Idaho Pollutant Discharge Elimination System

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

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Prepared by
Idaho Department of Environmental Quality
Water Quality Division
1410 N. Hilton
Boise, ID 83706

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Abbreviations and Acronyms

§	section (usually a section of federal or state rules or statutes)
ATP	alternate test procedure
BMP	best management practices
CAFO	concentrated animal feeding operation
CFR	Code of Federal Regulations
CWA	Clean Water Act
DEQ	Idaho Department of Environmental Quality
DMR	discharge monitoring report
E. coli	*Escherichia coli*
ELG	effluent limit guideline
EPA	United States Environmental Protection Agency
GC	gas chromatography
IDAPA	Idaho Administrative Procedures Act; refers to citations of Idaho administrative rules
IPDES	Idaho Pollutant Discharge Elimination System
MS	mass spectrometry
NMP	nutrient management plan
NPDES	National Pollutant Discharge Elimination System
NSPS	new source performance standard
O&M	operations and maintenance
POTW	publicly or privately owned treatment works
QA	quality assurance
QAPP	quality assurance project plan
QC	quality control
RPTE	reasonable potential to exceed
SWPPP	storm water pollution prevention plan
TBEL	technology-based effluent limit
TP	total phosphorous
TRC	total residual chlorine
TRE	toxicity reduction evaluation
WET	whole effluent toxicity
WLA	wasteload allocation
WQBEL	water quality-based effluent limit

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. This guide describes the IPDES statutory and regulatory requirements for publicly and privately owned treatment works (POTWs), pretreatment, non-POTW (industrial), storm water, sewage sludge (biosolids), and other 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 to Idaho's non-POTW facilities and citizens for 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

To assist the regulated community (applicants and permittees) and other users, this guide serves as a reference for successfully navigating the IPDES permitting and compliance process for non-POTW (industrial) facilities:

- 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, federal regulations, and Idaho Code, administrative rules, and guidance. The guide 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 not described in Volume 1 or other IPDES guidance.

This guide includes newly developed sections that address rules, regulations, and conditions specific to Idaho; other sections reference or adapt existing state and United States Environmental Protection Agency (EPA) guidance documents.

While this guide provides direction, DEQ may adjust permit-specific conditions to address site-specific concerns and conditions. The guide does not replace or change any requirements under state or federal rules and regulations, but it does identify and reference relevant regulations, policy, and other guidance documents. The CWA, federal code, and Idaho Code and

administrative rules supporting the IPDES Program is provided 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 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. In these rules and guidance, permits are referred to 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

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 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 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—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 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 initially used. Applicable IDAPA and CFR references are included as endnotes after the appendices.

1.4 Time Computation[1]

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 appear in blue italics and are hyperlinked. These sites provide supplementary information that can be accessed in printed and electronic versions. These website addresses are current; however, the hyperlinks 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 direct[2] discharges of process or nonprocess water from manufacturing, commercial, mining (not including small suction dredge), silvicultural activities,[3] or drinking water treatment operations (public and private). When 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 only applies to industrial facilities seeking coverage under an **individual permit**. Facilities covered under an industrial storm water or general permit or 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 submit an individual industrial application in the IPDES E-Permitting System. If an industrial facility lacks internet access, 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 the 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:

- 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 or North American Industrial Classification System applicable codes
  - Existing environmental permits associated with the facility
  - Associated NPDES/IPDES information
  - Federal facility designation
  - Nature of the business
  - Topographic map

The following sections identify information industrial applicants must provide depending on whether they are new or existing dischargers and the wastewater discharge characteristics.[4] The IPDES E-Permitting System application instructions provide guidance on the information required.

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 wastewater will complete Sections I–IX of the application.[5] The information below is needed to complete the application process (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 four or more decimal places. If applicants know the coordinates in another format, convert the coordinates to decimal degrees format.

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 river. To identify the receiving waters, click on the Integrated Report interactive map link in the application or contact the IPDES staff for assistance.

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

In Part II.A, applicants must upload a line drawing showing the water flow through the facility. The line drawing should show the water route in the facility from intake to discharge. Include any internal monitoring points, if applicable, to show monitored internal wastewater streams. Show all operations contributing wastewater, including process and production areas, sanitary flows, cooling water, and storm water runoff. Similar operations may be grouped 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 pictorial description of all water sources and any collection or treatment measures.

