

Idaho Pollutant Discharge Elimination System

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



**State of Idaho
Department of Environmental Quality**

July 2018



Printed on recycled paper, DEQ July 2018, PID
IPGF, CA code 82988. Costs associated with this
publication are available from the State of Idaho
Department of Environmental Quality in accordance
with Section 60-202, Idaho Code.

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Volume 3—Non-POTW

July 2018



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Abbreviations and Acronyms

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

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 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, and 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
 - Operator and owner contact information
 - Facility mailing, physical, and billing 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 dischargers⁴ 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

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~~ **four or more** 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 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.

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, 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 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.

- 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 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
 - EPA currently requires effluent measurement to be total recoverable (TR) metals data⁷.
 - Conversion factors and translators are used to convert to dissolved criteria when necessary (DEQ 2017b, EPA 1996).
 - 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. 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 ¹ , 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	Naphthalene
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.

¹ If an applicant identifies Copper in the effluent stream, DEQ may request additional hardness or Biotic Ligand Model parameters necessary to calculate WQBELs.

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

Toxic Pollutant		
Asbestos		
Hazardous Substances		
Acetaldehyde	Dimethyl amine	Naled
Allyl alcohol	Dintrobenzene	Napthenic acid
Allyl chloride	Diquat	Nitrotoluene
Amyl acetate	Disulfoton	Parathion
Aniline	Diuron	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)
Cresol	Kepone	TDE (Tetrachlorodiphenyl ethane)
Crotonaldehyde	Malathion	2,4,5-TP [2-(2,4,5-Trichlorophenoxy) propanoic acid]
Cyclohexane	Mercaptodimethur	Trichlorofon
2,4-D (2,4-Dichlorophenoxyacetic acid)	Methoxychlor	Triethanolamine
Diazinon	Methyl mercaptan	Triethylamine
Dicamba	Methyl methacrylate	Trimethylamine*
Dichlobenil	Methyl parathion	Uranium
Dichlone	Mevinphos	Vanadium
2,2-Dichloropropionic acid	Mexacarbate	Vinyl acetate
Dichlorvos	Monoethyl amine	Xylene
Diethyl amine	Monomethyl amine	Xylenol
		Zirconium

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

Table 4. Hazardous substances.

1. Acetaldehyde	61. Butylamine	118. Diethylamine
2. Acetic acid	62. Butyric acid	119. Dimethylamine
3. Acetic anhydride	63. Cadmium acetate	120. Dinitrobenzene
4. Acetone cyanohydrin	64. Cadmium bromide	121. Dinitrophenol
5. Acetyl bromide	65. Cadmium chloride	122. Dinitrotoluene
6. Acetyl chloride	66. Calcium arsenate	123. Diquat
7. Acrolein	67. Calcium arsenite	124. Disulfoton
8. Acrylonitrile	68. Calcium carbide	125. Diuron
9. Adipic acid	69. Calcium chromate	126. Dodecylbenzenesulfonic acid
10. Aldrin	70. Calcium cyanide	127. Endosulfan
11. Allyl alcohol	71. Calcium dodecylbenzenesulfonate	128. Endrin
12. Allyl chloride	72. Calcium hypochlorite	129. Epichlorohydrin
13. Aluminum sulfate	73. Captan	130. Ethion
14. Ammonia	74. Carbaryl	131. Ethylbenzene
15. Ammonium acetate	75. Carbofuran	132. Ethylenediamine
16. Ammonium benzoate	76. Carbon disulfide	133. Ethylene dibromide
17. Ammonium bicarbonate	77. Carbon tetrachloride	134. Ethylene dichloride
18. Ammonium bichromate	78. Chlordane	135. Ethylene diaminetetracetic acid (EDTA)
19. Ammonium bifluoride	79. Chlorine	136. Ferric ammonium citrate
20. Ammonium bisulfite	80. Chlorobenzene	137. Ferric ammonium oxalate
21. Ammonium carbamate	81. Chloroform	138. Ferric chloride
22. Ammonium carbonate	82. Chloropyrifos	139. Ferric fluoride
23. Ammonium chloride	83. Chlorosulfonic acid	140. Ferric nitrate
24. Ammonium chromate	84. Chromic acetate	141. Ferric sulfate
25. Ammonium citrate	85. Chromic acid	142. Ferrous ammonium sulfate
26. Ammonium fluoroborate	86. Chromic sulfate	143. Ferrous chloride
27. Ammonium fluoride	87. Chromous chloride	144. Ferrous sulfate
28. Ammonium hydroxide	88. Cobaltous bromide	145. Formaldehyde
29. Ammonium oxalate	89. Cobaltous formate	146. Formic acid
30. Ammonium silicofluoride	90. Cobaltous sulfamate	147. Fumaric acid
31. Ammonium sulfamate	91. Coumaphos	148. Furfural
32. Ammonium sulfide	92. Cresol	149. Guthion
33. Ammonium sulfite	93. Crotonaldehyde	150. Heptachlor
34. Ammonium tartrate	94. Cupric acetate	151. Hexachlorocyclopentadiene
35. Ammonium thiocyanate	95. Cupric acetoarsenite	152. Hydrochloric acid
36. Ammonium thiosulfate	96. Cupric chloride	153. Hydrofluoric acid
37. Amyl acetate	97. Cupric nitrate	154. Hydrogen cyanide
38. Aniline	98. Cupric oxalate	155. Hydrogen sulfide
39. Antimony pentachloride	99. Cupric sulfate	156. Isoprene
40. Antimony potassium tartrate	100. Cupric sulfate ammoniated	157. Isopropanolamine
41. Antimony tribromide	101. Cupric tartrate	dodecylbenzenesulfonate
42. Antimony trichloride	102. Cyanogen chloride	158. Kelthane
43. Antimony trifluoride	103. Cyclohexane	159. Kepone
44. Antimony trioxide	104. 2,4-D acid (2,4-Dichlorophenoxyacetic acid)	160. Lead acetate
45. Arsenic disulfide	105. 2,4-D esters (2,4-Dichlorophenoxyacetic acid esters)	161. Lead arsenate
46. Arsenic pentoxide	106. DDT	162. Lead chloride
47. Arsenic trichloride	107. Diazinon	163. Lead fluoborate
48. Arsenic trioxide	108. Dicamba	164. Lead flourite
49. Arsenic trisulfide	109. Dichlobenil	165. Lead iodide
50. Barium cyanide	110. Dichlone	166. Lead nitrate
51. Benzene	111. Dichlorobenzene	167. Lead stearate
52. Benzoic acid	112. Dichloropropane	168. Lead sulfate
53. Benzointrile	113. Dichloropropene	169. Lead sulfide
54. Benzoyl chloride	114. Dichloropropene-dichloropropane mix	170. Lead thiocyanate
55. Benzyl chloride	115. 2,2-Dichloropropionic acid	171. Lindane
56. Beryllium chloride	116. Dichlorvos	172. Lithium chromate
57. Beryllium fluoride	117. Dieldrin	173. Malathion
58. Beryllium nitrate		174. Maleic acid
59. Butylacetate		175. Maleic anhydride
60. n-Butylphthalate		

