

Idaho Pollutant Discharge Elimination System

User's Guide to Permitting and Compliance
Volume 3—Non-POTW



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Volume 3—Non-POTW

May 2018



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Abbreviations and Acronyms

§	section (usually a section of federal or state rules or statutes)	NSPS	new source performance standard
BOD	biochemical oxygen demand	POTW	publicly or privately owned treatment works
BOD₅	5-day biochemical oxygen demand	SIC	standard industrial classification
COD	chemical oxygen demand	TBEL	technology-based effluent limit
CFR	code of federal regulations (refers to citations in the federal administrative rules)	TCDD	2,3,7,8-Tetrachlorodibenzo-P-Dioxin
CWA	Clean Water Act	TIE	toxicity identification evaluation
DEQ	Idaho Department of Environmental Quality	TOC	total organic carbon
DMR	discharge monitoring report	TRC	total residual chlorine
ELG	effluent limit guideline	TRE	toxicity reduction evaluation
EPA	United States Environmental Protection Agency	TSS	total suspended solids
gpd	gallons per day	WQBEL	water quality-based effluent limit
I&I	inflow and infiltration	WQS	Idaho water quality standards (IDAPA 58.01.02)
IDAPA	Idaho Administrative Procedures Act; refers to citations of Idaho administrative rules		
IPDES	Idaho Pollutant Discharge Elimination System (IDAPA 58.01.25)		
NAICS	North American industrial classification system		
NOI	notice of intent		
NPDES	National Pollutant Discharge Elimination System		

1 Introduction

The Idaho Department of Environmental Quality's (DEQ's) Idaho Pollutant Discharge Elimination System (IPDES) Program developed permitting and compliance guides to help the regulated community and other public users understand the IPDES permitting and compliance process and the IPDES statutory and regulatory requirements for publicly and privately owned treatment works (POTWs), pretreatment, non-POTW (industrial), storm water, sewage sludge (biosolids), and facilities covered by IPDES general permits. The *Idaho Pollutant Discharge Elimination System User's Guide to Permitting and Compliance Volume 3—Non-POTW* (User's Guide Volume 3) provides assistance specifically to Idaho's non-POTW facilities and citizens on complying with IPDES industrial permits, DEQ administrative rules, Idaho Code, and the Clean Water Act (CWA), which govern the discharge of pollutants to waters of the United States in Idaho.

1.1 Purpose and Need

This guide serves as a reference for successfully navigating the IPDES permitting and compliance process as it pertains to non-POTW (industrial) facilities. Additionally, this guide is designed to help the regulated community (applicants and permittees) and other users:

- Understand industrial-specific IPDES permit application processes and requirements
- Understand industrial-specific IPDES permit development and permit conditions
- Comply with all processes, protocols, and requirements of industrial-specific IPDES permits

1.2 Relationship to Existing Rules and Guidance

User's Guide Volume 3 supports implementation of the CWA, Idaho Code administrative rules, federal regulations, state and national policies, guidance, and standards and complies with Idaho's "Water Quality Standards" (IDAPA 58.01.02), "Rules for Ore Processing by Cyanidation" (IDAPA 58.01.13), "Wastewater Rules" (IDAPA 58.01.16), "Recycled Water Rules" (IDAPA 58.01.17), and "Rules Regulating the IPDES Program" (IDAPA 58.01.25).

Volume 3 supplements the *Idaho Pollutant Discharge Elimination System User's Guide to Permitting and Compliance Volume 1—General Information* (User's Guide Volume 1) (DEQ 2017a) and addresses non-POTW-specific topics and circumstances that are not described in Volume 1 or other IPDES guidance.

Some sections of this guide are newly developed to address rules, regulations, and conditions specific to Idaho, while other sections reference or adapt numerous existing state and US Environmental Protection Agency (EPA) guidance documents, as appropriate.

While this guide provides direction in many cases, DEQ may have to adjust permit-specific conditions to address site-specific concerns and conditions. This guide does not replace, supplant, or change any requirements under state or federal rules and regulations but does identify and reference relevant regulations, policy, and other guidance documents. A detailed

discussion about the CWA, federal code, and Idaho Code and administrative rules that support the IPDES Program is included in the User's Guide Volume 1, section 2 (DEQ 2017a).

1.2.1 Clean Water Act Background

The Federal Water Pollution Control Act, or CWA, is the primary US law addressing pollutants in receiving waters (e.g., streams, rivers, lakes, and reservoirs). The CWA was originally enacted in 1948 and was revised by amendments in 1972 (P.L. 92-500), 1977 (P.L. 95-217), 1981 (P.L. 97-117), and 1987 (P.L. 100-4). The CWA requires controls on discharges to meet the statutory goal of eliminating the discharge of pollutants under the National Pollutant Discharge Elimination System (NPDES) permit program.

1.2.2 Rules Regulating the IPDES Program

IDAPA 58.01.25 establishes the procedures and requirements for issuing and maintaining permits for facilities or activities required by Idaho Code and the CWA to obtain authorization to discharge pollutants to waters of the United States. These permits are referred to in these rules and guidance as “IPDES permits” or “permits.”

1.2.3 Idaho Water Quality Standards

A water quality standard **defines is comprised of** the water quality goals for a water body, **the criteria necessary to achieve those goals, and an antidegradation requirement**. The federal rules regulating water quality standards (40 CFR 131) describe state requirements and procedures for developing standards and EPA procedures for reviewing and, where appropriate, promulgating standards. IDAPA 58.01.02 was developed according to these federal requirements. Water quality-based effluent limits (WQBELs) in IPDES permits are a mechanism to achieve and maintain water quality standards in Idaho's receiving waters.

1.3 Legislative and Regulatory Citations

In this guide, the following conventions are used to cite legislation and regulations:

- Idaho Code—Title of the code follow by the code citation: “Approval of State NPDES Program” (Idaho Code §39-175C). After initial use, the code is then referred to by the citation (e.g., Idaho Code §39-175C).
- Idaho Administrative Rules—Title of the rule is followed by the rule citation: “Rules Regulating the Idaho Pollutant Discharge Elimination System Program” (IDAPA 58.01.25). After initial use, the rule is then referred to by the rule citation (e.g., IDAPA 58.01.25).
- Code of Federal Regulations—Initial and subsequent references to CFRs use the regulation citation (e.g., 40 CFR 136).
- US Code—Initial and subsequent references to US code use the code citation (e.g., 16 U.S.C. §1531 et seq. or 33 U.S.C. §§1251–1387).
- Clean Water Act (CWA)—Title of the act is followed by the act citation: Clean Water Act section 402 (e.g., CWA §402). After initial use, the act is then referred to by the act citation (e.g., CWA §402).

Most regulatory citations in this guide are from IDAPA 58.01.25 and 40 CFR. Other rules and regulations are explicitly referenced in full citation when used for the first time in this guide. Applicable IDAPA and CFR references are included as endnotes after the appendices.

1.4 Time Computation¹

References to days represent calendar days, unless otherwise specified (e.g., business days). In computing any period of time scheduled to begin after or before the occurrence of an activity or event, the date of the activity or event is not included. The last day of the period is included, unless it is a Saturday, Sunday, or legal holiday, in which case the period runs until the end of the next day (which is not a Saturday, Sunday, or holiday). When a party or interested person is served by mail, 3 days are added to the prescribed time.

1.5 Hyperlinks

Websites referenced in this guide provide supplementary information and appear in blue italics so the material can be accessed in printed and electronic versions. In the electronic version, the website address is hyperlinked to the site. Correct website addresses and hyperlinks are provided; however, these references may change or become outdated after publication.

2 Defining Non-POTW Facilities

The term non-POTW is used interchangeably with industrial and refers to categories of new or existing direct² discharges of process or nonprocess water from manufacturing, commercial, mining (not including small suction dredge), silvicultural activities³, or drinking water treatment operations (public and private). In identifying the applicant, the terms facility, plant, activity, or operation are used interchangeably. The application content required in the IPDES E-Permitting System is adapted from EPA Forms 2C, 2D, 2E, and Form 1.

This guide applies to industrial facilities seeking coverage under an **individual permit only**. Facilities that are covered under a general permit (e.g., drinking water treatment, industrial storm water) are addressed in other volumes of the User's Guide to Permitting and Compliance (e.g., DEQ 2017a).

3 Application Content

Industrial facilities that are proposed or existing direct dischargers of process or nonprocess water will complete and submit an individual industrial application in the IPDES E-Permitting System. If an industrial facility does not have internet access, then they must contact DEQ to apply for a waiver from electronic reporting. **Applicants, and should also** request hard copies of all pertinent application forms and instructions well in advance of the minimum time required to submit an application.