In Part II.B, applicants must list operations that contribute flows to the wastewater stream and the treatment process applied to each. Operations may be generally described but terms 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, estimate the average flow and indicate the rainfall event for which the estimate is based and the method used. 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 process order with the treatment codes 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 (*Hyperfiltration*)
1-H	Flotation	1-T	Screening
1-I	Foam Fractionation	1-U	Sedimentation (*Settling*)
1-J	Freezing	1-V	Slow Sand Filtration
1-K	Gas-Phase Separation	1-W	Solvent Extraction
1-L	Grinding (*Comminutors*)	1-X	Sorption
Chemical Treatment Processes			
2-A	Carbon Adsorption	2-G	Disinfection (*Ozone*)
2-B	Chemical Oxidation	2-H	Disinfection (*Other*)
2-C	Chemical Precipitation	2-I	Electrochemical Treatment
2-D	Coagulation	2-J	Ion Exchange
2-E	Dechlorination	2-K	Neutralization
2-F	Disinfection (*Chlorine*)	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 if it occurs from with interruption during the operating hours of the facility, excluding infrequent shutdowns for maintenance, process changes, or similar operations. Flows from storm water runoff, leaks, or spills are also excluded from the definition of *intermittent*. A discharge is seasonal if it occurs only during certain parts of the year. Base answers on actual data when 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—the applicant must complete the average daily production in the application table.

For example, in a facility for which 40 CFR 405, Dairy Products Processing applies, applicants are required to submit information on the operation, product, or material and the average daily production quantity and unit of measure from the ELG. Using 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 an operational limit up to 500,850 pounds per day of dry whey for the 5-day biochemical oxygen demand.

If more than one ELG applies, all average daily production values (quantity per day, units of measure, 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 requires the facility to meet an implementation schedule for an improvement that may affect the discharges in the application. Examples of improvement directives can include, but are not limited to the following:

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

Applicants must also identify the condition or 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 underway or planned for the future that may affect the discharge, including the following:

- 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. Provide information including pollutant groups and parts of the application based on the following:

- Size of the business
- Identified primary industry
- 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 business, they are exempt from sampling and reporting organic toxic gas chromatography–mass spectrometry (GC/MS) groups listed in Group C (Table 2).[6] If they do not qualify for exemption, 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 for their industry.

- Group A pollutants are standard pollutants that require submittals 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 *Escherichia coli* (*E. coli*) or fecal coliform, which must be collected as grab samples. Pollutants 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 metals data.[7]
    - Conversion factors and translators are used to convert to dissolved criteria when necessary (DEQ 2017b, EPA 1996).
  - 2,3,7,8-Tetrachlorodibenzo-P-Dioxin
  - 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	
Ammonia (as N)	Flow
Biological oxygen demand (BOD)	Temperature (winter)
Chemical oxygen demand (COD)	Temperature (summer)
Total organic carbon (TOC)	pH
Total suspended solids (TSS)	
Group B Pollutants	
Alpha, total	Nitrate-nitrite (as N)
Aluminum, total	Nitrogen, total organic[a]
Barium, total	Oil and grease
Beta, total	Phosphorus (as P), total
Boron, total	Radioactivity
Bromide	Radium 226, total
Cobalt, total	Radium, total
Color	Sulfate (SO4)
Escherichia coli (*E. coli*)	Sulfide (as S)
Fluoride	Sulfite (as SO3)
Iron, total	Surfactants
Magnesium, total	Tin, total
Manganese, total	Titanium, total
Molybdenum, total	Total residual chlorine (TRC)
Group C Pollutants	
Metals, Cyanide, Phenols, and Dioxin	
2,3,7,8-Tetrachlorodibenzo-P-Dioxin (TCDD)	Lead,[b] total
Antimony, total	Mercury, total
Arsenic, total	Nickel,[b] total
Beryllium, total	Phenols, total
Cadmium,[b] total	Selenium, total
Chromium,[b] total	Silver,[b] total
Copper,[c] total	Thallium, total
Cyanide, total	Zinc,[b] total
GC/MS Volatile Compounds	
1,1,1-Trichloroethane	Chlorobenzene
1,1,2,2-Tetrachloroethane	Chlorodibromomethane
1,1,2-Trichloroethane	Chloroethane
1,1-Dichloroethane	Chloroform
1,1-Dichloro-ethylene[a]	Dichlorobromomethane
1,2-Dichloroethane	Dichloro-difluoromethane[a]
1,2-Dichloropropane	Ethylbenzene
1,2-Trans-dichloroethylene	Methyl bromide
1,3-Dichloropropylene	Methyl chloride
2-Chloroethylvinyl ether	Methylene chloride[a]
Acrolein	Tetrachloroethylene

