidable to prevent loss of life, personal injury, or substantial physical damage to property, damage to treatment facilities that causes them to become inoperable, or the substantial and permanent loss of natural resources;

   b. There were no feasible alternatives to the Bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a Bypass which occurred during normal periods of equipment downtime or preventative maintenance; and

c. The IU submitted notices as required under this subsection.

5. The City may approve an anticipated Bypass, after considering its adverse effects, if the City determines that it will meet the three conditions listed above.

J. Upset

1. An Upset shall constitute an affirmative defense to an action brought for a violation of a Pretreatment Requirement if the IU demonstrates, through properly signed, contemporaneous operating logs, or other relevant evidence that:

   a. An Upset occurred and the that IU can identify the cause(s) of the Upset;

   b. The facility was being operated in a prudent and workman-like manner and in compliance with applicable operation and maintenance procedures at the time of the Upset;

   c. The IU has submitted the following information to the City Immediately of becoming aware of the Upset (if this information is provided verbally, a written submission must be provided within five (5) calendar days):

      (i) A description of the Upset and the cause and nature of the violation resulting from the Upset;

      (ii) The duration of the violation, including exact dates and times or, if not corrected, the anticipated time the violation is expected to continue; and

      (iii) The steps being taken and/or planned to reduce, eliminate, and prevent recurrence of the Upset or any resulting violation of Pretreatment Requirements.

2. An IU shall have the burden of proof of establishing that any violation that is the subject of any enforcement proceeding was the result of an Upset.

K. Compliance Schedules

Any Compliance Schedule included in this Permit shall contain increments of progress in the form of dates for the commencement and completion of major events leading to the construction and operation of additional Pretreatment required for the IU to meet the applicable Pretreatment Requirements (e.g., hiring an engineer, completing preliminary plans, completing final plans, executing contracts for major components, commencing construction, completing construction, etc.). Compliance Schedules shall reflect the shortest time period practicable to achieve full compliance and no increment referred to in the Compliance Schedule shall exceed nine (9) months. Not later than fourteen (14) calendar days following each date in the schedule and the final date for compliance, the IU shall submit a progress report to the City including, at a minimum, whether or not it complied with the increment of progress to be met on such date and, if not, the date on which it expects to comply with this increment of progress, the reason for delay, and the steps being taken by the IU to return to the schedule established. In no event shall more than nine (9) months elapse between such progress reports to the City.

L. Equivalent Mass Limits

1. When the limits in a Categorical Standard are expressed only in terms of Pollutant concentrations, an IU may request that the City convert the limits to Equivalent Mass limits. The determination to convert concentration limits to mass limits is within the discretion of the City. The City may establish Equivalent Mass limits only if the IU meets all the following conditions.

   To be eligible for Equivalent Mass limits, the IU must:

   a. Employ, or demonstrate that it will employ, water conservation methods and technologies that substantially reduce water use during the term of its Permit;

   b. Currently use control and treatment technologies adequate to achieve compliance with the applicable Categorical Standards, and not have used dilution as a substitute for treatment;

   c. Provide sufficient information to establish the facility's actual average daily flow rate for all wastestreams, based on data from a continuous effluent flow-monitoring device, as well as the facility's long-term average production rate. Both the actual average daily flow rate and the long-term average production rate must be representative of current operating conditions;

   d. Not have daily flow rates, production levels, or pollutant levels that vary so significantly that Equivalent Mass limits are not appropriate to control the Discharge; and have consistently complied with all applicable Categorical Standards during the period prior to the IU request for Equivalent Mass limits.

2. An IU subject to Equivalent Mass limits must:

   a. Maintain and effectively operate control and treatment technologies adequate to achieve compliance with the Equivalent Mass limits;

   b. Continue to record the facility's flow rates through the use of a continuous effluent flow monitoring device;

   c. Continue to record the facility's production rates and notify the City whenever production rates are expected to vary by more than 20 percent from its baseline production rates determined in paragraph L.1.(c) of this section. Upon notification of a revised production rate, the City must reassess the Equivalent Mass limit and revise the limit as necessary to reflect changed conditions at the facility; and

   d. Continue to employ the same or comparable water conservation methods and technologies as those implemented pursuant to paragraphs L.1.(a) of this section as long as it Discharges under an Equivalent Mass limit.