Industrial facilities must provide general applicant information identified in User's Guide Volume 1, section 4.2 (DEQ 2017a), which is required for all individual discharges to surface water. This information is required in the IPDES E-Permitting System as:

- Operator and Facility Registration ~~and Information, which includes~~
 - Operator and owner **contact** information
 - Facility mailing, physical, and billing ~~addresses and locations~~ **contact information**
- **Operator and Facility Information**
 - **Type of facility**
 - Contractor information (if applicable)
 - Standard Industrial Classification (SIC) or North American Industrial Classification System (NAICS) applicable codes
 - Existing environmental permits associated with the facility
 - Associated NPDES/IPDES information
 - Federal facility designation
 - Nature of the business
 - Topographic map

In addition to information identified in User's Guide Volume 1, section 4.2 (DEQ 2017a), the following sections identify information that industrial applicants are required to provide depending on whether they are new or existing **dischargers**⁴ and their wastewater discharge characteristics. Details on the information required in each part are available in the IPDES E-Permitting System application instructions.

The headings below reflect the industrial permit application sections and instructions in the IPDES E-Permitting System.

3.1 Existing Dischargers of Process Wastewater

All Operators (applicants) of existing manufacturing, commercial, mining (not including small suction dredge), silvicultural activities, or drinking water treatment operations (public and private) that discharge process wastewater⁵ will complete Sections I-IX of the application. The following sections outline the information necessary to complete the application process and are adapted from EPA Form 2C.

3.1.1 Part I. Outfall Locations

Applicants identify the outfall number and specific location using the interactive map or by entering the known coordinates in decimal degrees to six decimal places. If applicants know the coordinates in another format, they must first convert them to decimal degrees.

Applicants must also identify the name of the receiving water to which they discharge. For example, if the discharge is into a canal that flows into an unnamed tributary, which in turn flows into a named river, provide the name or description (if no name is available) of the canal, tributary, and the river. For assistance identifying the receiving waters, use DEQ's **most recent** online **Integrated Report** interactive map **link on the application** or contact IPDES staff.

3.1.2 Part II. Flows, Sources of Pollution, and Treatment Technologies

Part II.A requires applicants to upload a line drawing showing the water flow through the facility. The line drawing shows the route taken by water in the facility from intake to discharge. **Include any internal monitoring points, if applicable, to show which internal waste streams are individually monitored.** Show all operations contributing wastewater, including process and production areas, sanitary flows, cooling water, and storm water runoff. Similar operations may be grouped together into a single unit and labeled to correspond to the more detailed listing in the outfall description table. If a planned facility upgrade or significant production change is anticipated in the permit cycle, include the flows associated with the upgrade or production. The water balance **should must** show average flows using actual measurements when available; **alternatively, or when these actual measurements are not available,** a best estimate **may be acceptable.** Show all significant losses of water to products, atmosphere, and discharge. If water balance cannot be determined, provide a photo of all sources of water and any collection or treatment measures.

Part II.B requires applicants to list operations that contribute flows to the waste stream and the treatment process applied to each. Operations may be described in general terms and must correspond to the operations shown on the line drawing. If no data are available, estimate the flow contributed by each operation. Include planned treatment upgrades or production changes during the permit cycle, and identify the operation and anticipated contributing flow or process estimates. For storm water discharges, the average flow may be estimated, but the rainfall event upon which the estimate is based and the method used must be indicated. For each treatment type, indicate its size, flow rate, and retention time, and describe the ultimate disposal of any solid or liquid wastes not discharged. List treatment units in order and identified with the treatment code from Table 1 of the application instructions. Enter either the treatment description, a treatment code from the table, or both if possible.

Table 1. Treatment process codes from the application.

Physical Treatment Processes			
1-A	Ammonia Stripping	1-M	Grit Removal
1-B	Dialysis	1-N	Microstaining
1-C	Diatomaceous Earth Filtration	1-O	Mixing
1-D	Distillation	1-P	Moving Bed Filters
1-E	Electrodialysis	1-Q	Multimedia Filtration
1-F	Evaporation	1-R	Rapid Sand Filtration
1-G	Flocculation	1-S	Reverse Osmosis (<i>Hyperfiltration</i>)
1-H	Flotation	1-T	Screening
1-I	Foam Fractionation	1-U	Sedimentation (<i>Settling</i>)
1-J	Freezing	1-V	Slow Sand Filtration
1-K	Gas-Phase Separation	1-W	Solvent Extraction
1-L	Grinding (<i>Comminutors</i>)	1-X	Sorption
Chemical Treatment Processes			
2-A	Carbon Adsorption	2-G	Disinfection (<i>Ozone</i>)
2-B	Chemical Oxidation	2-H	Disinfection (<i>Other</i>)
2-C	Chemical Precipitation	2-I	Electrochemical Treatment
2-D	Coagulation	2-J	Ion Exchange
2-E	Dechlorination	2-K	Neutralization
2-F	Disinfection (<i>Chlorine</i>)	2-L	Reduction
Biological Treatment Processes			
3-A	Activated Sludge	3-E	Pre-Aeration
3-B	Aerated Lagoons	3-F	Spray Irrigation/Land Application
3-C	Anaerobic Treatment	3-G	Stabilization Ponds
3-D	Nitrification-Denitrification	3-H	Trickling Filtration
Other Processes			
4-A	Discharge to Surface Water	4-C	Reuse/Recycle of Treated Effluent
4-B	Ocean Discharge Through Outfall	4-D	Underground Injection
Sludge Treatment And Disposal Processes			
5-A	Aerobic Digestion	5-M	Heat Drying
5-B	Anaerobic Digestion	5-N	Heat Treatment
5-C	Belt Filtration	5-O	Incineration
5-D	Centrifugation	5-P	Land Application
5-E	Chemical Conditioning	5-Q	Landfill
5-F	Chlorine Treatment	5-R	Pressure Filtration
5-G	Composting	5-S	Pyrolysis
5-H	Drying Beds	5-T	Sludge Lagoons
5-I	Elutriation	5-U	Vacuum Filtration
5-J	Flotation Thickening	5-V	Vibration
5-K	Freezing	5-W	Wet Oxidation
5-L	Gravity Thickening		

Part II.C applies if any discharges described in the outfall description table (Part I) are intermittent or seasonal. A discharge is intermittent unless it occurs without interruption during the operating hours of the facility, except infrequent shutdowns for maintenance, process changes, or other similar operations. This also excludes flows from storm runoff, leaks, or spills. A discharge is seasonal if it occurs only during certain parts of the year. Base answers on actual data whenever available or a best estimate. The long term average for flow rate and total flow are an average of all daily values measured during days when discharge occurred. The maximum daily is the highest daily value for flow rate and total volume during discharge.

3.1.3 Part III. Production

Part III is required if any effluent limit guideline (ELG) applies to the facility and expresses limits in term of production or another measure of operation. All ELGs promulgated by EPA appear in the Federal Register and are published annually in 40 CFR [Chapter 1](#) Subchapter N and incorporated by reference at IDAPA 58.01.25.003.02.y. If an applicable ELG has been promulgated, even if it is contested in court, and applies, the applicant must complete the average daily production in the application table.

An example is a facility for which 40 CFR 405— Dairy Products Processing applies. Applicants are required to submit information on the operation, product, or material limited and the average daily production quantity and unit of measure from the ELG. From 40 CFR 405 Subpart L, Facility 'X' calculates their limit based on the dry whey composition (fats, proteins, and carbohydrates) multiplied by specific conversion factors to arrive at a whey operation limited to 500,850 lb/day for the 5-day biochemical oxygen demand (BOD₅).

If more than one ELG applies, all average daily production values (quantity per day, units of measure, and operation/product/material/ELG and subparts) must be completed for affected outfalls.

3.1.4 Part IV. Improvements

Part IV is completed when a federal, state, or local authority is requiring the facility to meet an implementation schedule for improvement that may affect the discharges in the application. Examples of improvement [directives](#) can include, but are not limited to:

- Permit conditions
- Administrative or enforcement orders
- Enforcement compliance schedule letters, stipulations, or court orders
- Grant or loan conditions

Applicants must also identify the condition/agreement, a brief description of the project, and the required and projected final compliance dates identified in the schedule.

[Optionally-Additionally](#), applicants may upload documents describing additional environmental projects that may affect the discharge that are underway or planned for the future, including:

- Details on the project
- Project status as underway or planned
- Actual or planned schedules for construction

3.1.5 Part V. Intake and Effluent Characteristics

Part V requires applicants to submit monitoring results. The application parts and pollutant groups that must be reported are based on the:

- Size of the business,
- Identified primary industry, and
- Nature or presence of the pollutants in the discharge.

Applicants first determine if they qualify for a small business exemption. If they meet the definition of a small business⁶, they are exempt from sampling and reporting organic toxic pollutants GC/MS groups listed in Group C of the application (Table 2). If they do not qualify, they must identify the top primary industry category that applies and submit analysis for the GC/MS fraction categories of organic toxic pollutants in Group C that apply to their industry identified in Table 2.