176. Mercaptodimethur	220. Potassium permanganate	258. 2,4,5-TP acid esters (2,4,5-Trichlorophenoxy propanoic acid esters)
177. Mercuric cyanide	221. Propargite	259. TDE (Tetrachlorodiphenyl ethane)
178. Mercuric nitrate	222. Propionic acid	260. Tetraethyl lead
179. Mercuric sulfate	223. Propionic anhydride	261. Tetraethyl pyrophosphate
180. Mercuric thiocyanate	224. Propylene oxide	262. Thallium sulfate
181. Mercurous nitrate	225. Pyrethrins	263. Toluene
182. Methoxychlor	226. Quinoline	264. Toxaphene
183. Methyl mercaptan	227. Resorcinol	265. Trichlorofon
184. Methyl methacrylate	228. Selenium oxide	266. Trichloroethylene
185. Methyl parathion	229. Silver nitrate	267. Trichlorophenol
186. Mevinphos	230. Sodium	268. Triethanolamine dodecylbenzenesulfonate
187. Mexacarbate	231. Sodium arsenate	269. Triethylamine
188. Monoethylamine	232. Sodium arsenite	270. Trimethylamine
189. Monomethylamine	233. Sodium bichromate	271. Uranyl acetate
190. Naled	234. Sodium bifluoride	272. Uranyl nitrate
191. Naphthalene	235. Sodium bisulfite	273. Vanadium peroxide
192. Naphthenic acid	236. Sodium chromate	274. Vanadyl sulfate
193. Nickel ammonium sulfate	237. Sodium cyanide	275. Vinyl acetate
194. Nickel chloride	238. Sodium dodecylbenzenesulfonate	276. Vinylidene chloride
195. Nickel hydroxide	239. Sodium fluoride	277. Xylene
196. Nickel nitrate	240. Sodium hydrosulfide	278. Xylenol
197. Nickel sulfate	241. Sodium hydroxide	279. Zinc acetate
198. Nitric acid	242. Sodium hypochlorite	280. Zinc ammonium chloride
199. Nitrobenzene	243. Sodium methylate	281. Zinc borate
200. Nitrogen dioxide	244. Sodium nitrite	282. Zinc bromide
201. Nitrophenol	245. Sodium phosphate (dibasic)	283. Zinc carbonate
202. Nitrotoluene	246. Sodium phosphate (tribasic)	284. Zinc chloride
203. Paraformaldehyde	247. Sodium selenite	285. Zinc cyanide
204. Parathion	248. Strontium chromate	286. Zinc fluoride
205. Pentachlorophenol	249. Strychnine	287. Zinc formate
206. Phenol	250. Styrene	288. Zinc hydrosulfite
207. Phosgene	251. Sulfuric acid	289. Zinc nitrate
208. Phosphoric acid	252. Sulfur monochloride	290. Zinc phenolsulfonate
209. Phosphorus	253. 2,4,5-T acid (2,4,5-Trichlorophenoxyacetic acid)	291. Zinc phosphide
210. Phosphorus oxychloride	254. 2,4,5-T amines (2,4,5-Trichlorophenoxyacetic acid amines)	292. Zinc silicofluoride
211. Phosphorus pentasulfide	255. 2,4,5-T esters (2,4,5-Trichlorophenoxy acetic acid esters)	293. Zinc sulfate
212. Phosphorus trichloride	256. 2,4,5-T salts (2,4,5-Trichlorophenoxyacetic acid salts)	294. Zirconium nitrate
213. Polychlorinated biphenyls (PCB)	257. 2,4,5-TP acid (2,4,5-Trichlorophenoxypropanoic acid)	295. Zirconium potassium flouride
214. Potassium arsenate		296. Zirconium sulfate
215. Potassium arsenite		297. Zirconium tetrachloride
216. Potassium bichromate		
217. Potassium chromate		
218. Potassium cyanide		
219. Potassium hydroxide		

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 confidential⁸; 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 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

Operators (applicants) of new⁹ 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~~ **four or more** 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 must show average flows using actual measurements when available; alternatively, 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 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 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 business¹⁰, 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.

- 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 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 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 existing¹¹ 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~~ **four or more** 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:

- Sanitary wastes
- Restaurant or cafeteria waste
- Noncontact cooling water¹
- 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 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 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 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 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

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).

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 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 greater¹². 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 sum** 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 prohibitions¹³ 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 **which** do not have limits. All monitoring points are identified in **this table 4 of the permit**. The pollutants or parameters in this section are associated with characterizing the effluent and may include pollutants that exceed water quality standards¹⁴ 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 until a permit is terminated or a new permit is issued**. 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 [Chapter 1](#) subchapters N or O, or other test procedures have been specified in the permit or approved by EPA as an alternate test procedure (ATP¹⁵). 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.