3. A City which chooses to establish Equivalent Mass limits:

   a. Must calculate the Equivalent Mass limit by multiplying the actual average daily flow rate of the regulated process(es) of the IU by the concentration-based Daily Maximum and Monthly Average Standard for the applicable Categorical Standards and the appropriate unit conversion factor;

b. Upon notification of a revised production rate, it may reassess the Equivalent Mass limit and recalculate the limit as necessary to reflect changed conditions at the facility; and

c. May retain the same Equivalent Mass limit in subsequent Permit terms if the IU's actual average daily flow rate was reduced solely as a result of the implementation of water conservation methods and technologies, and the actual average daily flow rates used in the original calculation of the Equivalent Mass limit were not based on the use of dilution as a substitute for treatment pursuant to Part II.A.8. of the Permit. The IU must also be in compliance with Part IV.I. of the Permit (regarding the prohibition of Bypass)

M. Planned Changes

1. No SIU shall make a substantial change to its Pretreatment methodology, or make any facility expansion, production increase or process modification which results, or may result, in new or increased Discharges, or a change in the nature of the Discharge, without providing written notice to the City at least ninety (90) calendar days prior to implementing that change. Additionally, no SIU shall make any change to a BMP set forth in a SIU Permit without first obtaining a modified Permit reflecting that change.

2. SIUs are required to notify the City immediately of any change at its facility affecting the potential for a Slug Discharge.

N. Signatory Requirements

Permit applications, baseline monitoring reports, 90-day compliance reports, self-monitoring reports and any other reports or notices addressing Permit non-compliance, or that are required pursuant to any enforcement action taken by the City must be signed by the appropriate signatory or duly authorized representative of the SIU, as follows:

1. By a responsible corporate officer, if the SIU is a corporation. For the purposes of this subparagraph, a responsible corporate officer means:

   a. A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or

   b. The manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiate and direct other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; can ensure that the necessary systems are established or actions taken to gather complete and accurate information for control mechanism requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

   c. By a general partner or proprietor if the SIU is a partnership or sole proprietorship respectively;

   d. By a duly authorized representative of the individual designated above if:

(i) The authorization is made in writing by the individual described in subparagraph a, b, or c above;

(ii) The authorization specifies either an individual or a position having responsibility for the overall operation of the facility from which the Industrial Discharge originates, such as the position of plant manager, or a position of equivalent responsibility, or having overall responsibility for environmental matters for the SIU; and

(iii) The written authorization is submitted to the City.

e. Any change in signatures or positions shall be submitted to the City in writing prior to or together with any reports to be signed by an authorized representative, but in no case more than thirty (30) calendar days after the change; and

f. Any Person signing a document under this paragraph shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly 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."

O. Annual Publication

The City shall annually publish, in the largest daily newspaper published in the City, public notice of all IU's who, during the preceding twelve (12) month period, were found to be in SNC. This same notice shall also summarize all enforcement actions taken by the City against those IU's during the same twelve (12) month period.

P. Seek Penalties

The City has, without limitation, authority to seek civil or criminal penalties for non-compliance. The City may enforce the Program by imposing and recovering a civil penalty of one thousand dollars ($1,000) for each violation of any applicable Pretreatment Requirement. For continuing violations, each day may constitute a separate violation.

Q. Recovery of Costs Incurred

The City may seek recovery of the civil penalties provided above either by an action in superior court or by a negotiated settlement agreement.

R. Dilution

Discharges that have in any way been diluted as a substitute for Pretreatment for the purpose of obtaining compliance with any Pretreatment Requirement imposed by the Program are prohibited. However, Dilution is allowed to the extent that it is expressly authorized by any applicable Categorical Standard.

S. Hazardous Waste Notification

1. An IU shall notify the City, the EPA Regional Waste Management Division Director, and ADEQ in writing of any Discharge into a POTW of a substance, which, if otherwise disposed of, would be a hazardous waste under 40 CFR Part 261. Such notification must include the name of the hazardous waste as set forth in 40 CFR Part 261, the EPA hazardous waste number, and the type of Discharge (continuous, batch, or other). If the IU Discharges more than 100 kilograms of such waste per calendar month to a POTW, the notification shall also contain the following information to the extent, such information is known and readily available to the IU:

   a. An identification of the hazardous constituents contained in the wastes;

   b. An estimation of the mass and concentration of such constituents in the wastestream Discharged during that calendar month; and

   c. An estimation of the mass of constituents in the wastestream expected to be Discharged during the following twelve months.

   All notifications must take place within one hundred eighty (180) calendar days after the Discharge of the listed or characteristic hazardous waste. Any notification under this paragraph need be submitted only once for each hazardous waste Discharged. However, notifications of changed Discharges must be submitted under 40 CFR Part 403.12 (j). The notification requirement in this section does not apply to Pollutants already reported under the self-monitoring requirements of Part III.A. of this Permit.

2. An IU is exempt from the requirements of paragraph 1 of this subsection during calendar months in which they Discharge no more than fifteen kilograms of hazardous wastes, unless the wastes are acute hazardous wastes as specified in 40 CFR Part 261.30 (d) and 261.33 (e). Discharge of more than fifteen kilograms of non-acute hazardous wastes in a calendar month, or of any quantity of acute hazardous wastes as specified in 40 CFR Part 261.30 (d) and 261.33 (e), requires a one-time notification. Subsequent months during which the IU Discharges more than such quantities of any hazardous waste do not require additional notification.

