Idaho Pollutant Discharge Elimination System

User's Guide to Permitting and Compliance
Volume 1—General Information

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Volume 1—General Information

April 2016

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Acknowledgments

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Executive Summary

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Abbreviations and Acronyms

§	section (usually a section of federal or state rules or statutes)
AFO	Animal Feeding Operation
AU	assessment unit
BAT	Best Available Technology Economically Achievable
BCT	Best Conventional Pollutant Control Technology
BMP	Best management practice
BOD_5	Five-day biochemical oxygen demand
BPJ	Best professional judgment
BPT	Best Practicable Control Technology Currently Available
BURP	Beneficial Use Reconnaissance Program
CAAP	Concentrated Aquatic Animal Production
CAFO	Concentrated Animal Feeding Operation
CFR	Code of Federal Regulations (refers to citations in the federal administrative rules)
cfs	cubic feet per second
CCC	criterion continuous concentration
CGP	Construction General Permit
CMC	criterion maximum concentration
CNE	Certificate of No Exposure
CV	Coefficient of Variation
CRIPS	DEQ's Compliance, Reporting, Inspection, and Permitting System Database
CSO	Combined Sewer Overflow
CSS	Combined Sewer System
CWA	Clean Water Act
CWAL	cold water aquatic life
CWIS	Cooling Water Intake Structure
DEQ	Idaho Department of Environmental Quality
DMR	discharge monitoring report
DO	dissolved oxygen
EDU	Equivalent Dwelling Unit
EIN	Employer Identification Number
ELG	Effluent Limitation Guideline
EPA	United States Environmental Protection Agency
ESA	Endangered Species Act
FWPCA	Federal Water Pollution Control Act
GP	**g**eneral permit
IDAPA	refers to citations of Idaho administrative rules
I&I	Infiltration and inflow
IP	**i**ndividual permit

IPDES	Idaho Pollutant Discharge Elimination System
lb	pound
LEW	Low Erosivity Waiver
LTA	long term average
MDL	method detection limit
MEP	maximum extent practicable
mg/L	milligrams per liter
mgd	million gallons per day
ML	minimum level
SIC	Standard Industrial Classification
mL	milliliter
MOA	memorandum of agreement
MOU	memorandum of understanding
MS4	municipal separate storm sewer system
MSGP	Multi-Sector General Permit
NAICS	North American Industry Classification System
NEPA	National Environmental Policy Act
NESHAPS	National emission standards for hazardous pollutants
NOI	Notice of Intent
NOT	Notice of Termination
NPDES	National Pollutant Discharge Elimination System
NRDC	Natural Resources Defense Council
NSPS	new source performance standard
NTU	nephelometric turbidity unit
O&M	Operation and Maintenance
ORW	outstanding resource waters
PGP	Pesticide General Permit
POTW	publicly owned treatment works
PSD	Prevention of significant deterioration
QAPP	Quality Assurance Project Plans
RAPP	Refuse Act Permit Program
RCRA	Resource Conservation and Recovery Act
RPA	Reasonable potential analysis
RPTE	reasonable potential to exceed
SDWA	Safe Drinking Water Act
SHPO	state historic preservation officers
SSO	Sanitary Sewer Overflow
SWPPP	storm water pollution prevention plan
TSS	Total suspended solids
TBEL	technology based effluent limitation
TIE	toxicity identification evaluation
TMDL	total maximum daily load
TRE	toxicity reduction evaluations

TSD	EPA's Technical Support Document for Water Quality-Based Toxics Control
TWTDS	Treatment Works Treating Domestic Sewage
US	United States
USACE	United States Army Corps of Engineers
USC	United States Code
WQBEL	**w**ater quality-based effluent limitation
USGS	United States Geological Survey
WET	whole effluent toxicity
WLA	wasteload allocation
WQA	Water Quality Act
WQS	Water Quality Standards
µg	microgram
VGP	Vessel General Permit

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1 Introduction

The Idaho Pollutant Discharge Elimination System (IPDES) Program, in the Idaho Department of Environmental Quality (DEQ), has developed this guidance to help the regulated community and other public users easily understand and follow the IPDES permitting and compliance process. This User's Guide to IPDES Permitting and Compliance (Guide) provides assistance to Idaho's municipalities, industries, and citizens on complying with the statutory and regulatory requirements of the IPDES program, which governs the discharge of pollutants to waters of the United States (U.S.) in Idaho.

1.1 Purpose and Scope

This guide is meant to serve as a reference for successfully navigating the IPDES permitting and compliance process, and is primarily designed to:

- Assist the regulated community (permittees) to select and apply for the proper IPDES or other permit(s) to address discharges to waters of the U.S. in Idaho;
- Explain technical considerations for developing IPDES permits;
- Assist users to fully understand and comply with all processes, protocols, and requirements of IPDES permits.

The foundation for this guide is based on the Clean Water Act (CWA), Idaho Code and administrative rules, federal regulations, as well as state and national policies and standards. Some sections of this guide have been newly developed to address rules, regulations, and conditions specific to Idaho, while other sections represent a revised adaptation of existing state and federal guidance documents, including:

- The U.S. Environmental Protection Agency *NPDES Permit Writer's Manual* (EPA 2010a): *http://water.epa.gov/polwaste/npdes/basics/upload/pwm_2010.pdf, and the 2004 EPA's NPDES;* and
- *The Compliance Inspection Manual* (EPA 2004a): *http://www.epa.gov/sites/production/files/2013-09/documents/npdesinspect_0.pdf.*

This guide is not intended to be a standalone reference document. Rather, it describes the framework for the IPDES Program, and presents broad aspects of the permit application, development, and compliance processes. This guide will be supplemented with the development of more detailed IPDES guidance to address specific circumstances and topics, as well as referencing and adopting existing state and federal guidance, as appropriate.

While this guide is meant to provide direction in many cases, DEQ may have to adjust permit-specific aspects in order to address site-specific concerns and conditions. These concerns and considerations may include compliance with Idaho's Water Quality Standards (IDAPA 58.01.02), Wastewater Rules (IDAPA 58.01.16), the Rules Regulating the IPDES Program (IDAPA 58.01.25), as well as additional state and federal guidance. Further, nothing in this guide supplants or changes any requirements state or federal rules and regulations. To that end, this manual identifies and references relevant regulations, policy, and other guidance documents throughout the text.

1.2 Web-Based Access to Information

IPDES webpages, accessible through DEQ's website, contain information and publications to assist the regulated community in applying for and complying with individual and general permits. These webpages and posted information will be updated periodically as new guidance is available: *http://www.deq.idaho.gov/water-quality/ipdes/*.