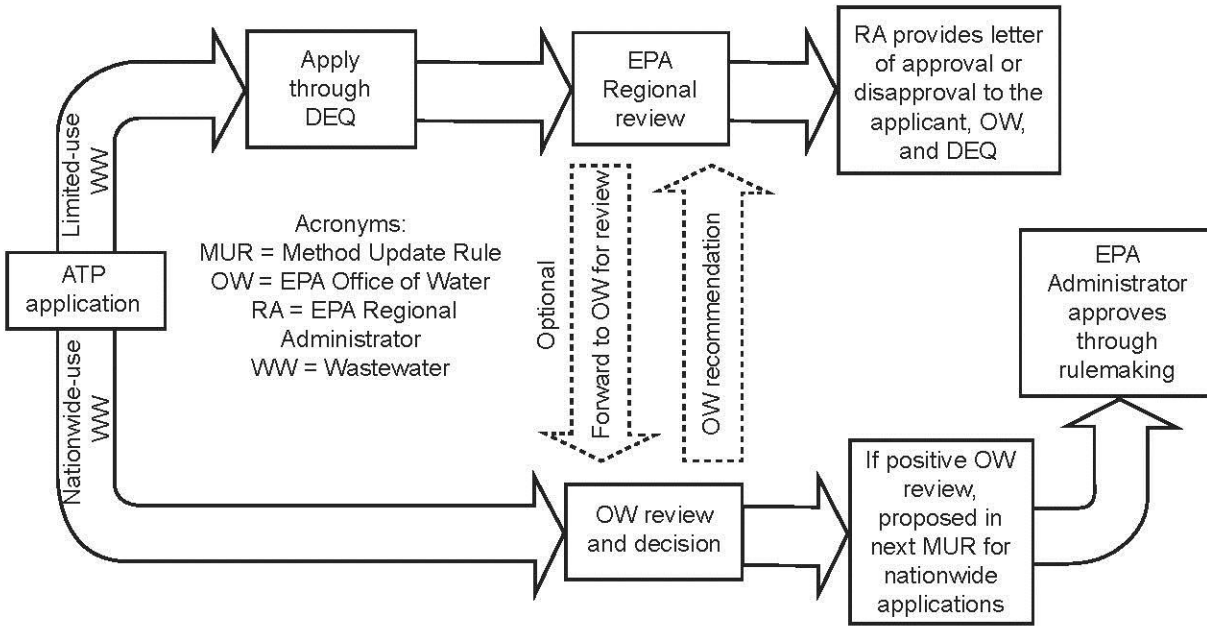


Figure 1. Flowchart summarizing the new method ATP application process (adapted from EPA 2016).

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****The permit standard condition 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 **following the completed reporting period** 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, **unless DEQ has granted the permittee an electronic reporting waiver. The** submission schedule list **is** 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, **but is not limited to,** unanticipated bypasses, **or** upsets that exceed any effluent limit in the permit, **or maximum daily effluent limit** violations¹⁶, **or any overflows. See IDAPA 58.01.25.300.12.f-g for additional details.**

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.

4.5.4.3 ***Changes in Discharge of Toxic Pollutants***

The permittee is required to notify DEQ as soon as it knows, or has reason to believe that any activity has occurred, or will occur, that would result in a discharge of toxic pollutants exceeding the highest notification level.

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. Permission may be granted by DEQ for submission of an application in fewer than 180 days. DEQ's prior approval must be sought and obtained in advance of the 180 days before expiration of the existing permit or commencement of new discharge. In no instance shall the application be accepted after the expiration date of the existing permit as an application for renewal of the permit. Any application received after the expiration of the permit will be received and reviewed as an application for a new source or new discharger. 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.

4.7 Special Conditions

Special conditions are optional and placed into the permit on a case-by-case basis after carefully considering the data available, effluent and receiving water characteristics, as well as facility processes and permittee's ability to meet effluent limits. Special conditions that may be included in an individual industrial permit are discussed below.

4.7.1 Compliance Schedule

A compliance schedule may be included in the permit when a permittee is unable to meet final WQBELs. During permit development, DEQ will require that the applicant provide supplemental information necessary to authorize a compliance schedule. This schedule specifies a series of tasks, with associated milestones, that are identified to acquire or maintain compliance with the effluent limits in the permit. The compliance schedule associated with meeting new or more stringent effluent limits may incorporate the following:

- Interim effluent limits
- Documents related to facility upgrades
- Tasks consistent with an existing Compliance Agreement Schedule or Consent Order
- Other tasks as appropriate

Within 14 days after a task's due date, the permittee must notify DEQ in writing whether they are in compliance with the interim or final requirements. For compliance schedules with longer than 1 year between interim requirements, the permit will specify dates for submitting interim progress reports that describe progress toward completing the next compliance schedule requirement and a projected completion date reaching compliance by the date specified in the compliance schedule.

User's Guide Volume 1, section 5.1.4.3 (DEQ 2017a) describes additional conditions under which compliance schedules are authorized in permits.

4.7.2 Whole Effluent Toxicity Testing

WET testing requirements may be included in industrial permits for facilities:

- Discharging into an impaired water body,
- Containing pollutants in the treated effluent that are toxic or hazardous, or
- If necessary to determine support of beneficial uses.

The permit writer will use best professional judgement in order to include site-specific appropriate frequencies of testing.

DEQ may require more frequent monitoring if test results are variable, close to the toxicity trigger or WET limit as identified in the permit, or there is a sensitive use in the receiving water. If toxicity testing reveals no exceedance of the toxicity trigger or effluent limit after the first year of monthly, quarterly, or semiannual monitoring, the sampling frequency may be decreased. A permit with frequent monitoring will contain the following or similar language allowing monitoring frequency reduction:

If no toxicity test exceeds the toxicity trigger in the first year of sampling, then the permittee may request in writing to reduce the sampling frequency to annual monitoring. The permittee can assume this reduced monitoring schedule once written confirmation from DEQ is received.