3. In the case of any new EPA regulations identifying additional characteristics of hazardous waste or listing any additional substance as a hazardous waste, the IU must notify the City, the EPA Regional Waste Management Waste Division Director, and ADEQ of the Discharge of such substance within ninety (90) calendar days of the effective date of such regulations.

4. In the case of any notification made under paragraph 1 of this subsection, the IU shall certify that it has a program in place to reduce the volume and toxicity of hazardous wastes generated to the degree it has determined to be economically practical.

PART V - SPECIAL CONDITIONS

A. BOD and TSS Discharge

The Permittee's BOD Discharge Limit is 1,409 pounds per day and TSS Discharge Limit is 1,820 pounds per day. The following method will be used to determine compliance with the BOD and TSS Discharge Limits:

1. 24-hour BOD and TSS flow-proportional Composite Samples will be collected per Part III B. 1. a.-c. of this Permit. 24-hour BOD and TSS flow-proportional Composite Samples (Initial and Duplicate) will be collected for two consecutive days. The Permittee may waive the second day of BOD or TSS sampling and the Duplicate Sampling requirements.

2. For purposes of this Section, the following definitions will be used:

   a. Initial Sample (mg/L) – a 24-hour BOD or TSS flow-proportional Composite Sample.

   b. Duplicate Sample (mg/L) – a duplicate sample of the Initial Sample. The Duplicate will be processed the same as the Initial Sample and sent to the lab along with the Initial Sample.

   c. Average Daily BOD or TSS (mg/L) – the numeric average of Initial Sample and the Duplicate Sample.

   d. Sample Difference (mg/L) – the numeric difference between the Initial Sample and Duplicate Sample.

   e. Sample Variance (dimensionless) – the value of the Sample Difference divided by the Average Daily BOD or TSS.

   f. Total BOD or TSS Discharge (pounds per day) – the sum of the BOD or TSS Discharge at the Compliance Point during the 24-hour flow-proportional Composite Sample period. The Total BOD or TSS Discharge at the Compliance Point will be calculated by using the following formula*.

$$(Actual\ flow\ in\ MGD) \times \left(Average\ concentration\ in\ \frac{mg}{L}\right) \times \left(8.34\ \frac{lbs}{gallon}\right) = Discharge\ in\ \frac{lbs}{day}$$

   Million Gallons per Day = MGD, (Gallons per Day Conversion Example: 1,000 GPD = 0.001 MGD)
   * See **Attachment F** for the complex version of the mass loading equation showing unit reduction.

3. **Compliance Procedure** – two consecutive 24-hour BOD and TSS flow-proportional Composite (Initial and Duplicate) Samples at the IWD-7 Compliance Point will be collected.

   a. If one or more of the Total BOD and TSS Discharge from these two sampling days is less than the BOD and TSS Discharge Limits, the Permittee is in BOD and TSS compliance for the quarter and further testing is not required.

   b. If both of the two consecutive Total BOD and TSS Discharge from these two sampling days is greater than the BOD and TSS Discharge Limit, then the following will occur:

      (i) For each Compliance Point sampled, those sample(s) in which the Sample Variance exceeded 0.5, the sample will be retested within three (3) business days, upon becoming aware of the results. The results of the retest will replace the sample retested and Step 3. a. and/or 3. b. will be repeated.

      (ii) If all the Sample Variances are less than 0.5, then the Permittee is in violation of the BOD and TSS Discharge Limits.

B. Equivalent Mass Limitations for IWD-4

In a letter dated July 23, 2014, the Permittee requested that the Metal Finishing Federal Concentration Standards (40 CFR Part 433.17) for metals at the IWD-4 Compliance Point be converted to Equivalent Mass Limitations as allowed by the City Pretreatment Program under Section II.J. The average daily baseline Discharge flow rate used to determine the Equivalent Mass Limitations is 50,000 GPD, originating from the June 2015 to June 2016 Permit cycle.

The average daily Discharge flow rate at the IWD-4 Compliance Point has changed over the past Permit cycle (June 2018 to June 2019). The Permittee reported a 24% decrease from the June 2015 to June 2016 average daily baseline Discharge flow of 50,000 GPD. The decreased wastewater flow was attributed to the Permittee's water conservation efforts with an approximate decrease of 12,000 GPD. The City is required to recalculate the equivalent mass federal Discharge limitations as necessary to reflect changed Discharge flow conditions at the facility, (i.e. reduction in Discharge flow).