- Group A pollutants are standard pollutants for which submittals are required from all industrial facilities, regardless of size, industry type, or discharge. For each outfall, at least one analysis for each parameter is required; however, if more are conducted, the average of the analyses must be reported, unless waived by DEQ.
- Group B pollutants are ~~pollutants that applicants select based on whether they are~~ identified as believed present or believed absent in the discharge based on your knowledge of the facility processes or any pollutant that has a direct or indirect limit expressed in the applicable ELGs. When pollutants are believed present in the discharge, the effluent concentration and mass must be reported for at least one analysis for that pollutant. Collect composite sample types for all pollutants except total residual chlorine (TRC), oil and grease, and *E.coli* or fecal coliform, which must be collected as grab samples. Pollutants that are believed absent require no testing. DEQ may consider a request waiving the requirement to test for pollutants for an industrial category or subcategory.
- Group C pollutants are separated into the following categories, which require applicants to select testing required, believed present, or believed absent:
 - Metals, cyanide, and total phenols
 - 2,3,7,8-Tetrachlorodibenzo-P-Dioxin (TCDD)
 - GC/MS Fraction – Volatile Organic Compounds
 - GC/MS Fraction – Acid-Extractable Compound
 - GC/MS Fraction – Base-Neutral Compounds
 - GC/MS Fraction – Pesticides
- Group D pollutants are toxic or hazardous substances that must be reported if applicants have reason to believe they will be present in the discharge and are listed in Table 3 of the application instructions. Identify the pollutant, its source, the reason it is believed present, and any available analytical data. Applicants may request an exemption from EPA for pollutants listed in Table 4 of the application instructions if they meet certain requirements. This does not exempt the applicant from any reporting required for Group A-C pollutants.

Table 2. Testing requirements for organic toxic pollutants industry category Pollutants groups.

Group A Pollutants	
Biological Oxygen Demand (BOD)	Ammonia (as N)
Chemical Oxygen Demand (COD)	Temperature (Winter)
Total Organic Carbon (TOC)	Temperature (Summer)
Total Suspended Solids (TSS)	pH
Flow	
Group B Pollutants	
Bromide	Sulfate (SO ₄)
Total Residual Chlorine (TRC)	Sulfide (as S)
Color	Sulfite (as SO ₃)
Escherichia coli (E. coli)	Surfactants
Fluoride	Aluminum, total
Nitrate-Nitrite (as N)	Barium, total
Nitrogen, total organic*	Boron, total
Oil and grease	Cobalt, total
Phosphorus (as P), total	Iron, total
Radioactivity	Magnesium, total
Alpha, total	Molybdenum, total
Beta, total	Manganese, total
Radium, total	Tin, total
Radium 226, total	Titanium, total
Group C Pollutants	
<i>Metals, Cyanide, Phenols, and Dioxin</i>	
Antimony, total	Nickel, total
Arsenic, total	Selenium, total
Beryllium, total	Silver, total
Cadmium, total	Thallium, total
Chromium, total	Zinc, total
Copper, total	Cyanide, total
Lead, total	Phenols, total
Mercury, total	2,3,7,8-Tetrachlorodibenzo-P-Dioxin
<i>GC/MS Volatile Compounds</i>	
1,1,1-Trichloroethane	Chlorobenzene
1,1,2,2-Tetrachloroethane	Chlorodibromomethane
1,1,2-Trichloroethane	Chloroethane
1,1-Dichloroethane	Chloroform
1,1-Dichloro-ethylene*	Dichlorobromomethane
1,2-Dichloroethane	Dichloro-difluoromethane*
1,2-Dichloropropane	Ethylbenzene
1,2-Trans-dichloroethylene	Methyl bromide
1,3-Dichloropropylene	Methyl chloride
2-Chloroethylvinyl ether	Methylene chloride*
Acrolein	Tetrachloroethylene

Acrylonitrile	Toluene
Benzene	Trichloroethylene
Bis-chloro-methyl-ether*	Trichlorofluoromethane*
Bromoform	Vinyl chloride
Carbon tetrachloride	
<i>GC/MS Acid Compounds</i>	
2,4,6-Trichlorophenol	4,6-Dinitro-o-cresol
2,4-Dichlorophenol	4-Nitrophenol
2,4-Dimethylphenol	P-chloro-m-cresol
2,4-Dinitro-phenol	Pentachlorophenol
2-Chlorophenol	Phenol
2-Nitrophenol	
<i>GC/MS Base-Neutral Compounds</i>	
1,2,4-Trichlorobenzene	Bis (2-ethylhexyl) phthalate
1,2-Dichlorobenzene	Butyl benzyl phthalate
1,2-Diphenylhydrazine	Chrysene
1,3-Dichlorobenzene	Dibenzo (a,h) anthracene
1,4-Dichlorobenzene	Diethyl phthalate
2,4-Dinitrotoluene	Dimethyl phthalate
2,6-Dinitrotoluene	Di-N-butyl phthalate
2-Chloronaphthalene	Di-N-octyl phthalate
3,3-Dichlorobenzidine	Fluoranthene
3,4-Benzofluoranthene	Fluorene
4-Bromophenyl phenyl ether	Hexachlorobenzene
4-Chlorophenyl phenyl ether	Hexachlorobutadiene
Acenaphthene	Hexachlorocyclopentadiene
Acenaphthylene	Hexachloroethane
Anthracene	Indeno (1,2,3-cd) pyrene
Benzidine	Isophorone
Benzo (a) anthracene	Napthalene
Benzo (a) pyrene	Nitrobenzene
Benzo (ghi) perylene	N-nitro-sodimethylamine
Benzo (k) fluoranthene	N-nitrosodi-N-propylamine
Bis (2-chloroethoxy) methane	N-nitro-sodiphenylamine
Bis (2-chloroethyl) ether	Phenanthrene
Bis (2-Chloroisopropyl) Ether	Pyrene
<i>GC/MS Pesticides</i>	
4,4'-DDD	Endrin aldehyde
4,4'-DDE	Gamma-BHC
4,4'-DDT	Heptachlor
Aldrin	Heptachlor epoxide
Alpha-BHC	PCB-1016
Alpha-endosulfan	PCB-1221
Beta-BHC	PCB-1232

Beta-endosulfan	PCB-1242
Chlordane	PCB-1248
Delta-BHC	PCB-1254
Dieldrin	PCB-1260
Endosulfan sulfate	Toxaphene
Endrin	

*- These pollutants are only available on the existing process wastewater discharge applications.

Table 3. Toxic pollutant and hazardous substances required to be reported if expected to be present.

Toxic Pollutant		
Hazardous Substances		
Asbestos		
Acetaldehyde	Dimethyl amine Dinitrobenzene	Naled
Allyl alcohol	Diethyl amine	Napthenic acid
Allyl chloride	Diquat	Nitrotoluene
Amyl acetate	Disulfoton Diuron	Parathion
Aniline	Diquat	Phenolsulfonate
Benzonitrile	Epichlorohydrin	Phosgene
Benzyl chloride	Ethion	Propargite
Butyl acetate	Ethylene diamine	Propylene oxide
Butylamine	Ethylene dibromide	Pyrethrins
Captan	Formaldehyde	Quinoline
Carbaryl	Furfural	Resorcinol
Carbofuran	Guthion	Strontium
Carbon disulfide	Isoprene	Strychnine
Chlorpyrifos	Isopropanolamine	Styrene
Coumaphos	Kelthane	2,4,5-T (2,4,5-Trichlorophenoxyacetic acid) TDE (Tetrachlorodiphenyl ethane)
Cresol	Kepone	2,4,5-TP [2-(2,4,5-Trichlorophenoxy) propanoic acid]
Crotonaldehyde	Malathion	Trichlorofon
Cyclohexane	Mercaptodimethur	Triethanolamine
2,4-D (2,4-Dichlorophenoxyacetic acid)	Methoxychlor	Triethylamine
Diazinon	Methyl mercaptan	Trimethylamine
Dicamba	Methyl methacrylate	Uranium
Dicamba	Methyl parathion	Vanadium
Dichlone	Mevinphos	Vinyl acetate
2,2-Dichloropropionic acid	Mexacarbate	Xylene
Dichlorvos	Monoethyl amine	Xylenol
Diethyl amine	Monomethyl amine	Zirconium

Table 4. Hazardous substances.