4.7.2.1 Test Requirements

WET tests analyze the overall toxicity of effluent to aquatic test organisms and involve creating a six-part dilution series of varying proportions of effluent and dilution water, consisting of five effluent dilutions plus a control (Figure 2).

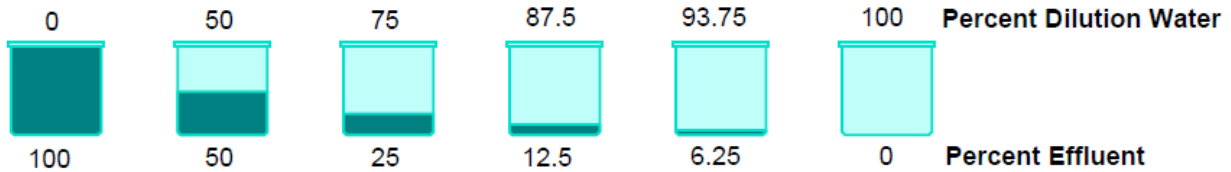


Figure 2. Typical dilution series.

This dilution series is then used to conduct WET testing. There are two types of WET tests: acute and chronic. An acute toxicity test measures lethal toxicity over a short time (typically 96 hours or less), while a chronic toxicity test measures sublethal toxicity over a longer period of time. When the dilution factor from the authorized mixing zone is $\geq 1,000$, acute WET testing is required in the permit. When the dilution factor is < 100 , chronic testing is required. If the dilution factor is between 100 and 1,000, DEQ may require acute testing, chronic testing, or both depending on the sensitivity of beneficial uses. EPA has defined standard WET test species for both acute and chronic tests (Table 5). *Ceriodaphnia dubia* and *Pimephales promelas* are the most commonly used WET test species in Idaho.

Table 5. Commonly used acute and chronic test species.

Acute	Invertebrate	<i>Ceriodaphnia dubia</i> (daphnid) <i>Daphnia pulex</i> and <i>D. magna</i> (daphnids)
	Fish	<i>Pimephales promelas</i> (Fathead Minnow) <i>Oncorhynchus mykiss</i> (Rainbow Trout)
	Chronic	Invertebrate
	Fish	<i>Pimephales promelas</i> (Fathead Minnow)
	Plant	<i>Pseudokirchneriella subcapitata</i> (green alga also known as <i>Selenastrum capricornutum</i>)

WET tests must be conducted with the frequency and test sample types required in the permit using the appropriate test species.

4.7.2.2 Submitting WET Results

WET test results must be submitted to DEQ using the IPDES E-Permitting System within 30 days after receiving the lab analyses.

4.7.2.3 **Toxicity Triggers**

When calculating WET limits, the permit writer will determine whether reasonable potential to exceed (RPTE) exists. If no RPTE exists, the permit writer will establish a trigger value equal to the dilution factor and require WET monitoring in the permit. If a WET monitoring result exceeds the trigger value identified in the permit, the permittee must conduct accelerated testing. Accelerated test results that corroborate the trigger exceedance will influence the need for a WET limit in future permits.

4.7.2.4 **WET Effluent Limit Violations**

If a WET monitoring result exceeds the WET effluent limit, the permittee must report the result on the DMR and begin accelerated testing.

4.7.2.5 **Accelerated Testing**

Accelerated testing is required by permittees that exceed the permit toxicity triggers or WET limits. In the event of an excursion over the WET trigger or limit, the permit specifies how many tests are required, and when testing must begin (usually within 2 weeks of any WET testing results that exceed trigger or limit values). If two consecutive accelerated WET tests verify that the toxicity has been removed, accelerated testing may be terminated. However, if accelerated testing indicates continued toxicity, the permittee must conduct a complete TRE.

4.7.2.6 **Toxicity Reduction Evaluations**

Before initiating the first required WET test, the permit will require developing a TRE framework by the date required by the permit. This framework describes the steps the permittee intends to follow if toxicity is detected and should include at a minimum the following:

- Description of the investigation and evaluation techniques that would be used to identify potential causes/sources of toxicity, effluent variability, and treatment system efficiency.
- Description of the facility's method of maximizing in-house treatment efficiency, good housekeeping practices, and a list of all chemicals used in operating the facility.
- If a toxicity identification evaluation (TIE) is necessary, who will conduct it (i.e., in-house or other).

The TRE consists of a detailed work plan that indicates the permittee's investigation strategy to identify the cause of the toxicity, the permittee's plan to mitigate and prevent recurring toxicity, and an implementation schedule. The permit will specify the minimum time interval between receiving the first accelerated test results that confirm toxicity and initiating the TRE (usually within 2 weeks of the first accelerated test results that confirm toxicity).

The permittee may also initiate a TIE as part of the TRE process to identify the specific pollutant that caused the toxicity.

4.7.3 **Mercury Minimization Plan**

A mercury minimization plan (MMP) identifies potential sources of mercury and measures to prevent or reduce mercury loading to the facility. Permits for facilities that discharge mercury are categorized as either significant or de minimis and include a condition to develop and implement

a mercury minimization plan with specific requirements. De minimis sources will develop a mercury minimization plan with voluntary BMPs. Significant sources develop a more comprehensive mercury minimization plan with mandatory BMPs.

The mercury minimization plan should, at a minimum, include the following:

- Monitoring to confirm current or potential sources of mercury.
- Identify current and potential mercury sources contributing to discharge concentrations.
- Identify potential methods for reducing or eliminating mercury.

The permit will contain intake and effluent monitoring requirements to evaluate effectiveness of the MMP. An annual mercury minimization status report must be submitted to DEQ through the E-Permitting System or as a hard copy if the permittee has an approved electronic waiver.

If DEQ determines that the MMP is not effective at reducing sources of mercury, or if a fish tissue advisory is developed, DEQ may reopen this permit to modify the permit conditions. These modifications may include but are not limited to fish tissue monitoring for methylmercury or the addition of a numeric effluent limit.