However, under Section II.J.3.(c) of the City of Chandler Pretreatment Program, the City may retain the same equivalent mass limits in subsequent Permit terms if the Permittee's actual average daily flow rate was reduced solely as a result of the implementation of water conservation methods and technologies. Therefore, the equivalent mass federal Metal Finishing Discharge limitations for metals at the IWD-4 compliance point were calculated using the average daily baseline Discharge flow rate of 50,000 GPD. The Equivalent Mass Limitations Calculations for the IWD-4 Compliance Point are included in **Attachment C**.

The Permittee's equivalent mass Metal Finishing Discharge Standards at the IWD-4 compliance point will remain the same as in the previously issued Permit.

C. Local Equivalent Mass Limitations for IWD-7

In 2013, the City agreed to increase the Permittee's maximum Discharge flow at the IWD-7 Compliance Point from 1.5 MGD to 2.224 MGD. Although the Permittee's maximum Discharge flow will increase, the Permittee's Local Equivalent Mass Limits constituent Discharge levels will not increase above the July 2013 Discharge levels.

To ensure that the Local Limits constituents will not increase above the July 2013 Discharge levels, the City converted the existing Local Limits concentration Discharge levels to mass. The following calculation was used to convert the existing Local Limit concentration Discharge standards and 1.0 MGD permitted Discharge flow to mass*:

$$(Actual\ flow\ in\ MGD) \times \left(Concentration\ in\ \frac{mg}{L}\right) \times \left(8.34\ \frac{lbs}{gallon}\right) = Discharge\ in\ \frac{lbs}{day}$$

Million Gallons per Day = MGD, (Gallons per Day Conversion Example: 1,000 GPD = 0.001 MGD)

* See **Attachment F** for the complex version of the mass loading equation showing unit reduction.

The mass Local Discharge Limitations included under Part II A.10. of this Permit were calculated using the above method.

The Permittee shall submit daily Discharge flow information for all monitoring events conducted at the IWD-7 compliance point. This daily Discharge flow information shall be included in the self-monitoring reports required by this Permit.

D. Equivalent Mass Limitations for IWD-9

In a letter dated April 1, 2015, the Permittee requested that the Metal Finishing Federal Concentration Standards (40 CFR Part 433.17) for metals at the IWD-9 compliance point be converted to Equivalent Mass Limitations as allowed by the City Pretreatment Program under Section II.J. The average daily baseline flow rate used to determine the Equivalent Mass Limitations is 203,300 GPD, originating from the June 2014 to June 2015 Permit cycle.

The average daily Discharge flow rate at the IWD-9 compliance point has changed over the past Permit cycle (June 2018 to June 2019). The Permittee reported a 9.4% decrease from the June 2014 to June 2015 average daily baseline Discharge flow of 203,300 GPD. The decreased wastewater flow was attributed to the Permittee's water conservation efforts with an approximate decrease of 49,000 GPD. The City is required to recalculate the equivalent mass federal Discharge limitations as necessary to reflect changed Discharge flow conditions at the facility, (i.e. reduction in Discharge flow).

However, under Section II.J.3.(c) of the City of Chandler Pretreatment Program, the City may retain the same equivalent mass limits in subsequent Permit terms if the Permittee's actual average daily flow rate was reduced solely as a result of the implementation of water conservation methods and technologies. Therefore, the equivalent mass federal Metal Finishing Discharge limitations for metals at the IWD-9 compliance point were calculated using the average daily baseline Discharge flow rate of 203,300 GPD. The Equivalent Mass Limitations Calculations for the IWD-9 Compliance Point are included in **Attachment E**.

The Permittee's equivalent mass Metal Finishing Discharge Standards at the IWD-9 compliance point will remain the same as in the previously issued Permit.

E. Total Dissolved Solids Limitations

In the 2020 issued Permit, a Daily Maximum Total Dissolved Solids (TDS) Discharge limitation that is consistent with water reuse may be included.

F. Waiver for Cyanide Self-Monitoring

The Permittee has requested to waive sampling for cyanide at Compliance Points IWD3, IWD4, IWD5, and IWD9. The Permittee has certified that cyanide is not used in any processes that Discharge wastestreams through Compliance Points IWD3, IWD4, IWD5, and IWD9; additionally, the Permittee has certified that cyanide shall not at any time be introduced into these respective wastestreams by establishment of new processes, supplemental processes, or by the modification of current processes. Furthermore, the Permittee has submitted analytical sampling results demonstrating the absence of cyanide in the respective wastestreams that Discharge through Compliance Points IWD3, IWD4, IWD5, and IWD9.