Acrylonitrile	Toluene
Benzene	Trichloroethylene
Bis-chloro-methyl-ether[a]	Trichlorofluoromethane[a]
Bromoform	Vinyl chloride
Carbon tetrachloride	
GC/MS Acid Compounds	
2,4,6-Trichlorophenol	4,6-Dinitro-o-cresol
2,4-Dichlorphenol	4-Nitrophenol
2,4-Dimethylphenol	P-chloro-m-cresol
2,4-Dinitro-phenol	Pentachlorophenol
2-Chlorophenol	Phenol
2-Nitrophenol	
GC/MS Base-Neutral Compounds	
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	Dimethl 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
Acenapthene	Hexachlorocyclopentadiene
Acenapthylene	Hexachloroethane
Anthracene	Indeno (1,2,3-cd) pyrene
Benzidine	Isophorone
Benzo (a) anthracene	Napthalene
Benzo (a) pyrene	Nitrobenzene
Benzo (ghi) perylene	N-nitro-sodimethylamine
Benzo (k) fluoranthene	N-nitrosodi-N-propylamine
Bis (2-chloroethoxy) methane	N-nitro-sodiphenylamine
Bis (2-chloroethyl) ether	Phenanthrene
Bis (2-chloroisopropyl) Ether	Pyrene
GC/MS Pesticides	
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	

a. These pollutants are only available on the existing process wastewater discharge applications.
b. If an applicant identifies one of the metals in the effluent stream, DEQ requires concurrent hardness samples to be taken.
c. 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[a]	Pyrethrins
Captan	Formaldehyde	Quinoline
Carbaryl	Furfural	Resorcinol
Carbofuran	Guthion	Strontium
Carbon disulfide	Isoprene	Strychnine
Chlorpyrifos	Isopropanolamine	Styrene[a]
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[a]
Dichlobenil	Methyl parathion	Uranium
Dichlone	Mevinphos	Vanadium
2,2-Dichloropropionic acid	Mexacarbate	Vinyl acetate
Dichlorvos	Monoethyl amine	Xylene
Diethyl amine	Monomethyl amine	Xylenol
		Zirconium

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

Table 4. Hazardous substances.

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

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

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 confidential.[8] However, the use or production of the pollutants or listed amounts does not have to be the distinguishing characteristic. DEQ may waive or modify the requirement if the applicant demonstrates 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 the discharge or receiving water in relation to the discharge within 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 review (DEQ 2017a).

3.1.8 Part VIII. Contract Analysis Information

Applicants complete Part VIII 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 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 requests and discuss required information and the timeline for providing that information. 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), *Effluent Limit Development Guidance* section 3.4.3 (DEQ 2017b), and *Idaho Mixing Zone Implementation Guidance* (DEQ 2016a).

Mixing zones may be incorporated in the reasonable potential analysis and WQBEL calculations for pollutants. For DEQ to consider authorizing a mixing zone for any pollutant as part of permit conditions, the applicant must ensure the mixing zone box remains checked when submitting the 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 applicants provide the 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 impairing the receiving water. Mixing zones only apply to WQBEL calculations and are not part of technology-based effluent limit (TBEL) determinations.

3.2 New Dischargers of Process Wastewater

Operators (applicants) of new 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.[9] The following

sections outline the information necessary to complete the application process (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 four or more decimal places. If applicants know the coordinates in another format, convert the coordinates to decimal degrees format.

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 river. To identify the receiving waters, click on the Integrated Report interactive map link on the application or contact the IPDES staff for assistance.

3.2.2 Part II. Discharge Date

Applicants should indicate the calendar date in month, day, and year format that discharge will begin.

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

In Part III.A, applicants must upload a line drawing showing the water flow through the facility. The line drawing should show the water route taken in the facility from intake to discharge. Include any internal monitoring points, if known, to show monitored internal wastewater streams. Show all operations contributing wastewater, including process and production areas, sanitary flows, cooling water, and storm water runoff. Similar operations may be grouped 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 actual measurements are not available, provide a best estimate. Show all significant losses of water to products, atmosphere, and discharge. If water balance cannot be determined, provide a pictorial description of all water sources and any collection or treatment measures.

In Part III.B, applicants must list operations that contribute flows to the wastewater stream and the treatment process applied to each. Operations may be generally described, but terms 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, estimate the average flow, and identify the rainfall event and the method used for estimations. 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 as identified using 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 if it occurs from with interruption during the

operating hours of the facility, excluding infrequent shutdowns for maintenance, process changes, or similar operations. Flows from storm water runoff, leaks, or spills are also excluded from the definition of *intermittent*. 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, estimate the 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 refers to goods the proposed operation will produce, not to wastewater production. If production is likely to vary, submit alternative estimates and the basis in Part VII.

3.2.5 Part V. Effluent Characteristics

In Part V, applicants must submit monitoring results. Provide the pollutant groups and parts of the application based on the following:

- Size of the business
- Identified primary industry
- 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 business, they are exempt from sampling and reporting organic toxic GC/MS groups listed in Group C (Table 2).[10] If they do not qualify for exemption, 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 knowledge of the facility processes or any pollutants 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 TRC, oil and grease, and *E. coli* or fecal coliform, which must be collected as grab samples. Pollutants 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
  - 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.