1. Acetaldehyde	74. Carbaryl	145. Formaldehyde
2. Acetic acid	75. Carbofuran	146. Formic acid
3. Acetic anhydride	76. Carbon disulfide	147. Fumaric acid
4. Acetone cyanohydrin	77. Carbon tetrachloride	148. Furfural
5. Acetyl bromide	78. Chlordane	149. Guthion
6. Acetyl chloride	79. Chlorine	150. Heptachlor
7. Acrolein	80. Chlorobenzene	151. Hexachlorocyclopentadiene
8. Acrylonitrile	81. Chloroform	152. Hydrochloric acid
9. Adipic acid	82. Chloropyrifos	153. Hydrofluoric acid
10. Aldrin	83. Chlorosulfonic acid	154. Hydrogen cyanide
11. Allyl alcohol	84. Chromic acetate	155. Hydrogen sulfide
12. Allyl chloride	85. Chromic acid	156. Isoprene
13. Aluminum sulfate	86. Chromic sulfate	157. Isopropanolamine dodecylbenzenesulfonate
14. Ammonia	87. Chromous chloride	
15. Ammonium acetate	88. Cobaltous bromide	158. Kelthane
16. Ammonium benzoate	89. Cobaltous formate	159. Kepone
17. Ammonium bicarbonate	90. Cobaltous sulfamate	160. Lead acetate
18. Ammonium bichromate	91. Coumaphos	161. Lead arsenate
19. Ammonium bifluoride	92. Cresol	162. Lead chloride
20. Ammonium bisulfite	93. Crotonaldehyde	163. Lead fluoborate
21. Ammonium carbamate	94. Cupric acetate	164. Lead flourite
22. Ammonium carbonate	95. Cupric acetoarsenite	165. Lead iodide
23. Ammonium chloride	96. Cupric chloride	166. Lead nitrate
24. Ammonium chromate	97. Cupric nitrate	167. Lead stearate
25. Ammonium citrate	98. Cupric oxalate	168. Lead sulfate
26. Ammonium fluoroborate	99. Cupric sulfate	169. Lead sulfide
27. Ammonium fluoride	100. Cupric sulfate ammoniated	170. Lead thiocyanate
28. Ammonium hydroxide	101. Cupric tartrate	171. Lindane
29. Ammonium oxalate	102. Cyanogen chloride	172. Lithium chromate
30. Ammonium silicofluoride	103. Cyclohexane	173. Malathion
31. Ammonium sulfamate	104. 2,4-D acid (2,4- Dichlorophenoxyacetic acid)	174. Maleic acid
32. Ammonium sulfide		175. Maleic anhydride
33. Ammonium sulfite	105. 2,4-D esters (2,4- Dichlorophenoxyacetic acid esters)	176. Mercaptodimethur
34. Ammonium tartrate		177. Mercuric cyanide
35. Ammonium thiocyanate	106. DDT	178. Mercuric nitrate
36. Ammonium thiosulfate	107. Diazinon	179. Mercuric sulfate
37. Amyl acetate	108. Dicamba	180. Mercuric thiocyanate
38. Aniline	109. Dichlobenil	181. Mercurous nitrate
39. Antimony pentachloride	110. Dichlone	182. Methoxychlor
40. Antimony potassium tartrate	111. Dichlorobenzene	183. Methyl mercaptan
41. Antimony tribromide	112. Dichloropropane	184. Methyl methacrylate
42. Antimony trichloride	113. Dichloropropene	185. Methyl parathion

43. Antimony trifluoride	114. Dichloropropene-dichloropropane mix	186. Mevinphos
44. Antimony trioxide	115. 2,2-Dichloropropionic acid	187. Mexacarbate
45. Arsenic disulfide	116. Dichlorvos	188. Monoethylamine
46. Arsenic pentoxide	117. Dieldrin	189. Monomethylamine
47. Arsenic trichloride	118. Diethylamine	190. Naled
48. Arsenic trioxide	119. Dimethylamine	191. Naphthalene
49. Arsenic trisulfide	120. Dinitrobenzene	192. Naphthenic acid
50. Barium cyanide	121. Dinitrophenol	193. Nickel ammonium sulfate
51. Benzene	122. Dinitrotoluene	194. Nickel chloride
52. Benzoic acid	123. Diquat	195. Nickel hydroxide
53. Benzotrile	124. Disulfoton	196. Nickel nitrate
54. Benzoyl chloride	125. Diuron	197. Nickel sulfate
55. Benzyl chloride	126. Dodecylbenzenesulfonic acid	198. Nitric acid
56. Beryllium chloride	127. Endosulfan	199. Nitrobenzene
57. Beryllium fluoride	128. Endrin	200. Nitrogen dioxide
58. Beryllium nitrate	129. Epichlorohydrin	201. Nitrophenol
59. Butylacetate	130. Ethion	202. Nitrotoluene
60. n-Butylphthalate	131. Ethylbenzene	203. Paraformaldehyde
61. Butylamine	132. Ethylenediamine	204. Parathion
62. Butyric acid	133. Ethylene dibromide	205. Pentachlorophenol
63. Cadmium acetate	134. Ethylene dichloride	206. Phenol
64. Cadmium bromide	135. Ethylene diaminetetracetic acid (EDTA)	207. Phosgene
65. Cadmium chloride	136. Ferric ammonium citrate	208. Phosphoric acid
66. Calcium arsenate	137. Ferric ammonium oxalate	209. Phosphorus
67. Calcium arsenite	138. Ferric chloride	210. Phosphorus oxychloride
68. Calcium carbide	139. Ferric fluoride	211. Phosphorus pentasulfide
69. Calcium chromate	140. Ferric nitrate	212. Phosphorus trichloride
70. Calcium cyanide	141. Ferric sulfate	213. Polychlorinated biphenyls (PCB)
71. Calcium dodecylbenzenesulfonate	142. Ferrous ammonium sulfate	214. Potassium arsenate
72. Calcium hypochlorite	143. Ferrous chloride	215. Potassium arsenite
73. Captan	144. Ferrous sulfate	216. Potassium bichromate
217. Potassium chromate	247. Sodium selenite	270. Trimethylamine
218. Potassium cyanide	248. Strontium chromate	271. Uranyl acetate
219. Potassium hydroxide	249. Strychnine	272. Uranyl nitrate
220. Potassium permanganate	250. Styrene	273. Vanadium penoxide
221. Propargite	251. Sulfuric acid	274. Vanadyl sulfate
222. Propionic acid	252. Sulfur monochloride	275. Vinyl acetate
223. Propionic anhydride	253. 2,4,5-T acid (2,4,5-Trichlorophenoxyacetic acid)	276. Vinylidene chloride
224. Propylene oxide		277. Xylene

225. Pyrethrins	254. 2,4,5-T amines (2,4,5-Trichlorophenoxyacetic acid amines)	278. Xylenol
226. Quinoline		279. Zinc acetate
227. Resorcinol	255. 2,4,5-T esters (2,4,5-Trichlorophenoxy acetic acid esters)	280. Zinc ammonium chloride
228. Selenium oxide		281. Zinc borate
229. Silver nitrate	256. 2,4,5-T salts (2,4,5-Trichlorophenoxyacetic acid salts)	282. Zinc bromide
230. Sodium		283. Zinc carbonate
231. Sodium arsenate	257. 2,4,5-TP acid (2,4,5-Trichlorophenoxypropanoic acid)	284. Zinc chloride
232. Sodium arsenite		285. Zinc cyanide
233. Sodium bichromate	258. 2,4,5-TP acid esters (2,4,5-Trichlorophenoxy propanoic acid esters)	286. Zinc fluoride
234. Sodium bifluoride		287. Zinc formate
235. Sodium bisulfite	259. TDE (Tetrachlorodiphenyl ethane)	288. Zinc hydrosulfite
236. Sodium chromate	260. Tetraethyl lead	289. Zinc nitrate
237. Sodium cyanide	261. Tetraethyl pyrophosphate	290. Zinc phenolsulfonate
238. Sodium dodecylbenzenesulfonate	262. Thallium sulfate	291. Zinc phosphide
239. Sodium fluoride	263. Toluene	292. Zinc silicofluoride
240. Sodium hydrosulfide	264. Toxaphene	293. Zinc sulfate
241. Sodium hydroxide	265. Trichlorofon	294. Zirconium nitrate
242. Sodium hypochlorite	266. Trichloroethylene	295. Zirconium potassium flouride
243. Sodium methylate	267. Trichlorophenol	296. Zirconium sulfate
244. Sodium nitrite	268. Triethanolamine dodecylbenzenesulfonate	297. Zirconium tetrachloride
245. Sodium phosphate (dibasic)		
246. Sodium phosphate (tribasic)	269. Triethylamine	

3.1.6 Part VI. Potential Discharges Not Covered by Analysis

Part VI applies to the current use or manufacture of a substance or component of a substance listed in Group C as an intermediate or final product or byproduct. Applicants may not claim this information as confidential⁴; however, the use or production of the pollutants or listed amounts does not have to be distinguished. DEQ may waive or modify the requirement if the applicant demonstrates that it would be unduly burdensome to identify each toxic pollutant, and DEQ has adequate information to issue the permit.

