Idaho Pollutant Discharge Elimination System

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

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Volume 3—Non-POTW

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Table of Contents

List of Tables

List of Figures

No table of figures entries found.

List of Equations

No table of figures entries found.

Abbreviations and Acronyms

§	section (usually a section of federal or state rules or statutes)
BOD	biochemical oxygen demand
BOD_5	5-day biochemical oxygen demand
COD	chemical oxygen demand
CFR	code of federal regulations (refers to citations in the federal administrative rules)
CWA	Clean Water Act
DEQ	Idaho Department of Environmental Quality
DMR	discharge monitoring report
ELG	effluent limit guideline
EPA	United States Environmental Protection Agency
gpd	gallons per day
I&I	inflow and infiltration
IDAPA	Idaho Administrative Procedures Act; refers to citations of Idaho administrative rules
IPDES	Idaho Pollutant Discharge Elimination System (IDAPA 58.01.25)
NAICS	North American industrial classification system
NOI	notice of intent
NPDES	National Pollutant Discharge Elimination System
NSPS	new source performance standard
POTW	publicly or privately owned treatment works
SIC	standard industrial classification
TBEL	technology-based effluent limit
TCDD	2,3,7,8-Tetrachlorodibenzo-P-Dioxin
TIE	toxicity identification evaluation
TOC	total organic carbon
TRC	total residual chlorine
TRE	toxicity reduction evaluation
TSS	total suspended solids
WQBEL	water quality-based effluent limit
WQS	Idaho water quality standards (IDAPA 58.01.02)

1 Introduction

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

1.1 Purpose and Need

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

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

1.2 Relationship to Existing Rules and Guidance

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

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

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

While this guide provides direction in many cases, DEQ may have to adjust permit-specific conditions to address site-specific concerns and conditions. This guide does not replace, supplant, or change any requirements under state or federal rules and regulations but does identify and reference relevant regulations, policy, and other guidance documents. A detailed discussion about the CWA, federal code, and Idaho Code and administrative rules that support the IPDES Program is included in the User's Guide Volume 1, section 2 (DEQ 2017a).

1.2.1 Clean Water Act Background

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

1.2.2 Rules Regulating the IPDES Program

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

1.2.3 Idaho Water Quality Standards

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

1.3 Legislative and Regulatory Citations

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

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

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

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

2 Defining Non-POTW Facilities

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

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

3 Application Content

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

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

- Operator and owner information
- Facility mailing, physical, and billing addresses and locations
- Contractor information (if applicable)

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

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

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

3.1 Existing Dischargers of Process Wastewater

All 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. The following sections outline the information necessary to complete the application process and are adapted from EPA Form 2C.

3.1.1 Part I. Outfall Locations

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

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

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

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

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

List treatment units in order and identified with the treatment code from Table 1 of the application instructions. Enter either the treatment description, a treatment code from the table, or both if possible.

Table 1. Treatment process codes from the application.

PHYSICAL TREATMENT PROCESSES

1–A	Ammonia Stripping	1–M	Grit Removal
1–B	Dialysis	1–N	Microstraining
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 unless it occurs without interruption during the operating hours of the facility, except infrequent shutdowns for maintenance, process changes, or other similar operations. This also excludes flows from storm runoff, leaks, or spills. A discharge is seasonal if it occurs only during certain parts of the year. Base answers on actual data whenever available or a best estimate. The long term average for flow rate and total flow are an average of all daily values measured during days when discharge occurred. The maximum daily is the highest daily value for flow rate and total volume during discharge.

3.1.3 Part III. Production

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

An example is a facility for which 40 CFR 405— Dairy Products Processing applies. Applicants are required to submit information on the operation, product, or material limited and the average daily production quantity and unit of measure from the ELG. From 40 CFR 405 Subpart L, Facility 'X' calculates their limit based on the dry whey composition (fats, proteins, and carbohydrates) multiplied by specific conversion factors to arrive at a whey operation limited to 500,850 lb/day for the 5-day biochemical oxygen demand (BOD_5).

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

3.1.4 Part IV. Improvements

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

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

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

Additionally, applicants may upload documents describing additional environmental projects that may affect the discharge that are underway or planned for the future, including:

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

3.1.5 Part V. Intake and Effluent Characteristics

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

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

Applicants first determine if they qualify for a small business exemption. If they meet the definition of a small business[3], they are exempt from sampling and reporting organic toxic pollutants listed in Group C of the application. If they do not qualify, they must identify the top primary industry category that applies and submit analysis for the GC/MS fraction categories of organic toxic pollutants in Group C that apply to their industry identified in Table 2.