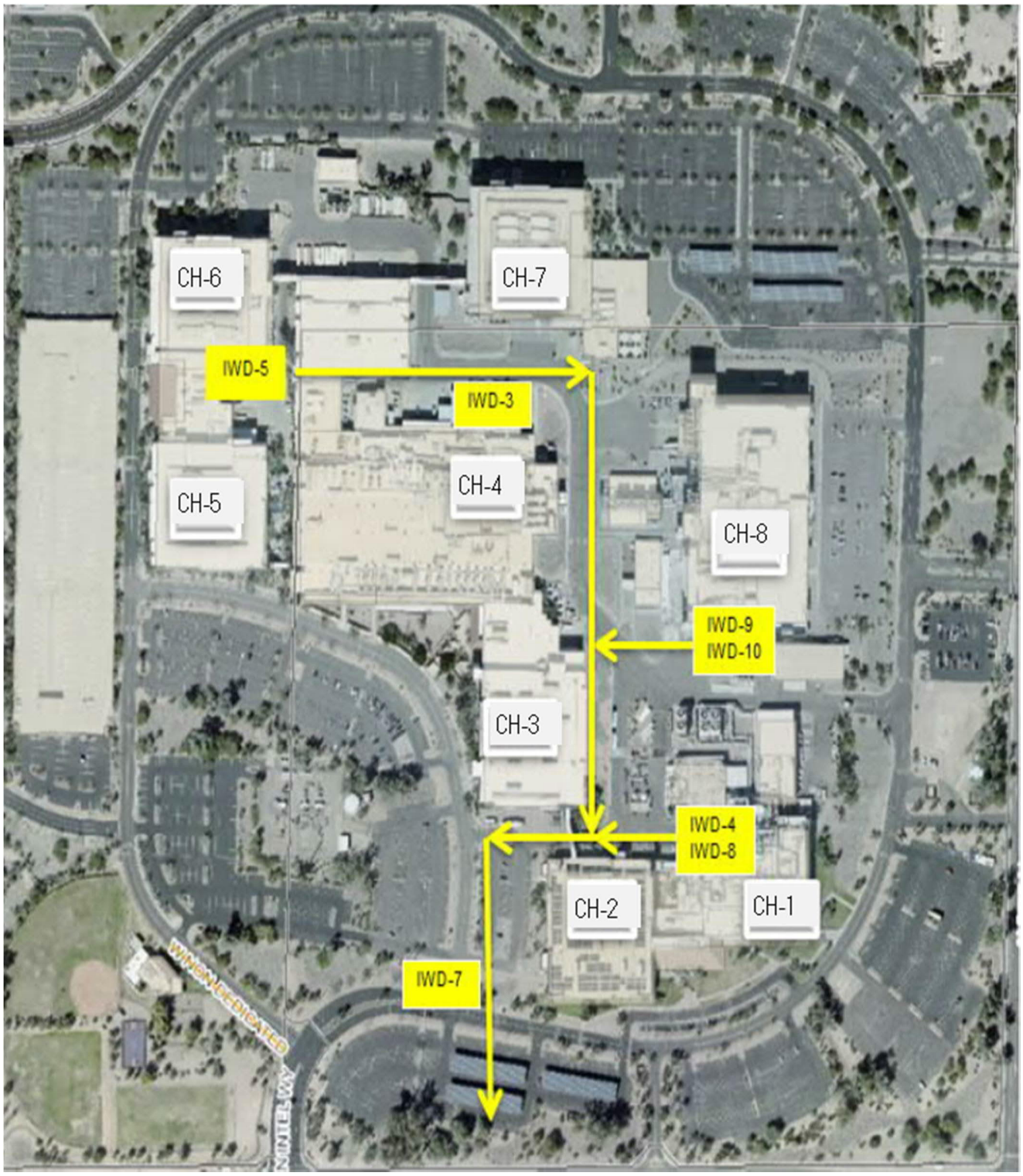
For the duration of this Permit, Self-Monitoring for cyanide is not required at Compliance Points IWD3, IWD4, IWD5, and IWD9.

With each Permit renewal, the Permittee shall submit a request to waive sampling for cyanide with the certification statements indicating that cyanide is not used in any current or future processes that Discharge wastewater through the Compliance Points of concern. In addition, the Permittee shall self-sample and include analytical sampling results for each Compliance Point of concern with each sampling waiver. The analytical sampling results shall demonstrate that cyanide is neither

present nor expected to be present in the Discharge, or cyanide is present only at background levels from intake water and without any increase in the pollutant due to any of the processes that Discharge to each Compliance Point of concern. This self-sampling for cyanide is to demonstrate that the pollutant is not present and the analytical sampling results will not be used in determining compliance. This self-sampling is solely to determine the presence or absence of the cyanide. The sampling shall occur within the 6 (six) months prior to the Permittee submitting the sampling waiver.