3.1.7 Part VII. Biological Toxicity Testing Data

When applicants have knowledge or a reason to believe that any biological test for acute or chronic whole effluent toxicity (WET) has been performed on either the discharge or on receiving waters in relation to the discharge in the past 3 years, they must identify the tests and their purposes. DEQ may ask applicants to provide additional details or copies of reports during application **completeness** review **(DEQ 2017a)**.

3.1.8 Part VIII. Contract Analysis Information

Applicants complete this part when any analyses reported for intake and effluent characteristics were performed by a contract lab or consulting firm. Applicants must provide the name, address, and full telephone number of the lab or firm along with a complete list of the pollutants analyzed.

3.1.9 Part IX. Requests and Other Information

Requests for a variance, waiver, intake credit, or mixing zone are indicated in Part IX. DEQ will consider the request and discuss any information needed and the timeline in which the applicant must provide it. More information on the types of variances and waivers a non-POTW may apply for is provided in the User's Guide Volume 1, section 8 (DEQ 2017a).

Mixing zones **are may be** incorporated in the reasonable potential analysis and WQBEL calculations for pollutants. If the applicant wants DEQ to consider authorizing a mixing zone for any pollutant as part of permit conditions, they must ensure the box remains checked when submitting their application. If the applicant unchecks the mixing zone box, permit limits must meet water quality criteria at the end of pipe for all pollutants. During permit development, DEQ will request that applicants provide outfall configuration, pollutant concentration data, and additional data necessary to determine any appropriate mixing zones. Mixing zones cannot be authorized for E. coli or fecal coliform or for pollutants responsible for impairment in the receiving water. Mixing zones are only applicable to WQBEL calculations and are not part of technology based effluent limit (TBEL) determination.

3.2 New Dischargers of Process Wastewater

All Operators (applicants) of new⁸ manufacturing, commercial, mining (not including small suction dredge), silvicultural activities, or drinking water treatment operations (public and private) that discharge process wastewater will complete Sections I-VII of the application. The following sections outline the information necessary to complete the application process and are adapted from EPA Form 2D.

3.2.1 Part I. Outfall Locations

Applicants identify the outfall number and specific location using the interactive map or by entering the known coordinates in decimal degrees to six decimal places. If applicants know the coordinates in another format, they must first convert them to decimal degrees.

Applicants must also identify the name of the receiving water to which they discharge. For example, if the discharge is into a canal that flows into an unnamed tributary, which in turn flows into a named river, provide the name or description (if no name is available) of the canal, tributary, and the river. For assistance identifying the receiving waters, use DEQ's **most recent** online **Integrated Report** interactive map **link on the application** or contact IPDES staff.

3.2.2 Part II. Discharge Date

This is the calendar date in month, day, and year that applicants anticipate discharge to begin.

3.2.3 Part III. Flows, Sources of Pollution, and Treatment Technologies

Part III.A requires applicants to upload a line drawing showing the water flow through the facility. The line drawing shows the route taken by water in the facility from intake to discharge. Include any internal monitoring points, if known, to show which internal waste streams will be individually monitored. Show all operations contributing wastewater, including process and production areas, sanitary flows, cooling water, and storm water runoff. Similar operations may be grouped together into a single unit and labeled to correspond to the more detailed listing in the outfall description table. If a planned facility upgrade or significant production change is anticipated in the permit cycle, include the flows associated with the upgrade or production. The water balance should must show average flows using actual measurements when available; alternatively, or when these actual measurements are not available, a best estimate may be acceptable. Show all significant losses of water to products, atmosphere, and discharge. If water balance cannot be determined, provide a photo of all sources of water and any collection or treatment measures.

Part III.B requires applicants to list operations that contribute flows to the waste stream and the treatment process applied to each. Operations may be described in general terms and must correspond to the operations shown on the line drawing. If no data are available, estimate the flow contributed by each operation. Include planned treatment upgrades or production changes during the permit cycle, and identify the operation and anticipated contributing flow or process estimates. For storm water discharges, the average flow may be estimated, but the rainfall event upon which the estimate is based and the method used must be indicated. For each treatment type, indicate its size, flow rate, and retention time, and describe the ultimate disposal of any solid or liquid wastes not discharged. List treatment units in order and identified with the treatment code from Table 1 of the application instructions. Enter either the treatment description, a treatment code from the table, or both if possible.

Part III.C applies to the applicant if any discharges described in the outfall description table (Part D) are intermittent or seasonal. A discharge is intermittent unless it occurs without interruption during the operating hours of the facility, except infrequent shutdowns for maintenance, process changes, or other similar operations. This also excludes flows from storm runoff, leaks, or spills. A discharge is seasonal if it occurs only during certain parts of the year. Base answers on your best estimate. The maximum daily flow rate and maximum total volume over 24 hours are reported in million gallons per day, with the flow duration reported in number of days.

3.2.4 Part IV. Production

Part IV is required if any production-based ELG or new source performance standard (NSPS) applies and expresses limits in term of production or another measure of operation. For each outfall list the estimated level of production (projection of actual production level, not design capacity), expressed in the quantity and units used in the applicable ELG or NSPS, for each of the first 3 years of operation. Production in this question refers to those goods which the proposed operation will produce, not to wastewater production. If production is likely to vary, you may also submit alternative estimates and their basis in Part VII.

3.2.5 Part V. Effluent Characteristics

Part V requires applicants to submit monitoring results. The application parts and pollutant groups that must be reported are based on the:

- Size of the business
- Identified primary industry, and
- Nature or presence of the pollutants in the discharge

Applicants first determine if they qualify for a small business exemption. If they meet the definition of a small business⁹, they are exempt from sampling and reporting organic toxic GC/MS groups listed in Group C (Table 2). If they do not qualify, they must identify the top primary industry category that applies and submit analysis for the GC/MS fraction categories of organic toxic pollutants in Group C that apply to their industry.

Part V requires applicants to report estimated amounts (both concentration and mass) of the pollutants to be discharged from each outfall. Each section of Part V addresses a different group of pollutants and should be completed in accordance with the specific instruction for that group.

- Group A pollutants are standard pollutants for which submittals are required from all industrial facilities, regardless of size, industry type, or discharge. For each outfall, provide estimated maximum daily and average daily values, unless waived by DEQ.
- Group B pollutants are identified as believed present or believed absent in the discharge based on your knowledge of the facility processes or any pollutant that are limited directly by ELGs or NSPSs or indirectly through limits on an indicator pollutant. When pollutants are believed present in the discharge, the effluent concentration and mass must be reported for at least one analysis for that pollutant. Collect composite sample types for all pollutants except total residual chlorine (TRC), oil and grease, and *E.coli* or fecal coliform, which must be collected as grab samples. Pollutants that are believed absent require no testing. DEQ may consider a request waiving the requirement to test for pollutants for an industrial category or subcategory. Group B pollutants are listed in Table 2 of the application instructions. Applicants select believed absent or report on pollutants believed present, are limited directly by ELGs or NSPSs or indirectly through limits on an indicator pollutant. When pollutants are believed present in the discharge, the effluent characteristics of concentration and mass must be reported using best estimates. Pollutants that are believed absent require no reporting. DEQ may consider a request waiving the requirement to test for pollutants for an industrial category or subcategory.
- Group C pollutants are separated into the following categories, which require applicants to select believed absent or report on pollutants believed present:
 - Metals, cyanide, and total phenols
 - 2,3,7,8-Tetrachlorodibenzo-P-Dioxin (TCDD)
 - GC/MS Fraction – Volatile Organic Compounds
 - GC/MS Fraction – Acid-Extractable Compound
 - GC/MS Fraction – Base-Neutral Compounds
 - GC/MS Fraction – Pesticides
- Group D pollutants are toxic or hazardous substances that must be reported if applicants have reason to believe they will be present in the discharge and are listed in Table 3 of the application instructions. Identify the pollutant, its source, the reason it is believed

present, and any available analytical data. Applicants may request an exemption from EPA for pollutants listed in Table 4 of the application instructions if they meet certain requirements. This does not exempt the applicant from any reporting required for Group A-C pollutants.

Note that not later than 2 years after beginning discharging from the proposed facility, you must complete and submit Items V and VI of the Industrial Existing Discharger of Process Wastewater application through the Reporting tab in the IPDES E-Permitting System.

3.2.6 Part VI. Engineering Report on Wastewater Treatment

In Part VI Applicants should upload any technical evaluation reports concerning the wastewater treatment, including engineering report or pilot plant studies that were conducted. If there are any existing facilities which resemble the proposed production processes, wastewater constituents, or wastewater treatments, applicants should provide the name and address of the facility.

3.2.7 Part VII. Requests and Other Information

Requests for a variance, waiver, intake credit, or mixing zone are indicated in Part IX. DEQ will consider the request and discuss any information needed and the timeline in which the applicant must provide it. More information on the types of variances and waivers a non-POTW may apply for is provided in the User's Guide Volume 1, section 8 (DEQ 2017a).