DEQ is developing additional web-based tools to assist the regulated community with specific aspects of permit application and compliance and are discussed in pertinent sections throughout this guide. These tools will be available for most aspects of IPDES permitting and compliance and will serve as valuable resources for the regulated community, public users, permit writers, and compliance, inspection, and enforcement (CIE) personnel. For example, the IPDES web-based tools will allow applicants, permittees, and the general public to comply with federal electronic reporting requirements by providing a single location for electronically submitting:

- Applications for individual permits (IP);
- Notices of intent (NOI) to obtain coverage under general permits (GP);
- Notices of termination (NOT) of discharge to waters of the U.S. in Idaho;
- Certificates of no exposure (CNEs) and low erosivity waiver (LEW) requests;
- Annual reports;
- Other required documentation (e.g., non-compliance reports);
- Corrections to erroneously recorded/reported data; and
- To search and view permit, compliance, inspection, and enforcement documents.

Many of the IPDES web-based tools are affiliated with the IPDES Compliance, Reporting, Inspection, and Permitting System (CRIPS) database. Additional information pertaining to the web-based tools and CRIPS database is provided in appropriate sections throughout this guide, as well as subsequent guidance.

1.3 Legislative and Regulatory Citations

Different conventions are used to cite legislation and regulations in this manual. The following conventions are used:

- 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).
- U.S. Code—Initial and subsequent references to U.S. code use the code citation (e.g., 16 USC §1531 et seq. or 33 USC §§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 the "Rules Regulating the IPDES Program" (IDAPA 58.01.25) and CFR Title 40. Other rules and regulations are explicitly referenced in full citation when used for the first time in this guide. For ease of reading, throughout the document, many of the IDAPA and CFR citations are included as endnotes in Appendix E.

1.4 Hyperlinks

Where a website provides supplementary information or is referenced in this manual, the website address appears in blue italics so that readers can reference the address in printed and electronic versions of this document. 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 this manual's publication.

2 Clean Water Act, NPDES Program, and IPDES Program

This section presents an overview of the history of water pollution control in the U.S., the evolution and accomplishments of the NPDES Program, and the development of the IPDES Program.

2.1 History of Water Pollution Control in the U.S.

Major water pollution control legislation in the U.S. dates back to the end of the 19th century. A summary of key legislative and executive actions in the history of developing the clean water program in the U.S. is provided below:

- 1899 Rivers and Harbors Act
- 1948 Federal Water Pollution Control Act (FWPCA)
- 1965 Water Quality Act
- 1970 Executive Order—EPA established
- 1970 Refuse Act Permit Program (RAPP)
- 1972 FWPCA Amendments
- 1977 Clean Water Act (CWA)
- 1987 Water Quality Act

The first major water pollution control statute was the **1899 Rivers and Harbors Act**, which established permit requirements to prevent unauthorized obstruction or alteration of any navigable water of the U.S. The act focused on navigation rather than water quality.

The **1948 Federal Water Pollution Control Act (FWPCA)** initiated the federal government's involvement in water pollution control for public health protection. The act allotted funds to state and local governments for water pollution control and emphasized the states' role in controlling and protecting water resources with few federal limitations or guidelines. The act, however, did charge the U.S. Surgeon General with developing comprehensive programs to eliminate or reduce the pollution of interstate waters.

Over the next two decades, Congress became increasingly interested in the problem of water quality degradation. From 1956 through 1966, it enacted four major laws to strengthen the federal role in water pollution control, including the 1956 FWPCA Amendments and the 1961 FWPCA Amendments. Those statutes focused primarily on providing funding to municipalities to construct wastewater treatment plants.

Just a few years later, Congress further strengthened federal water pollution control laws by enacting the **1965 Water Quality Act**. This law created the Federal Water Pollution Control Administration and represented a major regulatory advancement in water pollution control by requiring states to develop water quality standards for interstate waters by 1967. The Water Quality Act also called for states to quantify the amount of pollutants that each discharger could release without exceeding the water quality standards (i.e., pollutant loadings). Despite escalating public concern and increased public spending, only about half of the states developed water quality standards by 1971. Furthermore, enforcement of the federal statute was minimal because the regulatory agencies had to demonstrate a direct link between a discharge and a health or water quality problem, and the scientific data to make such demonstrations were often lacking. Finally, there were no criminal or civil penalties for violations of statutory requirements.

Growing concern about the environment prompted President Nixon to form the EPA in 1970 to enforce environmental compliance and consolidate federal pollution control activities. That year, the President also created the **Refuse Act Permit Program (RAPP)** through Executive Order 11574 and under the authority of section 13 of the 1899 Rivers and Harbors Act (a section also known as the Refuse Act). This new permitting program was focused on controlling industrial water pollution. EPA and the U.S. Army Corps of Engineers (USACE) would prepare the program requirements and the USACE would administer the program. EPA was tasked with developing *guidelines on effluent quality* for 22 different categories of sources. A discharger would apply for a permit, and the USACE would ask EPA if the proposed effluent levels were consonant with state water quality standards and with the newly developed guidelines on effluent quality. States would be asked to examine permit applications and advise EPA whether existing or proposed treatment processes would ensure that established water quality standards would be met. EPA would review the state's response for interstate waters and instruct USACE whether to issue the permit. However, the U.S. District Court for the District of Columbia struck down RAPP (*Kalur v. Resor*, Civ. Action No. 1331-71 [DDC Dec. 21, 1971]) because the program would allow the issuance of permits to discharge refuse to non-navigable tributaries of navigable waterways, which the Court said exceeded the authority given in the Act, and because the regulations implementing the program did not require compliance with certain procedural requirements of the National Environmental Policy Act.

Because of the perceived need for a discharge permit program, and to rectify the problems encountered in earlier water pollution control legislation, Congress enacted the 1972 **FWPCA Amendments**. This legislation, which was passed over a Presidential veto in November 1972, provided a comprehensive recodification and revision of past federal water pollution control law. The 1972 amendments marked a distinct change in the philosophy of water pollution control in the U.S. and marked the beginning of the present water programs, including the NPDES permit program. Under those amendments, the federal government assumed a major role in directing and defining water pollution control programs. In establishing the basis for clean water programs, Congress sought a balance between economics (considering both the costs and

benefits of cleanup) and ecology (setting deadlines and ambitious requirements for reducing discharges and restoring water quality).

The 1972 FWPCA Amendments established a series of goals in section 101. Perhaps the most notable goal was that the discharge of pollutants into navigable waters be eliminated by 1985. Although that goal remains unmet, it underlies the CWA approach to establishing the technology standards that are implemented through technology-based effluent limitations (TBELs) in NPDES permits.