4.7.4 Methylmercury Fish Tissue Monitoring Plan

Fish tissue methylmercury monitoring helps DEQ determine whether consuming organisms from a water body pose a threat to human health. Permits for individual industrial dischargers that are significant mercury sources include fish tissue methylmercury monitoring. Permits for dischargers that are de minimis mercury sources may include fish tissue methylmercury monitoring requirements to determine the impact on methylmercury concentrations in fish from the receiving water. The fish tissue monitoring can be conducted on a facility-specific basis, a watershed cooperative basis, or within the proposed statewide cooperative fish tissue monitoring program.

The frequency of fish tissue monitoring required in a permit is dependent on whether the facility is assigned TMDL WLA for mercury and whether the fish tissue criterion data indicates there is RPTE.

The methylmercury fish tissue monitoring plan conditions and requirements are outlined in the permit and must include the following:

- Monitoring locations
- Contact information for the entity collecting and analyzing fish tissue samples
- A fish tissue sampling plan identifying target species, sample number, target fish size, timing and frequency of sample collection, and procedures for fish collection, handling, and sample shipping
- Tissue sample preparation and analytical methods
- Water column mercury sampling location, method, and frequency

An annual fish tissue monitoring report must be submitted to DEQ through the E-Permitting System or as a hard copy if the permittee has an approved electronic waiver.

4.7.5 Phosphorus Management Plan

When the discharge contributes nutrients to an impaired water body without an approved TMDL and not enough information exists to determine the facility's contribution to the impairment, the permit may require a phosphorus management plan. This condition may also be included when there is a TMDL load allocation assigned to the receiving water body because it contributes to the impairment of a downstream water body.

The phosphorus management plan may include the following:

- Compilation of influent and effluent phosphorus monitoring data
- Evaluation of the facility's TP reduction potential
- TP reduction goals for the facility
- Phosphorus reduction strategies for the facility to meet the TP reduction goals

The permit may require the permittee to submit to DEQ an annual report of TP reduction potential and any reductions achieved. This must be submitted through the E-Permitting System or as a hard copy if the permittee has an approved electronic waiver. If strategies are ineffective or changes occur to the influent quality or treatment process that affect the TP reduction potential of the treatment plant, the permit may require the permittee to revise the phosphorus management plan to increase effluent phosphorus reduction. Phosphorus monitoring results will be evaluated to determine the necessity of numeric phosphorus effluent limits.

4.7.6 Mixing Zone Study

This permit condition requires collecting outfall and channel structure information to complete a mixing zone analysis if the permittee requests a mixing zone, but available information is inadequate to determine the appropriate size or level of analysis for the facility. Appendix B of the *Idaho Mixing Zone Implementation Guidance* (DEQ 2016a) discusses the outfall and channel structure information required for the appropriate mixing zone tier analysis. The permit effluent and receiving water monitoring sections require pollutant concentration monitoring. The permit will specify information the permittee needs to collect and submit to DEQ through the E-Permitting System or as a hard copy if the permittee has an approved electronic waiver. The steps DEQ will take to authorize or revise a mixing zone and determine the need for effluent limits are included in the effluent and receiving water monitoring and mixing zone study sections of the permit.

4.7.7 Spill Control Plan

The permit may require developing a spill control plan if the facility uses or stores petroleum or other chemicals at the treatment facility. The permittee can develop a new plan or update an existing plan, and review the plan annually and update as needed.

The spill control plan must include the following:

- List of all oil and petroleum products and other materials used and/or stored on site that when spilled or otherwise released into the environment pose a potential threat to human health or the environment. Other materials used and/or stored on site that may become pollutants or cause pollution upon reaching surface water must be included.

- Description of preventive measures and facilities (including an overall facility plot showing drainage patterns) that prevent, contain, or treat spills of these materials.
- Description of the reporting system the permittee will use to alert responsible managers and legal authorities in the event of a spill.
- Description of operator training to implement the plan.

4.7.8 Lagoon Seepage Testing or Ground Water Monitoring

Seepage testing of industrial wastewater lagoons may be required as part of a permittee's Operation and Maintenance (O&M) Manual. Regular seepage testing (or another method which verify that all earthen wastewater storage, treatment, and conveyance structures) ensures compliance with the Idaho Ground Water Quality Rule at IDAPA 58.01.11 and Wastewater Rules at IDAPA 58.01.16.401. Seepage testing of wastewater lagoons must be conducted prior to use. Seepage testing may also be required at a regularly scheduled interval or by a specified date defined in the individual non-POTW IPDES permit.

A seepage test procedure plan must be submitted to DEQ for review and approval prior to the planned seepage test. Seepage test procedures are available at <http://www.deq.idaho.gov/water-quality/wastewater/lagoon-seepage-testing.aspx>. The seepage test procedures shall be sealed by the Idaho licensed professional engineer or professional geologist in responsible charge for the test and the seepage test report shall be submitted within 60 days after completion of the seepage test. No lagoon shall be put into service until seepage test results show a seepage rate less than the rate determined by DEQ's best professional judgement. A lagoon seepage permit condition requiring the permittee comply with this regulation is included if the facility is due for seepage testing within the permit cycle.

A ground water study may be required to adequately assess subsurface flow to determine the impact of the wastewater discharge if the allowable lagoon seepage rates are exceeded. The study will include proper location of appropriate monitoring wells for site specific ground water compliance points. Once the monitoring wells have been installed the permittee will be required to begin monitoring for particular pollutants using the monitoring wells. This data will be used by DEQ to characterize the water balance and specific impacts of subsurface seepage in order to develop site specific ground water quality limits or authorized points of compliance in the permit.

4.7.9 Best Management Practices Plan

This section includes specific BMPs or a requirement for the facility to develop a BMP plan to meet permit conditions that cannot be addressed with effluent limits. The general schedule for BMP plan development is included in the permit.