- Group A pollutants are standard pollutants for which submittals are required from all industrial facilities, regardless of size, industry type, or discharge. For each outfall, at least one analysis for each parameter is required; however, if more are conducted, the average of the analyses must be reported, unless waived by DEQ.

Group B pollutants are pollutants that applicants select based on whether they are believed present or believed absent in the discharge based on knowledge of the facility processes or any pollutant that has a direct or indirect limit expressed in the applicable ELG(s). When pollutants are believed present in the discharge, the effluent concentration and mass must be reported for at least one analysis for that pollutant. Collect composite sample types for all pollutants except total residual chlorine (TRC), oil and grease, and *E.coli* or fecal coliform, which must be collected as grab samples. Pollutants that are believed absent require no testing. DEQ may consider a request waiving the requirement to test for pollutants for an industrial category or subcategory.

- Group C pollutants are separated into the following categories, which require applicants to select testing required, believed present, or believed absent:
  - Metals, cyanide, and total phenols
  - 2,3,7,8-Tetrachlorodibenzo-P-Dioxin (TCDD)
  - GC/MS Fraction – Volatile Organic Compounds
  - GC/MS Fraction – Acid-Extractable Compound
  - GC/MS Fraction – Base-Neutral Compounds
  - GC/MS Fraction – Pesticides

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

INDUSTRY CATEGORY	GC/MS FRACTION[1]			
	Volatile	Acid	Base/Neutral	Pesticide
Adhesives and sealants	X	X	X	–
Aluminum forming	X	X	X	–
Auto and other laundries	X	X	X	X
Battery manufacturing	X	–	X	–
Coal mining	X	X	X	X
Coil coating	X	X	X	–
Copper forming	X	X	X	–
Electric and electronic compounds	X	X	X	X
Electroplating	X	X	X	–
Explosives manufacturing	–	X	X	–
Foundries	X	X	X	–
Gum and wood chemicals	X	X	X	X
Inorganic chemicals manufacturing	X	X	X	–
Iron and steel manufacturing	X	X	X	–
Leather tanning and finishing	X	X	X	X
Mechanical products manufacturing	X	X	X	–
Nonferrous metals manufacturing	X	X	X	X
Ore mining	X	X	X	X
Organic chemicals manufacturing	X	X	X	X
Paint and ink formulation	X	X	X	X
Pesticides	X	X	X	X
Petroleum refining	X	X	X	X
Pharmaceutical preparations	X	X	X	–
Photographic equipment and supplies	X	X	X	X
Plastic and synthetic materials manufacturing	X	X	X	X
Plastic processing	X	–	–	–
Porcelain enameling	X	–	X	X
Printing and publishing	X	X	X	X
Pulp and paperboard mills	X	X	X	X
Rubber processing	X	X	X	–
Soap and detergent manufacturing	X	X	X	–
Steam electric power plants	X	X	X	–
Textile mills	X	X	X	X
Timber products processing	X	X	X	X

*See note at conclusion of 40 CFR Part 122, Appendix D (1983) for explanation of effect of suspensions on testing requirements for primary industry categories.
[1]The pollutants in each fraction are listed in Item V-C.
X = Testing required.
– = Testing not required.

- 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 3. Toxic pollutants and hazardous substances.

TOXIC POLLUTANTS AND HAZARDOUS SUBSTANCES
REQUIRED TO BE IDENTIFIED BY APPLICANTS IF EXPECTED TO BE PRESENT

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

Table 4. Hazardous substances.

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
69. 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- Dichlorophenoxyacetic acid 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-Trichlorophenoxy acetic acid amines)
255. 2,4,5-T esters (2,4,5 Trichlorophenoxy acetic acid esters)
256. 2,4,5-T salts (2,4,5-Trichlorophenoxy acetic acid salts)
257. 2,4,5-TP acid (2,4,5-Trichlorophenoxy propanoic 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; however, the use or production of the pollutants or listed amounts does not have to be distinguished. DEQ may waive or modify the requirement if the applicant demonstrates that it would be unduly burdensome to identify each toxic pollutant, and DEQ has adequate information to issue the permit.