The 1972 FWPCA Amendments created a new requirement for technology-based standards for point source discharges. EPA develops these standards for categories of dischargers, based on the performance of wastewater treatment technologies and pollution control technologies without regard to the conditions of a particular receiving water body. The intent of Congress was to create a "level playing field" by establishing a basic national discharge standard for all facilities within a category, using a Best Available Technology. The standard becomes the minimum regulatory requirement in a permit. If the national standard is not sufficiently protective at a particular location, then water quality standards may be employed.

These Amendments authorized continued use of the water quality-based approach, but in coordination with the technology-based standards. After application of technology-based standards to a permit, if water quality is still impaired for the particular water body, then the permit agency (state or EPA) may add water quality-based limitations to that permit. The additional limitations are to be more stringent than the technology-based limitations and would require the permittee to install additional controls.

The1972 FWPCA Amendments also set an interim goal of achieving, "water quality [that] provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water" by July 1, 1983. The goal is commonly referred to as the *fishable, swimmable* goal of the act and is one of the factors that states must consider in developing their water quality standards. The water quality standards are implemented in NPDES permits through water quality-based effluent limitations (WQBELs). By prohibiting the discharge of a pollutant or pollutants from a point source to waters of the U.S.—except as in compliance with the statute—the 1972 FWPCA Amendments also established the important principle that the discharge of pollutants to navigable waters is not a right, and without a permit it is prohibited.

Since 1972, the FWPCA has been further amended on several occasions, including the **1977 CWA**, which is now the name for the statute, and the **1987 Water Quality Act** (WQA). Both of these statutes are discussed further in section 2.2 below with regard to their impact on the evolution of the NPDES Program.

2.2 Evolution of the NPDES Program

FWPCA, section 402 of Title IV, Permits and Licenses Certification, created the federal system for permitting wastewater discharges, known as the NPDES Program. Under the requirements of the program, a point source may be authorized to discharge pollutants into waters of the U.S. by obtaining a permit. A permit provides two types of control: technology-based limitations (based on the technological and economic ability of dischargers in the same category to control the

discharge of pollutants in wastewater) and water quality-based limitations (to protect the quality of the specific water body receiving the discharge).

The 1972 FWPCA Amendments established several important requirements and deadlines. Municipal facilities were required to meet secondary treatment standards by July 1, 1977. Industrial facilities were required to meet two levels of technology standards: *Best Practicable Control Technology Currently Available* (BPT) and *Best Available Technology Economically Achievable* (BAT), which would bring them further toward the goal of eliminating the discharge of all pollutants. [CWA §301(b)(2)(A)]. Compliance deadlines for BPT and BAT were established as of July 1, 1977, and July 1, 1983, respectively.

In addition to BPT and BAT requirements for industrial categories, the 1972 FWPCA Amendments established *new source performance standards* (NSPS) or best available demonstrated control technology including where practicable a standard permitting no discharge of pollutants [CWA §306(a)]. The legislative history indicates that Congress believed that technologies would be more affordable for new dischargers who could plan control technologies at the design phase. The standards represent state-of-the-art control technologies for new sources because the permittees have the opportunity to install the most efficient production processes and the latest in treatment technologies during construction. NSPS are effective on the date the facility begins operation, and the facility must demonstrate compliance within 90 days of start-up.

EPA tried to set national, uniform effluent limitations guidelines and standards (effluent guidelines) as a basis for technology-based limitations; however, most effluent guidelines were not in place when the first set of permits was issued between 1973 and 1976. About 75% of the first round permits were issued under a section of the act that allows a permit writer to use best professional judgment to establish case-by-case limitations. Using that approach, a single permit writer developed effluent limitations for a specific facility using knowledge of the industry and the specific discharge, rather than using a set of national standards and limitations developed by EPA for the entire industry.

Because the CWA first set out a technology based obligation, and an additional water quality based obligation if needed to meet the WQS for the individual water body, this first round of permitting focused on *conventional pollutants*, which generally are found in sanitary waste from households, businesses, and industries. CWA §304(a)(4) and 40 CFR 401.16 designate the conventional pollutants with oil and grease added to 40 CFR 401.16 in 1979. The following are formally designated as conventional pollutants:

- Five-day biochemical oxygen demand (BOD_5)
- Total suspended solids (TSS)
- pH
- Fecal coliform
- Oil and grease

The 1972 FWPCA Amendments, however, also required that EPA publish a list of toxic pollutants within 90 days and propose effluent standards for those pollutants 6 months later. EPA was not able to meet those requirements because of the lack of information on treatability. The

Natural Resources Defense Council (NRDC) sued EPA, resulting in a court supervised *consent decree* (*NRDC et al. v. Train, 8 E.R.C. 2120*, DDC 1976) that identified the following:

- Toxic (priority) pollutants to be controlled.
- Primary industries for technology-based control.
- Methods for regulating toxic discharges through the authorities of the FWPCA Amendments.

The provisions of the consent decree were incorporated into the framework of the 1977 FWPCA Amendments, formally known as the CWA. This statute shifted the emphasis of the NPDES Program from controlling conventional pollutants to controlling toxic pollutant discharges. CWA §307(a)(1) required EPA to publish a list of toxic pollutants or combination of pollutants. Those pollutants often are called the priority pollutants and are listed in 40 CFR 401.15. The terms *toxic pollutant* and *priority pollutant* will be used interchangeably throughout this document.

CWA §307(a) originally identified 65 toxic pollutants and classes of pollutants for 21 major categories of industries (known as *primary industries*). The list was later further defined as the current list of 126 toxic pollutants. The priority pollutants are listed in Appendix A of 40 CFR 423. Note that the list goes up to 129; however, there are only 126 priority pollutants because 017, 049, and 050 were deleted.

The 1977 CWA adjusted technology standards to reflect the shift toward control of toxics, clarified and expanded the concept of BAT controls, created a new level of control for conventional pollutants, and made changes to strengthen the industrial pretreatment program. The 1977 law created a new pollutant category, nonconventional pollutants, that included pollutants (such as chlorine and ammonia) not specifically categorized as conventional or toxic. The CWA clarified that BAT covers both toxic and nonconventional pollutants, extended the compliance deadline for BAT for toxic pollutants to July 1, 1984, established a three-year deadline for compliance with BAT for newly listed toxics, and gave industries until as late as July 1, 1987 to meet BAT requirements for nonconventional pollutants. In addition, conventional pollutants, controlled by BPT and BAT in the first round of permitting, were now subject to a new level of control termed *Best Conventional Pollutant Control Technology* (BCT). The CWA established a compliance deadline for BCT of July 1, 1984. BCT was not an additional performance standard, but replaced BAT for the control of conventional pollutants. Finally, among other changes, the 1977 CWA authorized EPA to approve local pretreatment programs and required authorized states to modify their programs to provide for local pretreatment program oversight.