No later than 2 years after beginning discharge from the proposed facility, complete and submit Items V and VI of the Industrial Existing Discharger of Process Wastewater application under the Reporting tab in the IPDES E-Permitting System.

3.2.6 Part VI. Engineering Report on Wastewater Treatment

In Part VI, applicants should, if available, upload technical evaluation reports on wastewater treatment, including engineering reports or pilot plant studies. If existing facilities resemble the proposed production processes, wastewater constituents, or wastewater treatments, 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 requests and discuss required information and the timeline for providing that information. 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), *Effluent Limit Development Guidance* section 3.4.3 (DEQ 2017b), and *Idaho Mixing Zone Implementation Guidance* (DEQ 2016a).

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 TBEL determinations.

3.3 New and Existing Dischargers of Nonprocess Wastewater

Operators (applicants) of new or existing dischargers of nonprocess wastewater will complete Parts I-VII of the application.[11] The following sections outline the information necessary to complete the application (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 four or more decimal places. If applicants know the coordinates in another format, they must convert them to decimal degrees format.

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 river. To identify the receiving waters, click on the Integrated Report interactive map link on the application or contact IPDES staff for assistance.

3.3.2 Part II. Discharge Date (New Dischargers Only)

New discharges should supply the calendar date (month, day, and year) that discharge is anticipated to begin.

3.3.3 Part III. Type of Wastewater

Applicants must indicate the general types of nonprocess wastewater to be discharged:

- Sanitary wastewater
- Restaurant or cafeteria wastewater
- Noncontact cooling water[i]
- Other nonprocess wastewater. If "other" is selected, identify the type of nonprocess wastewater.

If cooling water additives are to be used, list by name and composition.

3.3.4 Part IV. Effluent Characteristics

Operators (applicants) of existing dischargers must provide at least one analysis for each parameter of discharge flow, pH, summer effluent temperature, and winter effluent temperature. Information must include a maximum daily value, average daily value, and the number of measurements taken in the last year.

Operators (applicants) of new dischargers must provide estimates for each parameter of discharge flow, pH, summer effluent temperature, and winter effluent temperature. Information must include a maximum daily value, an average daily value, and the source of the estimate.

Applicants must answer the following questions to determine if the remaining pollutants need to be reported in the application:

- Is *E. coli* believed present or is sanitary wastewater discharged?
- Is chlorination used as a disinfection treatment process?
- Is noncontact cooling water discharged?

[i] Noncontact cooling water is used to reduce temperature, but it does not come into direct contact with any raw material, intermediate product, waste product (other than heat), or finished product (EPA 1990). Waste products may include solid, liquid, or hazardous wastes.

The total list of pollutants includes biochemical oxygen demand, total suspended solids, *E. coli*, TRC, oil and grease, chemical oxygen demand, total organic carbon, 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 if it occurs with interruption during the operating hours of the facility, excluding infrequent shutdowns for maintenance, process changes, or other operations. Flows from storm water runoff, leaks, or spills are also excluded from the definition of *intermittent*. 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 should base answers on best estimate.

3.3.6 Part VI. Treatment System

Briefly describe any treatment systems currently used or that will be used for new dischargers. Use any processes and codes that may apply to the facility. List treatment units in order using 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 required information and the timeline for providing that information. 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), *Effluent Limit Development Guidance* section 3.4.3 (DEQ 2017b), and *Idaho Mixing Zone Implementation Guidance* (DEQ 2016a).

Mixing zones may be incorporated in the reasonable potential analysis and WQBEL calculations for pollutants. For DEQ to consider authorizing a mixing zone for any pollutant as part of permit conditions, the applicant must ensure the mixing zone box remains checked when submitting the 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 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 impairing the receiving water. Mixing zones only apply to WQBEL calculations and are not part of TBEL determinations.

4 Understanding Your Permit

The following sections identify conditions in industrial permits. Each accompanying fact sheet describes decisions and calculations that determine specific permit conditions. For each industrial facility, the permit writer completes an IPDES Permit Rating Worksheet, found in User's Guide Volume 1, Appendix B (DEQ 2017a), which determines its status as a major or minor facility. A nonmunicipal facility is considered a major facility when the score on the

worksheet is 80 or greater.[12] The table headings and narrative text in the permit use the terms *parameter* and *pollutant* interchangeably to describe items that the permittee must analyze.

4.1 Discharge Authorization

Discharge authorization gives the permittee permission 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 in the permit identifies all monitoring sites and authorized outfalls. Monitoring sites may include intake, internal, outfall, and receiving water locations.