3.1.7 Part VII. Biological Toxicity Testing Data

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

3.1.8 Part VIII. Contract Analysis Information

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

3.1.9 Part IX. Requests and Other Information

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

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

3.2 New Dischargers of Process Wastewater

All 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. The following sections outline the information necessary to complete the application process and are adapted from EPA Form 2D.

3.2.1 Part I. Outfall Locations

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

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

3.2.2 Part II. Discharge Date

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

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

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

Part III.B requires applicants to list operations that contribute flows to the waste stream and the treatment process applied to each. Operations may be described in general terms and must

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

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

3.2.4 Part IV. Production

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

3.2.5 Part V. Effluent Characteristics

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

- Group A pollutants are standard pollutants for which submittals are required from all industrial facilities, regardless of size, industry type, or discharge. For each outfall, provide estimated maximum daily and average daily values, unless waived by DEQ.
- Group B pollutants are listed in Table 2 of the application instructions. Applicants select believed absent or report on pollutants believed present or are limited directly by ELGs or NSPSs or indirectly through limits on an indicator pollutant. When pollutants are believed present in the discharge, the effluent characteristics of concentration and mass must be reported using best estimates. Pollutants that are believed absent require no reporting. DEQ may consider a request waiving the requirement to test for pollutants for an industrial category or subcategory.
- Group C pollutants are separated into the following, which require applicants to select believed absent or report on pollutants believed present:
  - Metals, cyanide, and total phenols
  - 2,3,7,8-Tetrachlorodibenzo-P-Dioxin (TCDD)
  - GC/MS Fraction – Volatile Organic Compounds

  - GC/MS Fraction – Acid-Extractable Compound
  - GC/MS Fraction – Base-Neutral Compounds
  - GC/MS Fraction – Pesticides
- Group D pollutants are toxic or hazardous substances listed in Table 3 of the application instructions that must be reported if applicants have reason to believe they will be present in the discharge. Applicants need to identify the pollutant, its source, the reason it is believed present, and any analytical data. Applicants may request an exemption from DEQ for pollutants listed in Table 4 if they meet certain requirements. These do not exempt any reporting necessary for Group A-C pollutants.

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

3.2.6 Part VI. Engineering Report on Wastewater Treatment

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

3.2.7 Part VII. Requests and Other Information

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

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

3.3 New and Existing Dischargers of Nonprocess Wastewater

New or existing dischargers of nonprocess wastewater will complete Parts I-VII of the application. The following sections outline the information necessary to complete the application and are adapted from EPA Form 2E.

3.3.1 Part I. Outfall Locations

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

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

3.3.2 Part II. Discharge Date (New Dischargers Only)

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

3.3.3 Part III. Type of Waste

Applicants need to indicate the general types of wastes to be discharged. The available options are:

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

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

3.3.4 Part IV. Effluent Characteristics

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

For new dischargers, provide estimates for each parameter of discharge flow, pH, summer effluent temperature, and winter effluent temperature. This includes a maximum daily value, average daily value, and the source of the estimate.

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

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

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

3.3.5 Part V. Intermittent or Seasonal Discharge

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

3.3.6 Part VI. Treatment System

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

3.3.7 Part VII. Requests and Other Information

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

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

References

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

DEQ (Idaho Department of Environmental Quality). 2016b. *Water Quality Trading Guidance.* Boise, ID. DEQ. *https://www.deq.idaho.gov/media/60179211/water-quality-trading-guidance-1016.pdf*

DEQ (Idaho Department of Environmental Quality). 2017a. *User's Guide to Permitting and Compliance Volume 1–General Information*. Boise, ID: DEQ. *www.deq.idaho.gov/media/60178999/ipdes-user-guide-ipdes-permitting-compliance-0816.pdf*

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
General Permit	IDAPA 58.01.02.010.40
Idaho Pollutant Discharge Elimination System (IPDES)	IDAPA 58.01.25.010.42
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
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
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 58.01.25.103
Wasteload Allocation (WLA)	IDAPA 58.01.25.010.104
Water Quality-Based Effluent Limit (WQBEL)	IDAPA 58.01.25.010.107
Waters of the United States	IDAPA 58.01.25.003.02.aa

Watershed	IDAPA 58.01.02.010.115
Whole Effluent Toxicity	IDAPA 58.01.25.010.110

Endnotes: IDAPA and CFR References

[1] IDAPA 58.01.25.050
[2] IDAPA 58.01.25.010.87
[3] IDAPA 58.01.25.105.107.n