The 1977 CWA recognized that the technology-based limitations were not able to prevent the discharge of toxic substances in toxic amounts in all waterways. To complement its work on technology-based limitations, EPA initiated a national policy in February 1984 to control toxics using a water quality approach. On February 4, 1987, Congress amended the CWA with the 1987 Water Quality Act (WQA) that outlined a strategy to accomplish the goal of meeting state water quality standards. The 1987 WQA required all states to identify waters that were not expected to meet water quality standards after technology-based controls on point source were imposed. Each state then had to prepare individual control strategies to reduce toxics from point and nonpoint sources to meet the water quality standards. Among other measures, those plans were

expected to address control of pollutants beyond technology-based levels. These amendments also saw the end of the grant program which transitioned to the Clean Water State Revolving Fund program.

The 1987 WQA further extended the compliance deadline for BAT- and BCT-based effluent limitations, this time to a new deadline of March 31, 1989. The 1987 WQA also established new schedules for issuing NPDES permits to industrial and municipal storm water dischargers. In addition to meeting water quality-based standards, industrial storm water discharges must meet the equivalent of BAT and BCT effluent quality standards. *Municipal separate storm sewer systems* (MS4s) were required to have controls to reduce pollutant discharges to the *maximum extent practicable* (MEP), including management practices, control techniques and system design and engineering methods, and such other provisions as the Administrator deems appropriate for the control of such pollutants (CWA §402(p)(3)(B)). The 1987 WQA also required EPA to identify toxics in sewage sludge and establish numeric limitations to control such toxics. A statutory *anti-backsliding* requirement in the WQA specified the circumstances under which an existing permit can be modified or reissued with less stringent effluent limitations, standards, or conditions than those already imposed.

Since 1987, there have been minor revisions to the CWA (e.g., Combined Sewer Overflow program requirements). For example, in 1995 EPA introduced affordability interim guidance that was made final in 1997. In 2011, EPA adopted integrated planning policy that allows municipalities with multiple CWA and Safe Drinking Water Act (SDWA) obligations to prioritize and implement capital improvements over a longer time frame to meet those obligations. However, the basic structure of the NPDES Program remains unchanged from the framework established in the 1972 FWPCA Amendments.

2.3 IPDES Program Development

Beginning in 2000, DEQ began developing the first of several analysis reports to help determine whether or not the state of Idaho should seek NPDES delegated authority from the EPA. A summary of key departmental, legislative, and executive actions in the development of the IPDES program is provided below:

- 2001 – NPDES Decision Analysis Report #1 (DEQ 2001)
  http://www.deq.idaho.gov/media/529911-npdes_primacy_report1.pdf
- 2002 – NPDES Decision Analysis Report #2 (DEQ 2002a)
  http://www.deq.idaho.gov/media/529907-npdes_primacy_report2.pdf
- 2005 – Legislative Findings and Purpose (e.g., direction to evaluate primacy statute) – Idaho Code § 39-175A
- 2005 – Relationship between State and Federal Law – Idaho Code § 39-175B
- 2005 – NPDES Decision Analysis Report #3 (DEQ 2005a)
  http://www.deq.idaho.gov/media/490946-npdes_primacy_report3.pdf
- 2014 Approval of State NPDES Program Idaho Code §39-175C
- 2015 Idaho DEQ generated Rules Regulating the Idaho Pollutant Discharge Elimination System Program (IDAPA 58.01.25) through negotiated rule making with stakeholders
- 2016 Idaho Legislature assessed the draft Rules

The *Decision Analysis Report #1* (DEQ 2001) focused on determining the scope and estimated cost of a potential Idaho NPDES program, determining the requirements under the CWA to obtain such a program, and identifying advantages, disadvantages, and uncertainties. The report concluded that state NPDES primacy was conceptually attractive; however, a more detailed analysis of costs and benefits needed to be developed prior to making a recommendation to proceed.

The *Decision Analysis Report #2* (DEQ 2002a) addressed specific steering committee needs related to understanding the potential costs and benefits of a state run NPDES permitting program. The following key issues/products were discussed in this report based on the following needs:

- State capacity to run the NPDES Program ;
- Endangered Species Act (ESA) consultation;
- Potential flexibility and innovative state NPDES program approaches;
- Program costs and funding;
- Annotated outline for a storm water guidance; and
- Water quality based effluent limits guidance.

In 2005, the Idaho Legislature authorized DEQ to explore, by further evaluating the costs and benefits to the state, whether the state should operate an NPDES program. This report updated information for review by the legislature and the citizens of Idaho.

The *Decision Analysis Report #3* (DEQ 2005a) revised the *Decision Analysis Report #2* (DEQ 2002a) to reflect current permitting practices and the current list of NPDES permittees within the state. The report reviewed and updated resource costs, scope of programs included, and the number and nature of permits. Additionally, ESA consultation procedures were reviewed in the context of recent court cases, and updated funding options were also briefly addressed.

With the passage of Idaho Code § 39-175A in 2005, the legislature established requirements prior to legislative approval of a state NPDES permitting program. The legislature established that a state program must be run with a minimum of federal interference in permitting, inspection and enforcement activities, and that all state permitting actions under an approved state program are state actions and not subject to consultation under the ESA or National Environmental Policy Act (NEPA). Further, it identified that a decision to accept delegation from the EPA to operate an NPDES program has significant public policy implications that should be made by the legislature.

Subsequently, Idaho Code § 39-175B was promulgated to clarify the relationship between state and federal law. The legislature recognized it could not conveniently or advantageously set forth, in statute, all of the requirements for regulations which have been or will be established under the CWA. However, it asserted that any state permitting program would avoid duplicative, overlapping or conflicting state and federal regulatory systems. Further, the DEQ board may promulgate rules to implement a state permitting program but, not impose conditions or requirements more stringent or broader in scope than the CWA and associated federal regulations. And DEQ cannot require NPDES permits for activities and sources not required to have permits by the EPA.

The 2014 Idaho State Legislature passed Idaho Code §39-175C, authorizing DEQ to pursue delegated authority from EPA for a state NPDES Program, including rules authorizing the collection of reasonable fees for processing and implementing the program. Additionally, it identified that implementation of the state NPDES program cannot occur prior to statutory enactment of implementing legislation and authorization of a Memorandum of Agreement (MOA). Additionally, water rights are to be protected, and nothing in the statute is intended to supersede any existing agreements between federal, state or local agencies regarding authority over inspections.