The effluent limits for each pollutant are also outlined in this section. Tables in the permit specify the effluent limits and monitoring requirements and include the following:

- 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 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 footnotes. Examples include:
    - *E. coli* is expressed as a geometric mean in the average monthly limit type column with a footnote explaining the single sample value in the maximum daily column
    - Other limits may be expressed in ways not described in this section
- Sample type—Sample collection may include grab, composite, calculation, metered, recorded, or visual observation methods
- Sample frequency—Number of samples to collect in a given time period

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 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 section includes standard water quality prohibitions and receiving water visual observances to verify the narrative criteria are being met.[13]

4.3 Regulatory Mixing Zone

This section of the permit describes authorized mixing zones and identifies each pollutant and associated dilution for flowing waters or surface area for nonflowing water bodies. The permit writer will use the *Effluent Limit Development Guidance* section 3.4.3 (DEQ 2017b) and *Idaho Mixing Zone Implementation Guidance* (DEQ 2016a) to develop the mixing zone criteria, when appropriate. The permittee must monitor and report the effluent and, in most instances, the background receiving water concentration of all pollutants with authorized mixing zones. 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 wastewater and receiving water. Representative means a sample from the intake, effluent, or surface water that exhibits characteristics of the water during the period of discharge, whether continuous or intermittent. Permit conditions require regularly scheduled samples, but the permittee may choose to sample more frequently. The permittee is required to collect additional samples at the appropriate location when any discharge occurs that may cause a permit violation (e.g., a spill, bypass, or upset). This sampling accounts for excursions not detected by regularly scheduled samples. 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 monitoring requirements for the intake water. The table contains the following information:

- Parameter—Pollutant or parameter the permittee must monitor
- Monitoring period—Months 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 may include grab, composite, calculation, metered, recorded, or visual observation
- Report—The months the permittee must report monitoring results on a DMR

4.4.2 Effluent Monitoring

Effluent monitoring required for pollutants without effluent limits includes a table in the permit identifying parameters the permittee must monitor. These parameters do not have limits. The pollutants or parameters monitored in this section help characterize the effluent and may include pollutants that exceed water quality standards at end of pipe; however, these pollutants may have been granted a mixing zone sized to ensure water quality standards compliance at the mixing zone boundary.[14] Nonregulated parameters, such as hardness, may be concurrently monitored to calculate appropriate water quality criteria for specific pollutants (e.g., heavy metals). The table contains the following:

- Parameter—Pollutant or parameter 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 may include grab, composite, calculation, metered, recorded, or visual observation
- Sample location—Parameter monitoring location
- Report—The months the permittee must report monitoring results on a 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 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.

DEQ must approve the monitoring location. Required monitoring site locations 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 the permittee must monitor
- Monitoring period—Time period 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 may include grab, composite, calculation, metered, recorded, or visual observation
- Report—The months the permittee must report monitoring results on a 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 are specified in the permit or approved by EPA as an alternate test procedure (ATP).[15] When more than one analytical method is available to analyze 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 to the National ATP Program Coordinator for review of an ATP for nationwide use. 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 deems the application incomplete, 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.