BMPs are actions or procedures to prevent or reduce the discharge of pollution to waters of the United States. BMPs are, by their nature, pollution prevention practices. Traditionally, BMPs have focused on good housekeeping measures and good management techniques that attempt to avoid contact between pollutants and water as a result of leaks, spills, and improper waste disposal. BMPs or BMP plans included in permits may include the following:

- Schedules of activities
- Prohibitions of practices

- Maintenance procedures
- Treatment requirements
- Operating procedures and practices to control:
 - Plant site runoff
 - Spillage or leaks
 - Sludge or waste disposal
 - Drainage from raw material storage areas

A permit will contain BMPs or a requirement to develop a BMP plan to control or abate the discharge of pollutants when any of the following are true:

- BMPs are authorized under CWA section 402(p) for the control of storm water discharges;
- Numeric effluent limits are infeasible because
 - Treatability of the pollutant is limited,
 - Limited data are available to assess impact on aquatic life and allow developing numeric TBELs or WQBELs,
 - Types of pollutants in the discharge vary greatly over time; or
- Practices are necessary to achieve effluent limits and standards or carry out the purpose and intent of the CWA

In addition, the permit may include BMPs under any of the following circumstances:

- Chemical analyses are inappropriate or impossible
- Histories of leaks and spills or housekeeping issues exist
- Complex facility lacks data for a pollutant or pollutants

4.7.9.1 ***BMP Requirements in IPDES Permits***

Permits may include BMP requirements using two approaches:

- Site-, process-, or pollutant-specific BMPs, or
- BMP plan development

Site-, process-, or pollutant-specific BMPs might be appropriate for an individual permit when a permit writer has the opportunity to review the facility's circumstances. Complicated facilities or those with novel treatment technologies may be required to develop a BMP plan specific to their circumstances.

4.7.9.2 ***Specific BMPs***

Specific BMPs are designed to address conditions particular to a facility or to a specific site, process, or pollutant. Specific BMPs might be used in a permit as follows:

- To address ancillary activities that could result in the discharge of pollutants to waters of the United States
- To provide BMPs as effluent limits when numeric effluent limits for a specific process are otherwise infeasible
- To supplement and ensure compliance with effluent limits in the permit

BMPs included in the permit may be chosen through the following:

- Review of the specific facility to determine the applicable and appropriate management practices
- Evaluation of whether the BMP would help to achieve effluent limits or other environmental objectives for that facility
- Information from other permits, pollution prevention sources, and EPA guidance documents to identify applicable and appropriate BMPs

4.7.9.3 **BMP Plans**

If a permit requires the facility to develop a BMP plan, it is the facility's responsibility to develop, implement, and evaluate the success or shortfalls of the plan. The *Guidance Manual for Developing Best Management Practices (BMP)* (EPA 1993) describes the activities and materials at an industrial or municipal facility that are best addressed by BMPs. The manual also describes how BMPs work, provides examples of BMPs, and describes typical components of effective BMP plans. The minimum components of a BMP plan should include the following:

General Provisions

- Name and location of facility
- Statement of BMP policy and objective
- Review by plant manager

Specific Provisions

- BMP committee
- Risk identification and assessment
- Reporting BMP incidents
- Materials compatibility
- Good housekeeping
- Preventive maintenance
- Inspections and records
- Security
- Employee training

4.7.10 **Water Quality Trading**

Pollutant trading is recognized in IDAPA 58.01.02.055.06 and the Water Quality Trading Guidance (DEQ 2016b). Currently, DEQ policy allows pollutant trading as a means of restoring water quality limited water bodies to compliance with the standards. DEQ considers nutrients and temperature appropriate pollutants for trading—specifically, TP, total nitrogen, and thermal loading. Sediment or suspended solids trading to address sedimentation may be considered, particularly where dissolved oxygen impacts occur. DEQ supports trades where adequate information exists to establish and correlate water quality improvements from implementing BMPs or technological measures. A permit condition would include specific requirements or agreements for water quality trading associated with the facility. If the facility wishes to generate or use pollutant trading credits, they should consult with IPDES permit staff before submitting the permit application.

4.7.11 Intake Credit

Some dischargers might be unable to comply with TBELs or QBELs because of pollutants in their intake water. Under certain circumstances, the IPDES regulations allow pollutant credits for intake water.

Determinations for intake credits will be made on a pollutant-by-pollutant and outfall-by-outfall basis. Effluent limits must be consistent with assumptions and requirements of TMDLs. An intake pollutant must be from the same water body that receives the discharge to be eligible for credit, which is established by the following:

- Background concentration of the pollutant in the receiving water is similar to the intake water
- A direct hydrological connection exists between intake and discharge points
- The water quality characteristics (e.g., temperature, pH, and hardness) are similar in the intake and receiving waters

An intake pollutant from ground water may be considered to be from the same water body if DEQ determines that the pollutant would have reached the outfall point in the receiving water within a reasonable period of time had the water not been removed by the permittee. Intake credits are not available if the pollutant is present in ground water partially or entirely due to human activity, such as industrial, commercial, or municipal operations, disposal actions, or treatment processes. DEQ may determine the applicability of intake credits for the same water body depending on additional factors such as spatial and temporal differences between the intake and discharge, type of constituents, and receiving water low flow. DEQ may also consider site-specific factors relevant to the transport and fate of the pollutant if it had not been removed by the permittee.

User's Guide Volume 1, section 8 (DEQ 2017a) describes additional conditions under which intake credits are authorized in permits.

4.7.12 Variance

The IPDES rules, CWA, and federal regulations provide limited mechanisms allowing DEQ to modify or waive the generally applicable effluent limit requirements or CWA deadlines for an IPDES-permitted discharger.

Variances provide unique exceptions to a particular effluent requirement, thermal discharge, or water quality standard requirement. DEQ does not expect to routinely receive such requests. Variances applicable to non-POTW facilities include those based on economic factors, nonconventional pollutants, fundamentally different factors, thermal discharges, or water quality standards attainment.

User's Guide Volume 1, section 8 (DEQ 2017a) describes additional conditions under which variances are authorized in permits.