In 2014 – 2016, DEQ completed a negotiated rulemaking process to develop rules that comply with the NPDES requirements established in CFR Title 40, including those in 40 CFR 123, which specifically address requirements for states pursuing delegated authority to execute the NPDES Program. These rules will be assessed in the 2016 legislative session for statewide implementation (update if/when approved). DEQ expects to submit its complete application package to EPA by September 1, 2016.

Placeholder for language once DEQ receives NPDES program authorization.

2.4 Key Terms

As noted in section 2.3, under the IPDES Program any point source that discharges or proposes to discharge pollutants into waters of the U.S. is required to obtain an IPDES permit. Understanding how each of these terms is defined is the key to understanding the foundation of the IPDES Program. Key terms are identified throughout the document and defined in the Glossary at the end of this guide.

3 Permit Descriptions by Type and Sector

3.1 Individual vs. General Permits

The two basic IPDES permit types are individual and general. These permit types have similar components but are used under different circumstances and involve different permit issuance processes.

3.1.1 Individual Permits

Individual permits are specifically tailored to individual facilities. Upon receiving the appropriate application form(s), DEQ will develop a permit for that facility based upon the information provided by the permit application and other sources (e.g., previous permit requirements, discharge monitoring reports, technology and water quality standards, total maximum daily loads, ambient water quality data, special studies). DEQ then issues a permit to the facility for a 5 year cycle, with a requirement to reapply within a specified time before the expiration date.

3.1.2 General Permits

General permits can be an efficient and cost-effective option for DEQ because multiple facilities may be covered under a single permit. DEQ may develop and issue general permits to cover multiple facilities in a specific category of discharge, sludge use, or disposal practice. General permits must clearly identify the applicable conditions for each category or subcategory covered by the permit. General permits may exclude specified sources or areas from coverage. Similar to individual permits, DEQ can only issue general permits for a 5-year period or less. Permittees covered by a general permit must reapply within a specific time to remain covered under an administratively extended general permit[1] (EPA 1984a).

A general permit may be written to cover one or more categories or subcategories of dischargers, or sludge use or disposal practices or facilities described in the permit, except those covered by individual permits[2]. The following sources may be covered under a general permit:

- Storm water point sources; or
- One or more categories or subcategories of point sources if they all:
  - Involve the same or substantially similar types of operations (e.g., treatment processes);
  - Discharge the same types of wastes (e.g., pollutants) or engage in the same types of sludge use or disposal practices;
  - Require the same effluent limitations, operating conditions, or standards for sewage sludge use (e.g., including discharge) or disposal;
  - Require the same or similar monitoring; and
  - Are more appropriately controlled under a general permit than under individual permits.

General permits may be written to cover dischargers within an area corresponding to existing geographic or political boundaries such as[3]:

- Designated planning areas;
- Sewer districts or sewer authorities;
- City, county, or state political boundaries;
- State highway systems;
- Standard metropolitan statistical areas as defined by state or federal agencies;
- Urbanized areas as designated by the U.S. Census Bureau; or
- Any other appropriate division or combination of boundaries.

Where a large number of similar facilities require permits, a general permit allows the permitting authority to allocate resources in a more efficient manner and to provide timely permit coverage rather than issuing an individual permit to each facility. In addition, using a general permit ensures consistent permit conditions for comparable facilities.

3.2 Permitted Sectors

IPDES permits can be broadly classified as municipal and non-municipal facilities. Federal facilities fall into the broader category of non-municipal facilities. Within those broad categories,

there can be specific types of activities that are subject to unique programmatic requirements in the IDAPA 58.01.25 and CFR Title 40 (Table 1).

Table 1. IPDES program areas and applicable regulations for each.

Program Area	Applicable IDAPA Rules 58.01.25 and Code of Federal Regulations (CFR) Title 40
Municipal	
Municipal (POTWs) effluent discharges	IDAPA Section 003, 010, 102, 105, 108, 110, 130, 201, 203, 301, 302, 303, 310, 370, 380 40 CFR Part 122, 125, 133
Indirect non-municipal discharges (Pretreatment)	IDAPA Section 003, 010, 102, 105, 201, 302, 370 40 CFR Part 122, 403, 405-471
Sewage sludge use and disposal	IDAPA Section 003, 010, 100, 102, 105, 108, 109, 130, 201, 300, 302, 304, 305, 380 40 CFR Part 122, 257, 501, 503
Combined sewer overflow (CSO) discharges	IDAPA Section 105, 130 40 CFR Part 122, 125
Sanitary sewer overflow (SSO) discharges	IDAPA Section 010, 105 40 CFR Part 122
Municipal separate storm sewer systems (MS4s) discharges	IDAPA Section 003, 010, 102, 105, 201, 301 40 CFR Part 122, 125
Non-Municipal (Industrial, Commercial, Manufacturing)	
Process wastewater discharges	IDAPA Section 010, 105, 303 40 CFR Part 122, 125, 405-471
Non-process wastewater discharges	IDAPA Section 105 40 CFR Part 122, 125
Storm water discharges associated with industrial activity	IDAPA Section 105, 130, 304 40 CFR Part 122, 125
Storm water discharges from construction activities*	IDAPA Section 105, 302 40 CFR Part 122 125
Cooling water intake structures (CWIS)	IDAPA Section 003, 105, 109, 302, 303, 310 40 CFR Part 122, 125, 401
Concentrated animal feeding operations (CAFOs)	IDAPA Section 003, 010, 102, 105, 130, 201, 301 40 CFR Part 122, 123, 125, 412
Concentrated aquatic animal production (CAAP) facilities	IDAPA Section 003, 010, 102, 105 40 CFR Part 122, 125, 451
Ground water remediation	IDAPA Section 010, 105 40 CFR 122
Pesticide discharges	IDAPA Section 010, 105, 455 40 CFR 122, 125
Vessel discharges	IDAPA Section 010, 102 40 CFR Part 122

Note: Though storm water discharges from construction activity resulting in disturbance of 5 or more acres of total land area are technically, "storm water discharges associated with industrial activity" as defined by 40 CFR 122.26(b)(14)(x), these discharges are commonly referred to as storm water discharges from large construction activities.

3.2.1 NPDES Permits in Idaho

Appendix A identifies EPA-issued NPDES permits in Idaho that are effective or administratively continued, as of January 2016. These numbers and examples presented in the appendix are subject to change.