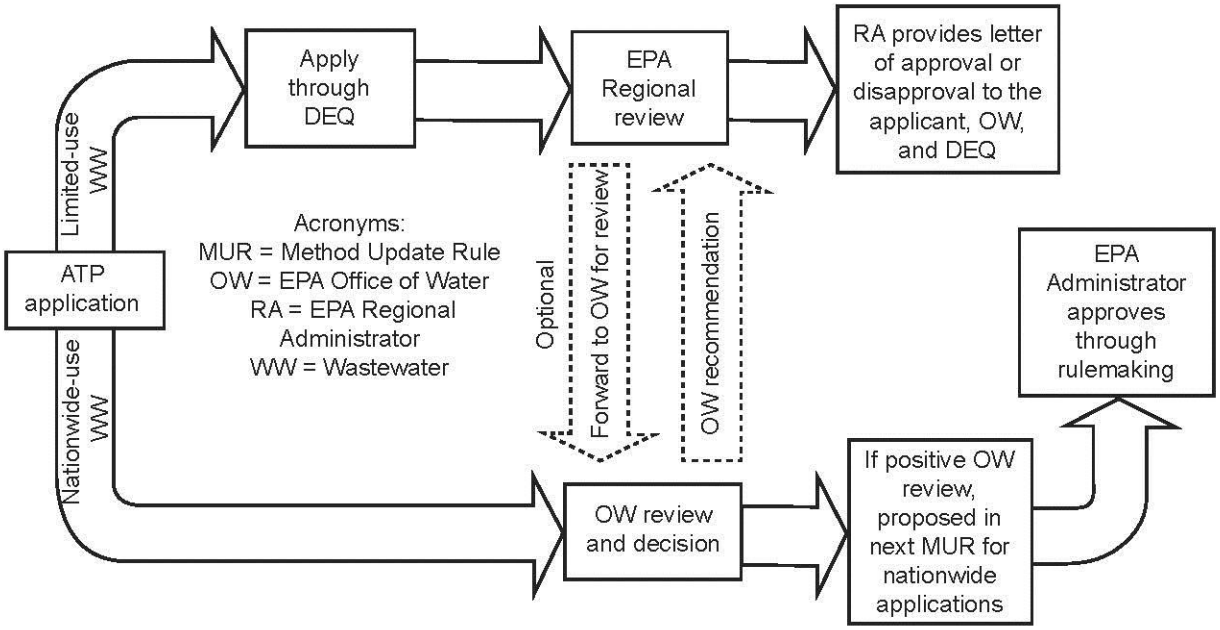

Figure 1. Flowchart summarizing the new method ATP application process (adapted from EPA 2016).

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 quality assurance and quality control (QA/QC) requirements of 40 CFR 136.7. 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 or minimum level
- DMRs—Describes how to submit DMRs
- Permit submittals and schedules—Describes how to submit required reports
- Additional monitoring—Describes requirements for reporting additional monitoring completed by the permittee that is 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 monitoring data electronically using NetDMR. If the permittee is unable to use NetDMR, 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, including all intake, effluent, and receiving water monitoring data as specified in the permit. The results should be reported using the appropriate units and the same number of significant figures noted in the permit monitoring tables.

4.5.2 Permit Submittals and Schedules

All permittees must submit 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.

4.5.3 Elective Monitoring by Permittee

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 reporting violations of permit conditions.

4.5.4.1 Twenty-Four Hour and Five-Day Noncompliance Reporting

The permittee is required to telephone DEQ within 24 hours when noncompliance may endanger public health or the environment. Noncompliance includes unanticipated bypasses or upsets that exceed any effluent limit in the permit, or maximum daily effluent limit violations.[16]

Permittees must also provide a written submission within 5 days of becoming aware of the noncompliance. The report procedure, contact information for the regional office, and hotline phone number are included in the permit.

A bypass is an intentional diversion of the wastewater around any portion of the treatment system. Bypasses are prohibited under IPDES permits, except when effluent limits are not exceeded and bypasses are performed for essential maintenance to ensure efficient operation. If the bypass is not associated with an emergency, the permittee must request prior approval from DEQ. If the bypass results from 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 when 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 they know, or have reason to believe, 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 the application for completeness. For complex permits, DEQ may require the permit renewal application be submitted more than 240 days before permit expiration.

Eligibility for an administrative continuation requires submitting a complete permit application 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 incomplete. Permits for 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. DEQ may grant permission to submit an application in less than 180 days; DEQ's approval must be obtained in advance of the 180 days before the existing permit expires or new discharge commences. The application for permit shall not be accepted as a renewal after the existing permit's expiration date. Applications received after the permit expires will be reviewed as an application for a new source or new discharger. DEQ may require owners or their representative (applicants) to submit supplemental information 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, facility processes, and the 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 requires the applicant provide supplemental information necessary to authorize a compliance schedule. This schedule specifies a series of tasks, with associated milestones 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. These reports must describe progress toward completing the next compliance schedule requirement and include a projected completion date that meets the date specified in the compliance schedule.

User's Guide Volume 1, section 5.1.4.3 (DEQ 2017a) describes additional conditions where permits authorize compliance schedules.

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
- If necessary to determine support of beneficial uses

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

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 a sensitive beneficial use exists 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 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. Two types of WET tests are 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 ≥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 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	*Ceriodaphnia dubia* (daphnid)
		Daphnia pulex and D. magna (daphnids)
	Fish	*Pimephales promelas* (Fathead Minnow)
		Oncorhynchus mykiss (Rainbow Trout)
Chronic	Invertebrate	*Ceriodaphnia dubia* (daphnid)
	Fish	*Pimephales promelas* (Fathead Minnow)
	Plant	*Pseudokirchneriella subcapitata*
		(green algae also known as *Selanastrum capricornutum*)

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

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. 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. If WET tests result in 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 cease. However, if accelerated testing indicates continued toxicity, the permittee must conduct a complete TRE.

4.7.2.6 Toxicity Reduction Evaluations

Before the permittee initiates the first required WET test, they must develop a TRE framework by the specified date in the permit. This framework describes the steps the permittee intends to follow if toxicity is detected and, at a minimum, include the following:

- Description of the investigation and evaluation techniques used to identify potential causes or 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 is necessary, who will conduct it (i.e., in-house or other)

The TRE is 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 toxicity identification evaluation as part of the TRE process to identify the specific pollutant that caused the toxicity.