4.7.13 Waiver

DEQ may waive some monitoring, testing, and reporting requirements for industrial permits (including new sources or new dischargers) if the applicant requests a waiver with the permit

application or earlier. The applicant must also demonstrate that the information can be obtained through less stringent requirements.

DEQ will not consider a permit application to be complete if DEQ has waived any application requirements but EPA disapproved DEQ's granting of the waiver. However, if an applicant required to reapply for a permit submits a waiver request to DEQ more than 210 days before the existing permit expires, and EPA does not disapprove the waiver request at least 181 days before the permit expires, DEQ will consider the permit application to be complete without the information that is the subject of the waiver request. Applicants are encouraged to discuss any potential waiver requests with DEQ at the preapplication meeting.

User's Guide Volume 1, section 8 (DEQ 2017a) describes additional conditions under which waivers are authorized in permits.

4.7.14 Nutrient Management Plan

Animal feeding operations which meet DEQ's definition of a concentrated animal feeding operation (CAFO), or that are designated as CAFOs by DEQ, and that discharge or propose to discharge to waters of the United States, are required to obtain an IPDES permit and submit a Nutrient Management Plan (NMP) for review and approval. A site-specific NMP must be submitted with an individual application and approved by DEQ before discharge from the CAFO commences. CAFOs are subject to requirements that limit discharges from the production area and requirements applicable to land application areas under the control of the CAFO operator. An NMP that is part of a CAFO permit must include, at a minimum, BMPs necessary to achieve the minimum requirements¹⁷ and compliance with effluent limits and standards. DEQ may require the CAFO operator to make changes to its NMP before permit coverage is granted.

4.7.15 Storm Water Pollution Prevention Plan

The permit may include requirements for updating or creating and implementing a storm water pollution prevention plan (SWPPP) along with BMPs to minimize or prevent the discharge of pollutants to waters of the state¹⁸. DEQ determines the facility must prepare or update a SWPPP and implement adequate BMPs when there are impairments in the receiving water, highly toxic or hazardous chemicals used, or operations are exposed to storm water. A SWPPP requires a facility to implement actions necessary to manage storm water to comply with the state's requirements to protect the beneficial uses¹⁹ of waters of the state.

The SWPPP must identify potential sources of storm water contamination from industrial activities and identify how it plans to manage those sources of contamination to prevent or minimize contamination of storm water. The facility must continuously review and revise the SWPPP as necessary to assure that storm water discharges do not degrade water quality.

The permittee must modify the existing SWPPP whenever there is a change in design, construction, operation or maintenance, which causes the SWPPP to be less effective in controlling pollutants. Whenever the description of potential pollutant sources or the pollution prevention measures and controls identified in the SWPPP are inadequate, the SWPPP must be modified, as appropriate, within two weeks of the determination. The SWPPP shall be maintained on site and provided to DEQ personnel upon request.

4.7.16 Other Special Conditions

DEQ may develop other special conditions as needed.

4.8 Standard Conditions

Standard conditions are permit conditions included in all industrial permits.

4.8.1 Documents Applicable to all Permits

All permits include requirements to develop documents necessary for proper operation, monitoring, and reporting:

- Quality assurance project plan (QAPP)
- Operation and maintenance (O&M) manual

4.8.1.1 *Quality Assurance Project Plan*

All industrial facility permittees must develop (or update) and implement a QAPP that conforms to the QA/QC requirements of 40 CFR 136.7 for all monitoring required by the permit. The QAPP should be consistent with *EPA Requirements for Quality Assurance Project Plans* (EPA/QA/R-5) and *Guidance for Quality Assurance Project Plans* (EPA/QA/G-5).

The QAPP must be retained on site and made available to DEQ upon request.

4.8.1.2 *Operation and Maintenance Manual*

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 the permit. Permittees shall develop and implement an O&M manual that achieves permit compliance²⁰. The manual must be retained on site and made available to DEQ upon request. Any changes occurring in facility operation must be reflected within the O&M manual. The manual must include, but is not limited to, the following:

- Daily operating instructions
- Operator safety procedures
- Location of valves and other key system features
- Parts list and parts order forms
- Contact information for the operators

In instances where a facility is subject to development and implementation of a BMP Plan as defined and outlined in section 4.7.9, the BMP plan can supplement and fulfill requirements of the O&M manual.

4.8.2 Conditions Applicable to all Permits

Certain permit conditions are applicable to all individual permits. A list with descriptions is provided in the User's Guide Volume 1, section 5.1.5 (DEQ 2017a). The conditions are also outlined in IDAPA 58.01.25.300 and include:

- Duty to Comply,

- Duty to Reapply,
- Need to Halt or Reduce Activity,
- Duty to Mitigate,
- Proper Operation and Maintenance,
- Permit Actions,
- Property Rights,
- Duty to Provide Information,
- Inspection and Entry,
- Retention of Records,
- Signatory Requirements,
- Bypass of Treatment Facilities,
- Upset Terms and Conditions, and
- Penalties for Violations of Permit Conditions.

In addition, all industrial permits include the following standard conditions.

4.8.2.1 ***Planned Changes***

The permittee must provide written notice of planned physical alterations or additions to the permitted facility.

4.8.2.2 ***Anticipated Noncompliance***

The permittee must give written advance notice to DEQ of any planned changes in the permitted facility or activity that may result in noncompliance with this permit.

4.8.2.3 ***Toxic Pollutants***

The permittee must comply with effluent standards or prohibitions in the toxic pollutant list in CWA 307(a) and with standards for sewage sludge use or disposal in CWA 405(d) within the time provided in the regulation, even if the permit has not yet been modified to incorporate the requirements.

4.8.2.4 ***Permit Modification***

A permit may be modified at the request of the permittee, an interested person, by DEQ's initiative, or to include any applicable standard for sewage sludge that is not included in the permit.

4.8.2.5 ***Omitted/Erroneous Information***

When the permittee becomes aware that it failed to submit any relevant facts in a permit application or submitted incorrect information in a permit application or any report to DEQ, it must promptly submit the omitted facts or corrected information in writing.