3.2.2 Major and Minor Facility Designation

In addition to categorizing facilities as municipal and non-municipal, DEQ has adopted EPA criteria to determine which sources should be considered major facilities. The distinction is made to assist DEQ in setting priorities for permit issuance and reissuance. DEQ defines a *major facility*[4] as a facility or activity that is:

> A publicly or privately owned treatment works with a design flow equal to or greater than one million gallons per day (1 MGD), or serves a population of ten thousand (10,000) or more, or causes significant water quality impacts; or
>
> A non-municipal facility that equals or exceeds the eighty (80) point accumulation as described in the Score Summary of the NPDES Non-Municipal Permit Rating Work Sheet (June 27, 1990) or the Department equivalent guidance document.

The IPDES Permit Rating Worksheet and instructions (Appendix B) evaluate the significance of a facility, other than a POTW or domestic sewage treatment works, using the following criteria:

1. Toxic pollutant potential,
2. Flow/stream flow volume,
3. Conventional pollutants,
4. Public health impact, and
5. Water quality factors (such as impairment of the receiving water).

Factor 6 of the EPA rating sheet, Proximity to Near Coastal Waters, is not included in the IPDES Permit Rating Worksheet because it is not applicable to Idaho facilities or permits. All facilities that are not designated as majors are considered minor facilities.

3.2.3 Municipal Sources

In addition to POTW effluent requirements, state and federal regulations establish programmatic requirements applicable to other POTW activities (e.g., sewage sludge disposal and management, storm water discharges from the treatment plant site) or activities that may be conducted by a municipality (e.g., municipal separate storm sewer systems, sanitary sewer overflows, and industrial pretreatment). A description of those programs and how they relate to IPDES permits is provided in the following sections.

3.2.3.1 Affordability and Integrated Planning

EPA has developed guidance to address integrated planning and financial capability for municipalities to meet multiple CWA permitting obligations (Table 2)(EPA 2011, EPA 2012a, EPA 2013, and EPA 2014a), and additional guidance has been developed to further help municipalities develop integrated plans and financial assessments (Conference of Mayors et al., 2013). Integrated planning and affordability considerations do not remove obligations to comply with the CWA, nor do they lower existing regulatory or permitting standards. Rather, they

provide municipalities that meet the appropriate affordability and financial capability screening factors an opportunity to balance CWA requirements in a manner that addresses the most pressing health and environmental protection issues first. The choice and responsibility to develop an integrated plan rests with the municipality. An integrated plan for multiple CWA permitting obligations (e.g. POTW, MS4, CSS, etc.) can inform DEQ in the development of appropriate permit compliance schedules (that may be longer than otherwise allowed under the CWA) and consent decree implementation. It can also facilitate implementation of innovative solutions (e.g., green infrastructure, water quality trading), sequencing of critical capital projects (e.g., wastewater and storm water), and operation and maintenance in a way that ensures human health and environmental protection.

Table 2. Summary of EPA integrated planning guidance.

Integrated Planning Framework	June 5, 2012, EPA released the final *Integrated Municipal Stormwater and Wastewater Planning Approach Framework*. The framework was developed in conjunction with the October 27, 2011 memorandum *Achieving Water Quality Through Integrated Municipal Stormwater and Wastewater Plans* to provide further guidance for EPA, states and local governments in developing and implementing effective integrated plans under the CWA. This framework was finalized after extensive public input including a series of workshops across the country.
Assessing Financial Capability	January 13, 2013 EPA provided a memo, *Assessing Financial Capability for Municipal Clean Water Act Requirements*, clarifying how the financial capability community will be considered when developing schedules for municipal projects necessary to meet CWA obligations.
Financial Capability Assessment Framework	November 24, 2014, EPA issued a memo, *Financial Capability Assessment Framework for Municipal Clean Water Act Requirements*, to EPA Regions that transmitted a *Financial Capability Assessment Framework,* providing greater clarity on the flexibilities built into existing guidance that local governments or authorities can use in assessing their financial capability and provides examples of additional information that could be submitted.

3.2.3.2 Publicly Owned Treatment Works (POTW)

*Publicly owned treatment works (POTW*s*)* primarily receive domestic sewage from residential and commercial customers. POTWs may also receive and treat wastewater from industrial facilities (indirect dischargers) connected to the collection system. POTWs always treat for conventional pollutants and may include treatment of nonconventional and toxic pollutants, depending on the characteristics of the sources discharging to the POTW. The treatment provided by a POTW typically produces a treated effluent and sewage sludge residual.

Volume 2 of this guide includes a discussion on incorporating specific conditions into POTW permits.

3.2.3.3 Pretreatment

Pretreatment is the regulation of nondomestic (e.g., industrial and commercial) wastewater discharges to POTWs. Because such effluent is conveyed to and treated by the POTW before discharging to waters of the U.S., they are termed indirect discharges. The pretreatment program prohibits indirect dischargers from discharging pollutants that will pass through the POTW to receiving waters, interfere with POTW treatment processes, or contaminate sewage sludge. Pretreatment regulations also require certain indirect dischargers to meet technology-based requirements developed specifically for such POTW users that are similar to those for direct dischargers.

Pretreatment regulations[5] require certain POTWs to develop a pretreatment program, including the authorities and procedures, which are generally included as special conditions of a POTW's IPDES permit. Indirect dischargers are not required to comply with the Effluent Limitations Guidelines (ELG) found in 40 CFR 401 – 699. However, the POTW must create local limit requirements as part of their pretreatment program, if necessary for implementation of the pretreatment program, and if the indirect discharge may pass through the POTW to receiving waters, interfere with POTW treatment processes, or contaminate sewage sludge.

Volume 2 of this guide includes a discussion on incorporating pretreatment special conditions into permits.

3.2.3.4 Sewage Sludge

In 1987 Congress amended CWA section 405 to establish a comprehensive *sewage sludge* program. The program regulates the use and disposal of sewage sludge by POTWs and by other Treatment Works Treating Domestic Sewage (TWTDS). These facilities generate sewage sludge, provide commercial treatment of sewage sludge, manufacture products derived from sewage sludge, or provide disposal of sewage sludge. The CWA section 405 requires EPA to develop technical standards that establish sewage sludge management practices and acceptable levels of toxic pollutants in sewage sludge.

State and federal regulations[6] govern the technical standards for sewage sludge use and disposal. TWTDS facilities not otherwise subject to the IPDES permit requirements under CWA section 402 must apply for and receive a permit addressing standards for use and disposal of sewage sludge. Details of 40 CFR Part 503 are described in *A Plain English Guide to the EPA Part 503 Biosolids Rule* (EPA 1994a). Where applicable, sewage sludge management requirements may be included as a special condition in permits issued to POTWs.

Volume 2 of this guide includes a discussion on incorporating special conditions that address sewage sludge requirements.