4.7.3 Mercury

Permit special conditions for mercury depend on whether the facility is considered either a significant or de minimis discharger of mercury based on the results of a reasonable potential analysis. The fact sheet will identify whether the facility is considered a significant or de minimis discharger. Significant dischargers are either assigned a TMDL wasteload allocation (WLA) or determined to have reasonable potential to exceed the mercury criteria. De minimis dischargers do not discharge enough mercury to be assigned a TMDL WLA nor do they have reasonable potential to exceed the mercury criteria. De minimis dischargers are confirmed through effluent monitoring of mercury concentration. Refer to the *Implementation Guidance for the Idaho Mercury Water Quality Criteria* (DEQ 2005) for further information.

Two types of special conditions related to mercury may be included in an IPDES permit: a mercury minimization plan and methylmercury fish tissue monitoring requirements.

4.7.3.1 Mercury Minimization Plan

A mercury minimization plan identifies potential sources of mercury and measures to prevent or reduce mercury loads 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 dischargers will develop a mercury minimization plan with voluntary best management practices (BMPs). Significant dischargers 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
- Current and potential mercury sources contributing to discharge concentrations
- Potential methods for reducing or eliminating mercury

The permit will contain intake and effluent monitoring requirements to evaluate the mercury minimization plan's effectiveness. An annual mercury minimization status report must be submitted to DEQ either through the IPDES E-Permitting System or, if the permittee has an approved electronic reporting waiver, as a hard copy postmarked by the due date.

If DEQ determines that the mercury minimization plan is not effective at reducing sources of mercury, or if a fish tissue advisory is developed, DEQ may reopen the permit to modify the permit conditions. Modifications may include fish tissue monitoring for methylmercury or the addition of a numeric effluent limit.

4.7.3.2 Methylmercury Fish Tissue Monitoring Plan

Fish tissue methylmercury monitoring helps DEQ determine whether organisms consumed from a water body pose a threat to human health. Permits for individual industrial dischargers that are significant mercury sources require fish tissue methylmercury monitoring. Permits for dischargers that are de minimis mercury sources may require fish tissue methylmercury monitoring to determine methylmercury concentrations in fish from the receiving water. 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 depends on whether the facility is assigned a TMDL WLA for mercury and whether the fish tissue criterion data indicate a 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 either through the IPDES E-Permitting System or, if the permittee has an approved electronic reporting waiver, as a hard copy postmarked by the due date.

4.7.4 Phosphorus Management Plan

When the discharge contributes nutrients to an impaired water body without an approved TMDL and insufficient 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 a TMDL load allocation is 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 total phosphorous (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 submittal of an annual report to DEQ describing TP reduction potential and any reductions achieved. The report must be submitted to DEQ either through the IPDES E-Permitting System or, if the permittee has an approved electronic reporting waiver, as a hard copy postmarked by the due date. 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 need for numeric phosphorus effluent limits.

4.7.5 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 study must be submitted to DEQ either through the IPDES E-Permitting System or, if the permittee has an approved electronic reporting waiver, as a hard copy postmarked by the due date. 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.

4.7.6 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 should review the plan annually and update as needed.

The spill control plan must include the following:

- A list of all oil and petroleum products and other materials used or stored on site that, when spilled or otherwise released into the environment, pose a potential threat to human health or the environment. A list of other materials used or stored on site that may become pollutants or cause pollution upon reaching surface water.
- A description of preventive measures and facilities (including an overall facility plot showing drainage patterns) that prevent, contain, or treat spills of these materials.
- A description of the reporting system the permittee will use to alert responsible managers and legal authorities in the event of a spill.
- A description of operator training to implement the plan.

4.7.7 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 verifying all earthen wastewater storage, treatment, and conveyance structures) ensures compliance with Idaho's "Ground Water Quality Rule" (IDAPA 58.01.11) and "Wastewater Rules" (IDAPA 58.01.16.401). Seepage testing of wastewater lagoons must be conducted before 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 before the planned seepage test. Seepage test procedures are available at *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 responsible for the test. The seepage test report shall be submitted within 60 days after completing 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 if the allowable lagoon seepage rates are exceeded. This study should assess subsurface flow and determine the impact of the wastewater discharge. The study will include properly locating appropriate monitoring wells for site-specific ground water compliance points. Once the monitoring wells have been installed, the permittee must begin monitoring for particular pollutants using the monitoring wells. Monitoring data will be used by DEQ to characterize the water balance and specific impacts of subsurface seepage to develop site-specific ground water quality limits or authorized points of compliance in the permit.

4.7.8 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 prevent or reduce the discharge of pollutants to waters of the United States. BMPs focus on good housekeeping measures and good management techniques to avoid contact between

pollutants and water as a result of leaks, spills, and improper waste (solid, liquid, hazardous) disposal. BMPs or BMP plans 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 §402(p) for controlling storm water discharges.
- Numeric effluent limits are infeasible because of the following:
  - 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.
- Practices are necessary to achieve effluent limits and standards or carry out the purpose and intent of the CWA.