ATTACHMENT A

Intel Compliance Sampling Points



ATTACHMENT B

Total Toxic Organics (TTO) List for Metal Finishing

The term Total Toxic Organics (TTO) shall mean the sum of all the quantifiable values apply to the masses or concentrations of each of the following toxic organic compounds, which is found in the discharge at a concentration greater than 0.010 milligrams per liter (mg/L):

1	acenaphthene
2	acrolein
3	acrylonitrile
4	benzene
5	benzidine
6	carbon tetrachloride (tetrachloromethane)
7	chlorobenzene
8	1,2,4-trichlorobenzene
9	hexachlorobenzene
10	1,2,-dichloroethane
11	1,1,1-trichloroethane
12	hexachloroethane
13	1,1-dichloroethane
14	1,1,2-trichloroethane
15	1,1,2,2-tetrachloroethane
16	chloroethane
17	bis (2-chloroethyl) ether
18	2-chloroethyl vinyl ether (mixed)
19	2-chloronaphthalene
20	2,4,6-trichlorophenol
21	parachlorometa cresol
22	chloroform (trichloromethane)
23	2-chlorophenol
24	1,2-dichlorobenzene
25	1,3-dichlorobenzene
26	1,4-dichlorobenzene
27	3,3-dichlorobenzidine
28	1,1-dichloroethylene
29	1,2-trans-dichloroethylene
30	2,4-dichlorophenol
31	1,2-dichloropropane
32	1,3-dichloropropylene (1,3-dichloropropene)
33	2,4-dimethylphenol
34	2,4-dinitrotoluene
35	2,6-dinitrotoluene
36	1,2-diphenylhydrazine
37	ethylbenzene
38	fluoranthene
39	4-chlorophenyl phenyl ether
40	4-bromophenyl phenyl ether
41	bis (2-chloroisopropyl) ether
42	bis (2-chloroethoxy) methane
43	methylene chloride (dichloromethane)
44	methyl chloride (chloromethane)
45	methyl bromide (bromomethane)
46	bromoform (tribromomethane)
47	dichlorobromomethane
48	chlorodibromomethane
49	hexachlorobutadiene
50	hexachlorocyclopentadiene
51	isophorone
52	naphthalene
53	nitrobenzene
54	2-nitrophenol
55	4-nitrophenol
56	2,4-dinitrophenol
57	4,6-dinitro-o-cresol
58	N-nitrosodimethylamine
59	N-nitrosodiphenylamine
60	N-nitrosodi-n-propylamine
61	pentachlorophenol
62	phenol
63	bis (2-ethylhexyl) phthalate
64	butyl benzyl phthalate
65	di-n-butyl phthalate
66	di-n-octyl phthalate
67	diethyl phthalate
68	dimethyl phthalate
69	1,2-benzanthracene (benzo(a)anthracene)
70	3,4-benzopyrene (benzo(a)pyrene)
71	3,4-benzofluoranthene (benzo(b)fluoranthene)
72	11,12-benzofluoranthene (benzo(k)fluoranthene)
73	chrysene
74	acenaphthylene
75	anthracene
76	1,12-benzoperylene (benzo(ghi)perylene)
77	fluorene
78	phenanthrene
79	1,2,5,6-dibenzanthracene (dibenzo(a,h)anthracene)
80	indeno(1,2,3-cd) pyrene (2,3-o-phenlene pyrene)
81	pyrene
82	tetrachloroethylene
83	toluene
84	trichloroethylene
85	vinyl chloride (chloroethylene)
86	aldrin
87	dieldrin
88	chlordane (technical mixture & metabolites)
89	4,4-DDT
90	4,4-DDE (p,p-DDX)
91	4,4-DDD (p,p-TDE)
92	alpha-endosulfan
93	beta-endosulfan
94	endosulfan sulfate
95	endrin
96	endrin aldehyde
97	heptachlor
98	heptachlor epoxide
99	alpha-BHC (BHC-hexachlorocyclohexane)
100	beta-BHC
101	gamma-BHC
102	delta-BHC
103	PCB-1242 (Arochlor 1242)
104	PCB-1254 (Arochlor 1254)
105	PCB-1221 (Arochlor 1221)
106	PCB-1232 (Arochlor 1232)
107	PCB-1248 (Arochlor 1248)
108	PCB-1260 (Arochlor 1260)
109	PCB-1016 (Arochlor 1016)
110	toxaphene
111	2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD)

Source – 40 CFR Part 433.11 (e)

ATTACHMENT C

Equivalent Mass Metals Discharge Limits Calculations for IWD-4 Compliance Point

The steps used to determine the Federal Daily Maximum and Monthly Average discharge limits for IWD-4 follow below to illustrate the calculations of the equivalent mass metals discharge limits calculations for the Permittee.

Step 1: Look-up the Metal Finishing Discharge Concentration Limitations.

Applicable 40 CFR Part 433.17 Metal Finishing Discharge Concentration Limitations (mg/L)

Parameter	Daily Maximum (mg/L)	Monthly Average (mg/L)
Cadmium	0.11	0.07
Chromium	2.77	1.71
Copper	3.38	2.07
Lead	0.69	0.43
Nickel	3.98	2.38
Silver	0.43	0.24
Zinc	2.61	1.48

Step 2: Convert from mg/day to lbs/day.