Mixing zones are may be incorporated in the reasonable potential analysis and WQBEL calculations for pollutants. If the applicant wants DEQ to consider authorizing a mixing zone for any pollutant as part of permit conditions, they must ensure the box remains checked when submitting their application. If the applicant unchecks the mixing zone box, permit limits must meet water quality criteria at the end of pipe for all pollutants. During permit development, DEQ will request that applicants provide outfall configuration, pollutant concentration data, and additional data necessary to determine any appropriate mixing zones. Mixing zones cannot be authorized for *E. coli* or fecal coliform or for pollutants responsible for impairment in the receiving water. Mixing zones are only applicable to WQBEL calculations and are not part of technology based effluent limit (TBEL) determination.

3.3 New and Existing Dischargers of Nonprocess Wastewater

Operators (applicants) of new or existing¹⁰ dischargers of nonprocess wastewater will complete Parts I-VII of the application. The following sections outline the information necessary to complete the application and are adapted from EPA Form 2E.

3.3.1 Part I. Outfall Locations

Applicants identify the outfall number and specific location using the interactive map or by entering the known coordinates in decimal degrees to six decimal places. If applicants know the coordinates in another format, they must first convert them to decimal degrees.

Applicants must also identify the name of the receiving water to which they discharge. For example, if the discharge is into a canal that flows into an unnamed tributary, which in turn flows

into a named river, provide the name or description (if no name is available) of the canal, tributary, and the river. For assistance identifying the receiving waters, use DEQ's [most recent](#) online [Integrated Report](#) interactive map [link on the application](#) or contact IPDES staff.

3.3.2 Part II. Discharge Date (New Dischargers Only)

This is the calendar date in month, day, and year that applicants anticipate discharge to begin.

3.3.3 Part III. Type of Waste

Applicants need to indicate the general types of [nonprocess](#) wastes to be discharged. [The available options are:](#)

- Sanitary wastes
- Restaurant or cafeteria waste
- Noncontact cooling waterⁱ
- Other nonprocess wastewater. If 'other' is selected, it should be identified.

If cooling water additives are to be used, they must be listed by name and composition.

3.3.4 Part IV. Effluent Characteristics

[Operators \(applicants\) of For](#) existing dischargers, provide at least one analysis for each parameter of discharge flow, pH, summer effluent temperature, and winter effluent temperature. This includes a maximum daily value, average daily value, and the number of measurements taken in the last year.

[Operators \(applicants\) of For](#) new dischargers, provide estimates for each parameter of discharge flow, pH, summer effluent temperature, and winter effluent temperature. This includes a maximum daily value, average daily value, and the source of the estimate.

Applicants are required to answer a series of questions to determine the remaining pollutants they need to report in the application. The questions identify whether the operation:

- Will discharge sanitary waste
- Will use chlorination as a disinfection treatment process
- Will discharge noncontact cooling water

The total list of pollutants includes biochemical oxygen demand (BOD), total suspended solids (TSS), *E. coli*, TRC, oil and grease, chemical oxygen demand (COD), total organic carbon (TOC), and ammonia (as N).

3.3.5 Part V. Intermittent or Seasonal Discharge

Part V applies if any discharges described in the outfall description table (Part I) are intermittent or seasonal. A discharge is intermittent unless it occurs without interruption during the operating hours of the facility, except infrequent shutdowns for maintenance, process changes, or other similar operations. This also excludes flows from storm runoff, leaks, or spills. A discharge is

ⁱ [Noncontact cooling water means water used to reduce temperature which does not come into direct contact with any raw material, intermediate product, waste product \(other than heat\), or finished product \(EPA 1990\).](#)

seasonal if it occurs only during certain parts of the year. If the discharge is or will be intermittent or seasonal, briefly describe the frequency of flow and duration. Duration means the number of days or hours per discharge. **Operators (applicants) of** ~~For~~ new dischargers, base your answers on your best estimate.

3.3.6 Part VI. Treatment System

Briefly describe any treatment systems used, or to be used for new dischargers. The table of available treatment processes and codes enables the applicant to clearly identify the treatment and disposal methods of the wastewater. Use any and all processes and codes that may apply to the facility. List treatment units in order and identified with the treatment code from Table 1 of the application instructions. Enter either the treatment description, a treatment code from the table, or both if possible.

3.3.7 Part VII. Requests and Other Information

Requests for a variance, waiver, intake credit, or mixing zone are indicated in Part IX. DEQ will consider the request and discuss any information needed and the timeline in which the applicant must provide it. More information on the types of variances and waivers a non-POTW may apply for is provided in the User's Guide Volume 1, section 8 (DEQ 2017a).

Mixing zones **are may be** incorporated in the reasonable potential analysis and WQBEL calculations for pollutants. If the applicant wants DEQ to consider authorizing a mixing zone for any pollutant as part of permit conditions, they must ensure the box remains checked when submitting their application. If the applicant unchecks the mixing zone box, permit limits must meet water quality criteria at the end of pipe for all pollutants. During permit development, DEQ will request that applicants provide outfall configuration, pollutant concentration data, and additional data necessary to determine any appropriate mixing zones. Mixing zones cannot be authorized for *E. coli* or fecal coliform or for pollutants responsible for impairment in the receiving water. Mixing zones are only applicable to WQBEL calculations and are not part of technology based effluent limit (TBEL) determination.

4 Understanding Your Permit

In addition to information identified in the User's Guide Volume 1, section 5 (DEQ 2017a), the following sections identify conditions in industrial permits. Each accompanying fact sheet describes decisions and calculations that determine specific permit conditions. The permit writer completes an IPDES Permit Rating Worksheet for each industrial facility, found in User's Guide Volume 1, Appendix B (DEQ 2017a), which determines their status as a major or minor facility. A non-municipal facility is considered a major facility when the score on the worksheet is 80 or greater¹¹. The table headings and narrative text in the permit will use the terms parameter and pollutant interchangeably to describe items that the permittee must analyze.

4.1 Discharge Authorization

This authorizes the permittee to discharge pollutants from permitted locations. If the permit authorizes a seasonal discharge, the seasons are defined here. This section also identifies whether the facility has a DEQ-issued reuse permit.

4.2 Effluent Limits

The permittee is authorized to discharge only from outfall locations identified in the permit. The monitoring site locations table identifies all monitoring sites required by the permit in addition to the authorized outfalls. Monitoring sites may include intake, internal, outfall, and receiving water locations, with monitoring locations are clearly described.

The effluent limits for each pollutant are also outlined in this section. A table specifies the effluent limits and monitoring requirements and includes:

- Parameter—Pollutants the permittee must monitor.
- Discharge period—Months the pollutant limits are effective.
- Units—Designated units the permittee is expected to use and report for effluent monitoring.
- Effluent limits—Effluent limits for each pollutant.
 - Effluent limit types:
 - Average monthly—Highest allowable average concentration or mass of the pollutant, calculated as the sum of all measured daily discharges divided by the number of daily discharges during a calendar month.
 - Maximum daily—Highest allowable daily discharge concentration, mass, or value of the pollutant.
 - Minimum daily—Lowest allowable daily discharge concentration, mass, or value of the pollutant.
 - Average weekly—Highest allowable average concentration or mass of the pollutant, calculated as the sum of all measured daily discharges divided by the number of daily discharges during a calendar week.
 - Daily—Discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling.
 - Average annual—The average of all values within the last year divided by the total number of daily values.
 - Effluent limit expression—Most effluent limits follow the format and column headings listed here. Exceptions are noted with table notes and examples include the following:
 - *E. coli* is expressed as a geometric mean in the average monthly limit type column and a footnote explaining the single sample threshold value in the maximum daily column.
 - pH is expressed as minimum and maximum acceptable daily values.
 - Other limits may be expressed in ways not described in this section.
- Sample type—Sample collection method may include grab, composite, calculation, metered, recorded, or visual observation.
- Sample frequency—Number of samples to collect in a given period of time.

Additional effluent limit tables may be included in the permit, as appropriate, to include numeric effluent limits for the following:

- Interim effluent limits associated with a compliance schedule.
- Pollutant limits that are dependent on effluent and/or receiving water flow.
- Temperature effluent limits with averaging periods different than average monthly or maximum daily (e.g., maximum weekly maximum temperature).

All pollutants with effluent limits must be reported on the appropriate discharge monitoring report (DMR).

4.2.1 Annual or Seasonal Average Effluent Limits

This optional section is included if annual or seasonal average effluent limits are appropriate for any pollutant. It includes effluent limits as a concentration and/or load, and a statement explaining how the monitoring result is calculated and reported. This section also defines a monitoring and reporting frequency for each pollutant with limits.

4.2.2 Narrative Limits

This includes standard water quality prohibitions¹² and receiving water visual observances to verify the narrative criteria are being met.