3.2.3.5 Combined Sewer Systems (CSSs)

A concern for some older POTWs may be combined sewer systems (CSS), which are wastewater collection systems owned by a state or municipality that convey sanitary wastewater (domestic,

commercial, and industrial) and storm water through a single-pipe system to a POTW. Nationwide, CSSs serve approximately 860 communities with a total population of about 40 million. Most communities with CSS problems have fewer than 10,000 people. During dry weather, CSSs collect and convey domestic, commercial, and industrial wastewater to a POTW. However, during periods of rainfall, snowmelt, and other forms of precipitation, the systems can become overloaded. When that overloading occurs, a CSS can overflow at designed relief points and discharge a combination of untreated sanitary wastewater and storm water directly to a surface water body.

A combined sewer overflow (CSO) is the discharge from a CSS at a point before reaching the POTW. CSOs can be major sources of water pollution in communities served by CSSs. CSOs often contain high levels of total suspended solids, pathogenic microorganisms, toxic pollutants, floatables, nutrients, oxygen-demanding organic compounds, oil and grease, and other pollutants, causing water quality standards to be exceeded. The EPA prohibits permitting any new CSO outfalls.

3.2.3.6 Sanitary Sewer Overflows (SSOs)

Properly designed, operated, and maintained sanitary sewer systems are meant to collect and transport all sewage to a POTW. However, occasional, unintentional spills of raw sewage from municipal sanitary sewers occur in almost every system. Such types of releases are called sanitary sewer overflows (SSOs).

SSOs are a prohibited discharge under the CWA, with a goal of zero events and strict associated liability. SSOs have a variety of causes including severe weather, improper system operation and maintenance, and vandalism. EPA estimates that over 40,000 SSO events occur every year in the U.S. Overflows of untreated wastewater can present risks of human exposure when released to certain areas, such as streets, private property, basements, and receiving waters used for drinking water, fishing, and contact recreation.

A description of the extent of human health and environmental impacts caused by releases of untreated sewage, along with other information, was provided in a Report to Congress on the Impacts and Control of CSOs and SSOs (EPA 2004b). The report showed that NPDES permit requirements establishing clear reporting, record keeping, third party notification of overflows from municipal sewage collection systems, and clear requirements to properly operate and maintain the collection system, are critical to effective program implementation.

EPA has developed a draft fact sheet and draft model permit conditions that explain how NPDES permitting authorities can better address SSOs and operate and maintain sanitary sewer collection systems.

Volume 2 of this guide discusses the incorporation of conditions to address SSOs reporting in IPDES permits. DEQ's approach for reporting, compliance, and enforcement of SSOs will be further addressed in section 9, Compliance and Inspection, and 10, Enforcement.

3.2.3.7 Municipal Separate Storm Sewer Systems (MS4s)

Storm water from metropolitan areas is a significant source of pollutants discharged to waters of the U.S. While rainfall and snow are natural events, the nature of storm water discharges and

their impact on receiving waters are greatly affected by human activities and land use. Storm water from lands modified by human activities, such as metropolitan areas and urban streets, can affect surface water resources by modifying natural flow patterns or by elevating pollution concentrations and loadings. Development also increases the storm water runoff rate and surge volume due to the increase in impermeable surfaces. This increases the receiving water's flow, resulting in quicker and more frequent incidents of flooding.

To address such concerns, the 1987 amendments to the CWA added section 402(p), a provision that directed EPA to establish phased NPDES requirements for storm water discharges. Phase I of the storm water program addresses permits for discharges from medium and large MS4s serving a population of 100,000 or more, as well as certain categories of industrial activity, including construction activity disturbing greater than 5 acres. Phase II expanded the storm water program to include small MS4s and construction activity disturbing 1 to 5 acres.

The MS4 storm water application regulations established requirements for a two-part permit application. The first part allows large and medium local governments to help define priority pollutant sources in the municipality and to develop and implement appropriate controls for such discharges to MS4s (55 FR 47990, November 16, 1990). The second part of the application requires municipal applicants to propose municipal storm water management programs to control pollutants to the maximum extent practicable (MEP) and to effectively prohibit non-storm water discharges to the municipal system. Medium and large MS4 operators may be required to submit comprehensive permit applications for issuance of individual permits, or NOI information for coverage under a general permit.

Phase II of the storm water program extended the NPDES permitting program to small MS4s in urbanized areas (64 FR 68722, December 8, 1999). The Phase II MS4 regulations require small MS4s to develop a program to address six minimum control measures that include BMPs and measurable goals for each BMP. The IPDES program has the option of permitting regulated small MS4s operators using an individual permit, a general permit, or a modification of an existing Phase I MS4's individual permit.

Municipal storm water management programs combine source controls and management practices that address targeted sources within the boundaries of the municipal system. For example, a municipality that expects significant new development may focus more on proposing requirements for new development and construction. On the other hand, a municipality that does not expect significant new development could focus more on municipal activities that affect storm water quality such as: maintenance of leaking sanitary sewers, road de-icing and maintenance, operation of municipal landfills, flood control efforts, and control of industrial contributions of storm water.

MEP is not precisely defined so as to allow maximum flexibility in MS4 permitting to optimize reductions in storm water pollutants on a location-by-location basis (64 FR 68754, December 8, 1999). Therefore, permit writers must rely on application requirements specified in the regulations and the applicant's proposed management program when developing appropriate permit conditions.

The storm water Phase II rule was challenged in the courts, with the U.S. Court of Appeals for the Ninth Circuit generally upholding the Phase II rule but remanding three issues back to EPA.

EPA issued guidance on April 16, 2004 titled, *Implementing the Partial Remand of the Storm water Phase II Regulations Regarding Notices of Intent & NPDES General Permitting for Phase II MS4s4* (EPA 2004c). This guidance identifies how new general permits should address the remanded issues of public availability of notices of intent (NOIs), opportunity for public hearings, and permitting authority reviews of NOIs. Further, EPA is proposing changes (81 FR 415, January 6, 2016) to the regulations governing small MS4 permits to respond to a remand from the United States Court of Appeals for the Ninth Circuit in Environmental Defense Center, et al. v. EPA, 344 F.3d 832 (9th Cir. 2003). EPA indicates that the proposal would not establish any new substantive requirements for small MS4s.

In addition to storm water information on the EPA website, EPA has developed the following guidance documents and memoranda to help permit writers and permittees implement the municipal storm water program:

- *Guidance Manual for the Preparation of Part 2 of the NPDES Permit Applications for Discharge from Municipal Separate Storm Sewer Systems* (EPA 1992a);
- *Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm water Permits* (EPA 1996);
- *Establishing Total Maximum Daily Load (TMDL) Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs* (EPA 2002a, EPA 2014b);
- *MS4 Program Evaluation Guidance* (EPA 2007a); and
- *MS4 Permit Improvement Guide* (EPA 2010b).