Calculate the Equivalent Mass limits by multiplying the Permittee's actual average daily flow rate for the baseline year of the Metal Finishing regulated processes from the CH1 facility, by the Metal Finishing concentration-based Daily Maximum and Monthly Average standards, and the unit conversion factor.

The Permittee's actual daily average Discharge flow for the baseline year = 50,000 GPD

Daily Maximum*

$$\textbf{Cadmium Daily Maximum} = \left(0.05\frac{M.gal}{day}\right) \times \left(0.11\frac{mg}{L}\right) \times \left(8.34\frac{lbs}{gal}\right) = 0.0459 \ \frac{lbs}{day}$$

Monthly Average*

$$\textbf{Cadmium Monthly Average} = \left(0.05\frac{M.gal}{day}\right) \times \left(0.07\frac{mg}{L}\right) \times \left(8.34\frac{lbs}{gal}\right) = 0.0292 \ \frac{lbs}{day}$$

*See **Attachment F** for the complex version of the mass loading equation showing unit reduction.

Equivalent Mass Discharge Limit Calculation for the IWD-4 Compliance Point

Wastestreams	GPD	=	MGD
Average Daily Flow Rate (June 2015 to 2016)	**50,000**	=	**0.05**

Applicable 40 CFR Part 433.17 Metal Finishing Discharge Equivalent Mass Limitations

Parameter	Daily Maximum (lbs/day)	Monthly Average (lbs/day)
Cadmium	0.0459	0.0292
Chromium	1.1551	0.7131
Copper	1.4095	0.8632
Lead	0.2877	0.1793
Nickel	1.6597	0.9925
Silver	0.1793	0.1001
Zinc	1.0884	0.6172

ATTACHMENT D

TTO Discharge Limit Combined Wastestream Calculations for IWD-9 Compliance Point

Wastestreams	GPD	=	MGD
Average Daily Metal Finishing Wastestreams	154,141	=	0.154141
Subtotal:	154,141	=	0.154141
Worst-Case Daily Dilute			
RO Cartridge Prefilters Replacement Rinse-Up	210	=	0.000210
Final Filter Replacement Rinse-up	175	=	0.000175
1st Pass RO Cleaning Solution, CIP	699	=	0.000699
2nd Pass RO Cleaning Solution, CIP	699	=	0.000699
1st Pass RO Clean Rinse-Up After CIP	699	=	0.000699
2nd Pass RO Clean Rinse-Up After Cip	699	=	0.000699
1st Pass RO Service Rinse	6,233	=	0.006233
2nd Pass RO Service Rinse	6,233	=	0.006233
Brine Recovery Reverse Osmosis (BRRO)	13,962	=	0.013962
LAKOS Multi-Media Filter (MMF)	140	=	0.000140
OFA Condensate Sump	110	=	0.000110
Subtotal:	29,859	=	0.029859
Total:	184,000	=	0.184000

Combined Wastestream Formula from 40 CFR Part 403.6 (e),

$$TTO = 2.13\frac{mg}{L}\left(\frac{0.1840 - 0.029859}{0.1840}\right) = 1.784\ \frac{mg}{L}$$

Note: The Permittee's CH8 water purification systems generate floor wash-down water from a collection sump that is discharged through the IWD-9 compliance point. The floor wash-down is considered a dilute wastestream when combined with the CH8 Metal Finishing regulated process wastestreams at the IWD-9 compliance point. The floor wash-down water is of an unknown quantity. However, the Permittee has indicated that this floor wash-down will not be included during any compliance monitoring at the IWD-9 compliance point and therefore, the floor wash-down water was not included in the TTO discharge standard calculations included in this section.

ATTACHMENT E

Equivalent Mass Metals Discharge Limits Calculations for the IWD-9 Compliance Point

The steps used to determine the Federal Daily Maximum and Monthly Average Discharge Limits for IWD-9 follow below to illustrate the calculations of the equivalent mass metals discharge limits calculations for the Permittee.

Step 1: Look-up the Metal Finishing Discharge Concentration Limitations.

Applicable 40 CFR Part 433.17 Metal Finishing Discharge Concentration Limitations (mg/L)

Parameter	Daily Maximum (mg/L)	Monthly Average (mg/L)
Cadmium	0.11	0.07
Chromium	2.77	1.71
Copper	3.38	2.07
Lead	0.69	0.43
Nickel	3.98	2.38
Silver	0.43	0.24
Zinc	2.61	1.48

Step 2: Convert from mg/day to lbs/day.