4.3 Regulatory Mixing Zone

This section of the permit describes any mixing zones authorized, identifying each pollutant and associated dilution for flowing waters or allowed surface area for nonflowing water bodies. The permittee must monitor and report the effluent and, in most instances, the background receiving water concentration of all pollutants with authorized mixing zones. These monitoring and reporting requirements are included in the effluent and receiving water monitoring sections of the permit.

4.4 Monitoring

Permittees must collect representative samples of the waste stream and receiving water. Representative means a sample from the intake, effluent, or surface water which exhibits characteristics of the water during the period of discharge, whether continuous or intermittent. Permits require regularly scheduled samples, but the permittee may choose to sample more frequently to ensure permit compliance. The permittee is required to collect additional samples at the appropriate location whenever any discharge occurs that may cause a permit violation (e.g., a spill, bypass, or upset). This sampling ensures excursions that may not be detected by regularly scheduled samples are accounted for. If the permittee monitors any pollutant more frequently than required by the permit, using test procedures approved under 40 CFR 136 or as specified in the permit, the results must be included in data calculations submitted on DMRs.

4.4.1 Intake Monitoring

The permit's intake monitoring table identifies any required monitoring requirements for the intake water. The table contains the following information:

- Parameter—Pollutant or parameter for which the permittee must monitor.
- Time period—Months for which the permittee must monitor the pollutant.
- Units—Designated units the permittee is expected to use.
- Frequency—Minimum number of times the permittee must sample for the specified parameter.
- Sample type—Sample collection methods which may include grab, composite, calculation, metered, recorded, or visual.
- Report—Information the permittee is obligated to report on the DMR. For example, report the average value from weekly samples to two significant figures on the DMR.

4.4.2 Effluent Monitoring for Parameters without Effluent Limits

Effluent monitoring required for pollutants without effluent limits includes a table identifying parameters for which the permittee must monitor but do not have limits. All monitoring points are identified in Table 1. The pollutants or parameters in this section are associated with characterizing the effluent and may include pollutants that exceed water quality standards¹³ at end of pipe but have been granted a mixing zone sized to ensure water quality standards compliance at the mixing zone boundary. This may also include nonregulated parameters such as hardness, for which concurrently monitored data are necessary to calculate appropriate water quality criteria for specific pollutants (e.g., heavy metals). The table contains:

- Parameter—Pollutant or parameter for which the permittee must monitor.
- Units—Designated units the permittee is expected to use.
- Frequency—Minimum number of times the permittee must sample for the specified parameter.
- Sample type— Sample collection methods which may include grab, composite, calculation, metered, recorded, or visual.
- Sample location—Parameter monitoring location.
- Report—Information the permittee is obligated to report on the DMR. For example, report the average value from weekly samples to two significant figures on the DMR.

All monitoring for parameters without effluent limits must be reported on the appropriate DMR.

4.4.3 Receiving Water Monitoring

The permit specifies the date receiving water monitoring must begin and the duration for which the permittee must conduct monitoring in the vicinity of the outfall. In most cases, receiving water monitoring is included for the life of the permit. If the permittee is not currently conducting receiving water monitoring, then the permit includes some lead time (e.g., 180 days) to begin receiving water monitoring.

The monitoring location must be approved by DEQ. The locations of required monitoring are identified in Table 1 of the permit. This section identifies monitoring requirements for the parameters listed in the receiving water monitoring table.

The receiving water monitoring table includes the following:

- Parameter—Pollutant or parameter for which the permittee must monitor.
- Monitoring Period—The period of time in which monitoring should occur.
- Units—Designated units the permittee is expected to use.
- Sample Frequency—Minimum number of times the permittee must sample for the specified parameter.
- Sample type— Sample collection methods which may include grab, composite, calculation, metered, recorded, or visual.
- Report—Information the permittee is obligated to report on the DMR. For example, report the analyzed concentration to two significant figures on the DMR.

Concurrent sampling (i.e., samples collected on the same day and at the same time) may be required for pH, ammonia, temperature, dissolved organic carbon, conductivity, metals, and hardness. This section also includes an optional subsection that outlines the requirements for continuous receiving water monitoring.

4.4.4 Permit Renewal Effluent Monitoring

The application for permit renewal requires at least one analysis of the Group A-D pollutants to characterize the effect of the effluent on the receiving water, as described in the application's *Effluent Characteristics*. The permit identifies the required parameters and the collection schedule based on the facility's industry type and impact on receiving water quality. Permit renewal effluent monitoring summary results must be submitted with the permit renewal application.

4.4.5 Analytical and Sampling Procedures

Required monitoring must be conducted according to test procedures approved under 40 CFR 136; unless another method is required under 40 CFR subchapters N or O, or other test procedures have been specified in the permit or approved by EPA as an alternate test procedure (ATP¹⁴). When more than one analytical method is available for analyzing a parameter, the permit writer will determine the appropriate minimum level necessary to maintain permit compliance using EPA's sufficiently sensitive test method (DEQ 2017a). When permit conditions require specific analytical methods to determine compliance, the permit will clearly state which analytical method to use for particular pollutants.

4.4.5.1 CWA Alternate Test Procedure

When appropriate, any person may submit a written application for review of an ATP for nationwide use to the National ATP Program Coordinator. Alternatively, any person may request DEQ, as the permitting authority, to review and initially approve the limited use (Tier 1) of an ATP. After reviewing the new method application, DEQ will forward it to EPA Region 10 with a recommendation for or against approval (EPA 2016; Figure 1). If DEQ does not initially approve the application, DEQ will specify additional information needed to reconsider the application. At a minimum, an application should include the following:

- Completed new method application form (EPA 2016; Appendix A)
- New method written in EPA standard format

- Justification for the new method
- Method validation study plan or study report

The EPA Regional ATP coordinator will notify the applicant and DEQ whether ATP use is approved or rejected. EPA Region 10 will issue the formal approval for use of a Tier 1 new method, which may restrict the approval to a specific discharge or facility (and its laboratory), or at the EPA Regional ATP coordinator's discretion, to all dischargers or facilities (and their associated laboratories) as specified in the approval for the region.

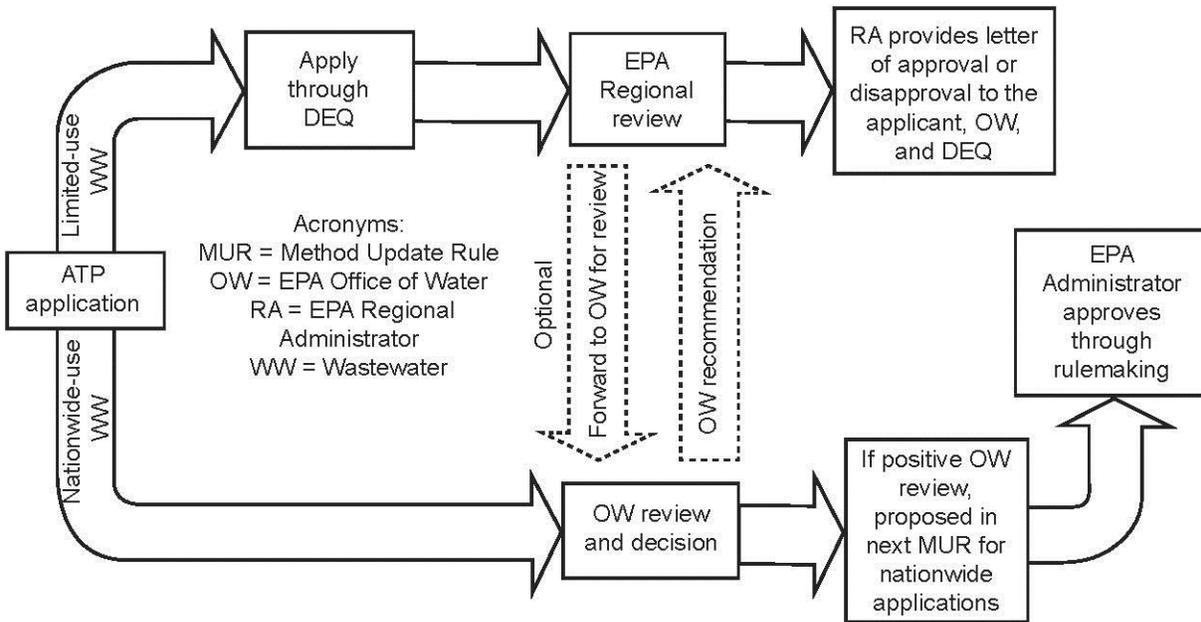


Figure 1. Flowchart summarizing the new method ATP application process (adapted from EPA 2016).

4.4.5.2 Laboratory Quality Assurance and Quality Control

The permittee must develop and implement a quality assurance project plan (QAPP) that conforms to the QA/QC requirements of 40 CFR 136.7. This section includes a discussion of required further analysis, documentation, and reporting procedure necessary if a sample does not meet QAPP requirements.