4.8.2.6 **Availability of Reports**

Information, other than permit applications and effluent data, submitted to DEQ pursuant to a permit may be claimed as confidential by the permittee. If a claim is made, the information will be treated accordingly²¹. If no claim is made at the time of submission, DEQ may make the information available to the public without further notice to the permittee.

4.8.2.7 **Transfers**

The permit is not transferable to any person except after written notice to DEQ. DEQ may require modification or revocation and reissuance of this permit to change the name of the permittee and incorporate such other necessary requirements²².

4.8.2.8 **State Laws**

Nothing in the permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by CWA section 510.

5 Other Considerations

This section includes topics related to industrial permits that can be part of the permitting process.

5.1 Facilities with Multiple Water Quality Permits

Some industrial facilities have IPDES and reuse permits. These permits authorize the discharge of treated effluent to surface water or reuse application, generally depending on season. Depending on the quality of the effluent, a reuse permit authorizes uses that may include, but are not restricted to, the following:

- Use in a city's public irrigation system or for ground water recharge (Class A)
- Park or golf course irrigation (Class B)
- Highway median or orchard irrigation (Class C)
- Ornamental nursery stock or pasture irrigation (Class D)
- Commercial timber or fodder and fiber crop production (Class E)

DEQ encourages permittees to request a preapplication meeting²³ to discuss permit requirements, alternatives, and schedules. A preapplication meeting is beneficial to the permittee in identifying the monitoring and reporting requirements of each permit type. DEQ encourages all permittees that have or are considering obtaining both IPDES and reuse permits to schedule a meeting with the appropriate DEQ regional office to discuss this dual permitting opportunity. IPDES staff will work with regional wastewater staff to coordinate permit conditions and the timing of site visits.

5.2 Offsets and Watershed Permitting

An offset is a pollutant load reduction created by an action, activity, or technology that, when approved by DEQ, may be used to comply with IPDES permit effluent limits, conditions, and stipulations. Offsets²⁴ may be used to mitigate specific proposed increases in pollutant loading to Tier II and III waters. In the context of antidegradation, an offset reduces the stream pollutant waste load that provides added assimilative capacity so the load added by a new or increased discharge does not degrade water quality.

An offset results in an environmental benefit when a facility reduces the input of a pollutant in the receiving water body. In turn, the permittee is allowed to discharge higher loads of the pollutant from their wastewater facility. The permittee should reduce the cumulative load of pollutant by more than the amount contributed by their facility resulting in a better environmental outcome for the receiving water body.

Through properly conducted offsets, no net degradation (i.e., lowering) of water quality occurs, not even in a portion of the receiving water, relative to current conditions. For some pollutants (e.g., nutrients), a lag may occur in their effect on water quality, which would appear as a gap between the discharge point and water quality degradation. In this case, the offset location could be below the discharge point and upstream of the degradation.

Watershed permitting evaluates and emphasizes all activities and stressors occurring within a defined watershed area to determine the impacts on the water body. Watershed permitting allows for flexibility in defining approaches to meet water quality standards. This approach allows the permit writer to consider the overall goals in the watershed and work with owners or their representative (applicants) to find ways to meet those goals.

Watershed permitting allows DEQ to focus on watershed goals and consider multiple pollutant sources and stressors. The most common form is a reissuing permit according to a 5-year rotating basin schedule. EPA's website provides more information on watershed permitting: www.epa.gov/npdes/watershed-based-permitting .

6 Permit Compliance and Inspection

The process for determining permit compliance does not differ by permit sector. Please see section 9 in the *IPDES User's Guide to Permitting and Compliance Volume 1* (DEQ 2017a).

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

DEQ (Idaho Department of Environmental Quality). 2017b. *Effluent Limit Development Guidance*. Boise, ID: DEQ. <http://www.deq.idaho.gov/media/60181085/ipdes-effluent-limit-development-guidance-1217.pdf>

EPA (US Environmental Protection Agency). 1996. *The Metals Translator: Guidance for Calculating Total Recoverable Permit Limit from a Dissolved Criterion*. Washington, DC: Office of Water. https://www3.epa.gov/npdes/pubs/metals_translator.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
Existing Source	IDAPA 58.01.25.010.36
General Permit	IDAPA 58.01.02.010.40
Idaho Pollutant Discharge Elimination System (IPDES)	IDAPA 58.01.25.010.42
Industrial Wastewater	IDAPA 58.01.25.010.46
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
New Source	IDAPA 58.01.25.010.58
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
Process Wastewater	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 [40 CFR 122.45\(c\)](#)
- ⁸ IDAPA 58.01.25.002 (Confidentiality of Records)
- ⁹ IDAPA 58.01.25.010.57 and 58 (also see 36)
- ¹⁰ IDAPA 58.01.25.105.07.n (Small business description)
- ¹¹ IDAPA 58.01.25.010.36, 57, and 58
- ¹² IDAPA 58.01.25.010.51.b (Major facility)
- ¹³ IDAPA 58.01.02.200 (General surface water quality criteria)
- ¹⁴ IDAPA 58.01.02 (Water quality standards)
- ¹⁵ 40 CFR 136.5 (Alternate test procedure)
- ¹⁶ [IDAPA 58.01.25.300.12.f-g \(Noncompliance Reporting\)](#)
- ¹⁷ IDAPA 58.01.25.301.05 (CAFO requirements)
- ¹⁸ IDAPA 58.01.25.302.13 (Storm water BMPs)
- ¹⁹ IDAPA 58.01.02.100 (Beneficial uses)
- ²⁰ IDAPA 58.01.25.300.05 (Proper operation and maintenance)
- ²¹ IDAPA 58.01.21 (Protection and disclosure of records)
- ²² IDAPA 58.01.25.202 (Transfer of IPDES permits)
- ²³ IDAPA 58.01.17 and IDAPA 58.01.25 (Recycled Water Rules and IPDES Rules)
- ²⁴ IDAPA 58.01.02 (Water Quality Standards)