The permit may also 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.

4.7.8.1 BMP Requirements in IPDES Permits

Permits may include BMP requirements using two approaches:

- Site-, process-, or pollutant-specific BMPs
- 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.

4.7.8.2 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

4.7.8.3 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 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

4.7.9 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 standards. DEQ considers nutrients and temperature appropriate pollutants for trading—specifically, TP, total nitrogen, and thermal loads. Sediment or suspended solids trading to address sedimentation may be considered, particularly where impacts to dissolved oxygen 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, it should consult with IPDES permit staff before submitting the permit application.

4.7.10 Intake Credit

Some dischargers might not comply with TBELs or WQBELs because of pollutants in the 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 from the same water body if DEQ determines 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 due in part 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 where permits authorize intake credits.

4.7.11 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 are 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 where permits authorize variances.

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

If EPA disapproves DEQ's granting of a waiver, DEQ will not deem permit applications complete. 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 deem the permit application complete (without the information subject to 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 where permits authorize waivers.

4.7.13 Nutrient Management Plan

Facilities that meet DEQ's definition of a concentrated animal feeding operation (CAFO), or are designated as CAFOs by DEQ, and discharge or propose to discharge to waters of the United States must 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 the CAFO begins to discharge. CAFO requirements limit discharges from the production area and application to land areas under the CAFO operator's control. An NMP that is part of a CAFO permit must include, at a minimum, BMPs to achieve the minimum requirements and compliance with effluent limits and standards.[17] DEQ may require the CAFO operator to change its NMP before permit coverage is granted.

4.7.14 Storm Water Pollution Prevention Plan

The permit may include requirements for updating or developing and implementing a storm water pollution prevention plan (SWPPP) that, along with BMPs, will minimize or prevent the discharge of pollutants to waters of the state.[18] DEQ determines whether the facility must prepare or update a SWPPP. BMPs may be needed when impairments in the receiving water are highly toxic, hazardous chemicals are used, or for operations exposed to storm water. A SWPPP requires a facility to implement actions that manage storm water and comply with the requirements to protect the beneficial uses of waters of the state.[19]

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

The permittee must modify the existing SWPPP when a change in design, construction, or operation or maintenance occurs that causes the SWPPP to be less effective in controlling pollutants. When the description of potential pollutant sources or the pollution prevention measures and controls identified in the SWPPP are inadequate, the SWPPP must be modified

within 2 weeks of the determination. The SWPPP shall be maintained on site and provided to DEQ personnel upon request.

4.7.15 Other Special Conditions

DEQ may develop other special conditions as needed.

4.8 Standard Conditions

Standard conditions are 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. These requirements include the QAPP and 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* (QA/R-5; EPA 2001) and *Guidance for Quality Assurance Project Plans* (QA/G-5) (EPA 2002).

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) that 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 compliance.[20] 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

When a facility is subject to development and implementation of a BMP plan (section 4.7.8), the BMP plan can supplement and fulfill requirements of the O&M manual.

4.8.2 Conditions Applicable to all Permits

Certain permit conditions apply to all individual permits and are described in the User's Guide Volume 1, section 5.1.5 (DEQ 2017a). The following conditions are outlined in IDAPA 58.01.25.300:

- 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
- Penalties for violations of permit conditions

In addition, all industrial permits include the standard conditions described below.

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 the 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 been modified to incorporate the requirements.

4.8.2.4 Permit Modification

A permit may be modified, or revoked and reissued, at the request of the permittee, an interested person, or DEQ. Acceptable causes for modifying or revoking and reissuing a permit are restricted to the reasons outlined in IDAPA 58.01.25.201.02.

4.8.2.5 Omitted/Erroneous Information

When the permittee becomes aware that they failed to submit relevant facts or submitted incorrect information in a permit application or any report to DEQ, they 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 accordingly.[21] 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 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 other necessary requirements.[22]

4.8.2.8 State Laws

The condition states that the permit shall not 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 §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 meeting to discuss permit requirements, alternatives, and schedules.[23] A preapplication meeting benefits the permittee by 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. Offsets may be used to mitigate specific proposed increases in pollutant load to Tier II and III waters.[24] In the context of antidegradation, an offset reduces the stream pollutant waste load, which 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 the wastewater facility. The permittee should reduce the pollutant's cumulative load by a greater amount than is contributed by the facility, resulting in a better environmental outcome for the receiving water body.

With 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. Some pollutants (e.g., nutrients) include a lag in their effect on water quality, which appears as a gap between the discharge point and water quality degradation. In this case, however, 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 reissuing a 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; refer to the User's Guide Volume 1, section 9 (DEQ 2017a).

References

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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 (WET)	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 (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)