4.5 Recording and Reporting Requirements

This section contains information on how to record and report information to DEQ, including the following:

- Recording results—Information the permittee must record for each measurement or sample.
- Reporting procedures—Describes how and what to report, including how to calculate and report when results are less than the method detection limit (MDL) or minimum level (ML).
- DMRs—Describes how to submit DMRs.

- Permit submittals and schedules—Describes how to submit written permit-required reports.
- Additional monitoring—Describes requirements for reporting additional monitoring completed by the permittee but not required by the permit.
- Reporting permit violations—Describes requirements for 24-hour, 5-day, and other noncompliance reporting procedures.

4.5.1 Discharge Monitoring Reports

All permittees must submit their monthly monitoring data electronically using NetDMR. If the permittee is unable to use NetDMR, then they must request an electronic reporting waiver.

All DMR data must be submitted no later than the 20th of the month and must include all intake, effluent, and receiving water monitoring data as specified in the permit. The results should be reported to the number of significant figures noted in the permit monitoring tables and using the appropriate units.

4.5.2 Permit Submittals and Schedules

All permittees must submit permit required reports electronically using the IPDES E-Permitting System by the date specified in the permit submission schedule list located at the beginning of the permit, unless DEQ has granted the permittee an electronic reporting waiver.

4.5.3 Additional Monitoring

If the permittee monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 CFR 136 or as specified in this permit, the permittee must include the results of this monitoring in the calculation and reporting of data submitted in the DMR. If requested by DEQ, the permittee must submit results of any sampling, regardless of the parameter monitored or test method used.

4.5.4 Reporting Permit Violations

This section contains information on how and when to report violations of permit conditions.

4.5.4.1 Twenty-Four Hour and Five-Day Noncompliance Reporting

The permittee is required to notify DEQ with a phone call within 24 hours whenever noncompliance may endanger public health or the environment. This noncompliance includes unanticipated bypasses, upsets, violations, or any overflows.

Permittees must report via telephone within 24 hours from the time the permittee becomes aware of the noncompliance and provide an electronic report submission within 5 days. The report procedure, contact information for the regional office, and hotline phone number are included in the permit.

In the event of a sanitary sewer overflow, collection system backup, or other wastewater discharge event from an unpermitted location or in an unpermitted manner, the permittee must complete normal 24-hour and 5-day reporting procedures outlined in this section.

A bypass is an intentional diversion of the waste stream around any portion of the treatment system. Bypasses are prohibited under IPDES permits except in circumstances where effluent limits are not exceeded and are performed for essential maintenance to ensure efficient operation. If the bypass is not associated with an emergency, the permittee must request approval from DEQ to bypass treatment processes before executing the bypass. If the bypass is the result of an emergency, DEQ will evaluate the circumstances under which the bypass occurred and determine whether to take enforcement action. The permittee must complete reporting procedures.

Using an alternative treatment process approved in an IPDES permit and implemented consistent with the permit conditions is not considered a bypass. For example, a permit may identify different treatment processes that are approved on a seasonal basis.

If the facility has effluent limits that depend on differing treatment options, which are accounted for and recognized in an IPDES permit and implemented consistent with the permit conditions, they are not considered a bypass.

4.5.4.2 Other Noncompliance Reporting

The permittee is required to notify DEQ whenever they are unable to comply with any permit condition. All noncompliance events not required to be reported within 24 hours must be submitted on the monthly DMR.

4.6 Permit Renewal

The permit contains the date the renewal application is due. This date will often be no less than 240 days before the permit expires, which provides the IDAPA-required 180 days plus 60 days for DEQ to review an application for completeness. For complex permits, DEQ may require the permit renewal application be submitted more than 240 days before permit expiration.

To be eligible for an administrative continuation, a complete permit application must be submitted to DEQ 180 days before the current permit expires. Submittal by the permittee at the deadline (180 days) is not recommended in case the application is not complete. Permits for complete applications submitted before the 180 days and deemed complete will remain fully effective and enforceable until the effective date of the new permit or the date of DEQ's decision to deny the application. Applications received after the permit expires will be reviewed as an application for a new discharger. DEQ may require owners or their representative (applicants) to submit supplemental information necessary to ensure compliance with the antidegradation policy and antidegradation implementation provisions.

References

DEQ (Idaho Department of Environmental Quality). 2016a. *Idaho Mixing Zone Implementation Guidance*. Boise, ID: DEQ. <http://www.deq.idaho.gov/media/60179492/mixing-zone-implementation-guidance-1216.pdf>

- DEQ (Idaho Department of Environmental Quality). 2016b. *Water Quality Trading Guidance*. Boise, ID. DEQ. <https://www.deq.idaho.gov/media/60179211/water-quality-trading-guidance-1016.pdf>
- DEQ (Idaho Department of Environmental Quality). 2017a. *User's Guide to Permitting and Compliance Volume 1—General Information*. Boise, ID: DEQ. www.deq.idaho.gov/media/60178999/ipdes-user-guide-ipdes-permitting-compliance-0816.pdf
- EPA (US Environmental Protection Agency). 2016. *Protocol for Review and Validation of New Methods for Regulated Organic and Inorganic Analytes in Wastewater under EPA's Alternate Test Procedure Program*. Washington, DC: Office of Water. EPA 821-B-16-001. www.epa.gov/sites/production/files/2016-03/documents/chemical-new-method-protocol_feb-2016.pdf

Key Terms

Citations for key terms used in this guide are provided below. To see the official definition for a term, users should go directly to the rule that is referenced.

Term	IDAPA, CFR, or CWA Citation
Discharge	IDAPA 58.01.25.010.27.
Effluent Limit Guideline (ELG)	IDAPA 58.01.25.003.02.y
<u>Existing Source</u>	<u>IDAPA 58.01.25.010.36</u>
General Permit	IDAPA 58.01.02.010.40
Idaho Pollutant Discharge Elimination System (IPDES)	IDAPA 58.01.25.010.42
<u>Industrial Wastewater</u>	<u>IDAPA 58.01.25.010.46</u>
Major Facility	IDAPA 58.01.25.010.51
National Pollutant Discharge Elimination System (NPDES)	IDAPA 58.01.25.010.56
New Discharger	IDAPA 58.01.25.010.57
<u>New Source</u>	<u>IDAPA 58.01.25.010.58</u>
Notice of Intent (NOI) to Obtain Coverage Under an IPDES General Permit	IDAPA 58.01.25.010.60
Permit	IDAPA 58.01.25.010.63
Person	IDAPA 58.01.25.010.64
Pollutant	IDAPA 58.01.25.010.66
Pretreatment	IDAPA 58.01.25.010.68
<u>Process Wastewater</u>	IDAPA 58.01.25.010.71
Reuse	IDAPA 58.01.16.010.71
Sewage Sludge	IDAPA 58.01.25.010.84
Silvicultural Point Source	IDAPA 58.01.25.010.87
Storm Water	IDAPA 58.01.25.010.94
Technology-Based Effluent Limit (TBEL)	IDAPA 58.01.25.010.95
Total Maximum Daily Load (TMDL)	IDAPA 58.01.02.010.100
TMDL WLA	IDAPA 58.01.02.010.108

Variance	IDAPA 58.01.25.310
Wasteload Allocation (WLA)	IDAPA 58.01.25.010.104
Water Quality-Based Effluent Limit (WQBEL)	IDAPA 58.01.25.010.107
Waters of the United States	IDAPA 58.01.25.003.02.aa
Watershed	IDAPA 58.01.02.010.115
Whole Effluent Toxicity	IDAPA 58.01.25.010.110

Endnotes: IDAPA and CFR References

- ¹ IDAPA 58.01.25.050 (Computation of Time)
- ² IDAPA 58.01.25.010.24, 28 (Direct discharge and Discharge of pollutants)
- ³ IDAPA 58.01.25.010.87 (Silvicultural point source)
- ⁴ IDAPA 58.01.25.010.36, 57, and 58 (Existing source, New discharger, New source)
- ⁵ IDAPA 58.01.25.010.71 (Process wastewater)
- ⁶ IDAPA 58.01.25.105.07.n (Small business description)
- ⁷ IDAPA 58.01.25.002 (Confidentiality of Records)
- ⁸ IDAPA 58.01.25.010.57 and 58 (also see 36)
- ⁹ IDAPA 58.01.25.105.07.n (Small business description)
- ¹⁰ IDAPA 58.01.25.010.36, 57, and 58
- ¹¹ IDAPA 58.01.25.010.51.b (Major facility)
- ¹² IDAPA 58.01.02.200 (General surface water quality criteria)
- ¹³ IDAPA 58.01.02 (Water quality standards)
- ¹⁴ 40 CFR 136.5 (Alternate test procedure)