Calculate the Equivalent Mass limits by multiplying the Permittee's actual average daily flow rate for the baseline year of the Metal Finishing regulated processes from the CH8 facility, by the Metal Finishing concentration-based Daily Maximum and Monthly Average standards, and the unit conversion factor.

The Permittee's actual daily average Discharge flow for the baseline year = 203,300 GPD.

Daily Maximum*

$$\textbf{Cadmium Daily Maximum} = \left(0.2033\frac{M.gal}{day}\right) \times \left(0.11\frac{mg}{L}\right) \times \left(8.34\frac{lbs}{gal}\right) = 0.1865 \ \frac{lbs}{day}$$

Monthly Average*

$$\textbf{Cadmium Monthly Average} = \left(0.2033\frac{M.gal}{day}\right) \times \left(0.07\frac{mg}{L}\right) \times \left(8.34\frac{lbs}{gal}\right) = 0.1187 \ \frac{lbs}{day}$$

*See **Attachment F** for the complex version of the mass loading equation showing unit reduction.

Equivalent Mass Discharge Limit Calculation for the IWD-9 Compliance Point

Wastestreams	GPD	=	MGD
Average Daily Flow Rate (June 2014 to 2015)	**203,300**	=	**0.2033**

Applicable 40 CFR Part 433.17 Metal Finishing Discharge Equivalent Mass Limitations

Parameter	Daily Maximum (lbs/day)	Monthly Average (lbs/day)
Cadmium	0.1865	0.1187
Chromium	4.6966	2.8993
Copper	5.7309	3.5097
Lead	1.1699	0.7291
Nickel	6.7482	4.0353
Silver	0.7291	0.4069
Zinc	4.4253	2.5094

ATTACHMENT F

Complex Version of the Mass Loading Mathematical Equation Used to Determine Equivalent Mass Limits

Simplified Version

$$\left(\frac{M.gal}{day}\right) \times \left(\frac{mg}{L}\right) \times \left(8.34 \frac{lbs}{gal}\right) = \frac{lbs}{day}$$

Complex Version and Unit Reduction

$$\left(\frac{M.gal}{day}\right) \times \left(\frac{mg}{L}\right) \times \left[\left(\frac{1{,}000{,}000\ gal}{M.gal}\right) \times \left(\frac{3.785\ L}{gal}\right) \times \left(\frac{lbs}{453{,}592\ mg}\right)\right] = \frac{lbs}{day}$$

Unit reduction of gallons (gal)

$$\left(\frac{M.gal}{day}\right) \times \left(\frac{mg}{L}\right) \times \left[\left(\frac{1{,}000{,}000\ \cancel{gal}}{M.gal}\right) \times \left(\frac{3.785\ L}{\cancel{gal}}\right) \times \left(\frac{lbs}{453{,}592\ mg}\right)\right] = \frac{lbs}{day}$$

Unit reduction of million gallons ($M.gal$)

$$\left(\frac{\cancel{M.gal}}{day}\right) \times \left(\frac{mg}{L}\right) \times \left[\left(\frac{1{,}000{,}000\ \cancel{gal}}{\cancel{M.gal}}\right) \times \left(\frac{3.785\ L}{\cancel{gal}}\right) \times \left(\frac{lbs}{453{,}592\ mg}\right)\right] = \frac{lbs}{day}$$

Unit reduction of liters (L)

$$\left(\frac{\cancel{M.gal}}{day}\right) \times \left(\frac{mg}{\cancel{L}}\right) \times \left[\left(\frac{1{,}000{,}000\ \cancel{gal}}{\cancel{M.gal}}\right) \times \left(\frac{3.785\ \cancel{L}}{\cancel{gal}}\right) \times \left(\frac{lbs}{453{,}592\ mg}\right)\right] = \frac{lbs}{day}$$

Unit reduction of milligrams (mg)

$$\left(\frac{\cancel{M.gal}}{day}\right) \times \left(\frac{\cancel{mg}}{\cancel{L}}\right) \times \left[\left(\frac{1{,}000{,}000\ \cancel{gal}}{\cancel{M.gal}}\right) \times \left(\frac{3.785\ \cancel{L}}{\cancel{gal}}\right) \times \left(\frac{lbs}{453{,}592\ \cancel{mg}}\right)\right] = \frac{lbs}{day}$$

Remaining units (lbs & day)

$$\left(\frac{\cancel{M.gal}}{\boldsymbol{day}}\right) \times \left(\frac{\cancel{mg}}{\cancel{L}}\right) \times \left[\left(\frac{1{,}000{,}000\ \cancel{gal}}{\cancel{M.gal}}\right) \times \left(\frac{3.785\ \cancel{L}}{\cancel{gal}}\right) \times \left(\frac{\boldsymbol{lbs}}{453{,}592\ \cancel{mg}}\right)\right] = \frac{\boldsymbol{lbs}}{\boldsymbol{day}}$$