Volume 2 of this guide discusses the application requirements for storm water discharges from large, medium, and small MS4s.

3.2.4 Non-Municipal Sources

Non-municipal sources include industrial and commercial facilities, industrial storm water (including large construction activities), and discharges from small construction activity, concentrated animal feeding operations (CAFOs) and concentrated aquatic animal production (CAAP) facilities. Unlike municipal sources, the types of raw materials, production processes, treatment technologies used and pollutants discharged at industrial facilities vary widely, exhibit more diurnal and seasonal variation, and are dependent on the type of industry and specific facility characteristics. The operations, however, generally are carried out within a more clearly defined area with less complex collection systems than POTWs. In addition, unlike sewage sludge generated at POTWs, the IPDES program does not regulate residuals (sludge) generated by non-municipal facilities.

Non-municipal facilities can discharge storm water contaminated through contact with manufacturing activities or raw material and product storage. Alternatively, they can have non-process wastewater discharges such as cooling water that is regulated under an IPDES permit.

3.2.4.1 Industrial Dischargers of Process and Non-process Wastewater

Industrial, commercial, and manufacturing facilities often use process wastewater in the manufacture and processing of products.

Process wastewater can contain pollutants at levels that affect the quality of receiving waters. The IPDES permit program identifies specific requirements for discharges of process wastewater from industrial, commercial, and manufacturing sources. Facility discharges to waters of the U.S. require coverage under an IPDES permit. Alternatively, facilities that discharge wastewater to a municipal sewer system may need to be covered under that municipality's pretreatment program. Many types of facilities, whether they discharge directly to waters of the U.S. or to a municipal sewer system, are covered by effluent guidelines and/or standards. Storm water that runs off a facility's property or from a construction site might require an IPDES permit under the industrial storm water program (see Storm Water Associated with Industrial Activity).

Industrial, commercial, and manufacturing facilities often produce wastewater from sources other than processing products, such as sanitary or cafeteria wastes or using non-contact cooling water for heat exchange. For example, most hydropower facilities have non-contact cooling water discharges to reduce thermal loading on power generation equipment.

Like process wastewater, non-process wastewater is regulated under the IPDES program. Non-process wastewater might also be important to the permit writer when drafting monitoring conditions for facilities where the non-process wastewater dilutes the concentration of pollutants in process wastewater. As such, DEQ must ensure that required monitoring locations provide an accurate measurement of pollutants discharged relative to all effluent limitations.

Volume 2 of this guide discusses the application requirements for process and non-process wastewater.

3.2.4.2 Storm Water Associated with Industrial or Construction Activity

To minimize the impact of storm water discharges from industrial, commercial, and manufacturing facilities, the IPDES program includes an industrial storm water permitting component. Facilities are required to obtain an IPDES industrial storm water permit if they are included in 1 of the 11 categories of storm water discharges associated with industrial activity, which discharge or propose to discharge storm water to an MS4 or directly to waters of the U.S. For example, the 2012 NPDES General Permit for Discharges from Construction Activities (CGP) (EPA 2012b) and the 2015 NPDES Multi-Sector General Permit for Storm Water Discharges Associated with Industrial Activity (MSGP) (EPA 2015) require applicants to identify the MS4s and receiving waters into which their storm water is discharged.

~~Permit regulations and application requirements for storm water discharges associated with industrial activity are discussed in Volume 2 of this guide.~~

Permit Regulations for Storm Water Associated with Industrial Activity

Storm water discharges associated with industrial activity include discharges from any conveyance used for collecting and conveying storm water and that is directly related to manufacturing, processing, or raw materials storage areas at an industrial plant. Federal regulations[7] identify the following 11 industrial categories for which operators are required to apply for storm water discharge permits:

1. Facilities subject to storm water effluent guidelines, new source performance standards, or toxic pollutant effluent standards under 40 CFR Parts 400 – 471 (Subchapter N);
2. Certain heavy manufacturing facilities (lumber, paper, chemicals, petroleum refining, leather tanning, stone, clay, glass, concrete, ship construction);
6. Active and inactive mining operations and oil and gas operations with contaminated storm water;
7. Hazardous waste treatment, storage, or disposal facilities, including Resource Conservation and Recovery Act (RCRA) Subtitle C facilities;
8. Landfills, land application sites, open dumps, and RCRA Subtitle D facilities;
9. Recycling facilities, including metal scrap yards, battery reclaimers, salvage yards, and automotive junkyards;
10. Steam electric power generating facilities, including coal-handling sites;
11. Transportation facilities that have vehicle maintenance shops, equipment cleaning operations, or airport deicing operations;
12. Major POTW sludge handling facilities, including on-site application of sewage sludge;
13. Construction activities that disturb five acres or more (see subsection below); and
14. Light industrial manufacturing facilities.

Federal-, state- or municipal-owned or operated industrial facilities that meet the above descriptions must also submit applications.

Volume 2 of this manual discusses regulations, application requirements, and permit conditions to address storm water discharges associated with industrial and construction activities, including storm water discharges from industrial facilities that have no exposure to industrial activities or materials, and that may be conditionally excluded from the storm water permitting program.

3.2.4.3 Cooling Water Intake Structures

CWA section 316(b) provides that any standard established pursuant to CWA sections 301 or 306 and applicable to a point source, requires that the location, design, construction, and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact. This provision is unique because it addresses the intake of water, in contrast to other provisions that regulate the discharge of pollutants into waters of the U.S.

EPA has established national performance standards under CWA section 316(b) designed to reduce the impingement and entrainment of fish and other aquatic organisms as they are drawn into a facility's cooling water intake structures. Impingement occurs when organisms are trapped against cooling water intake structures by the force of water being drawn through the intake structure. Entrainment occurs when organisms are drawn through a cooling water intake structure into a cooling system, through the heat exchanger, and then pumped back out into the water body.

In April 1976, EPA published regulations at 40 CFR Part 402 to address cooling water intake structures. Fifty-eight electric utility companies challenged the final rule. The U.S. Court of Appeals for the Fourth Circuit remanded the rule in 1977, and in 1979, EPA withdrew 40 CFR Part 402. Beginning in 1977, NPDES permit authorities made decisions implementing CWA

section 316(b) on a case-by-case basis using best professional judgment (BPJ) (40 CFR 125.90(b) and 401.14).

In the 1990s, EPA began developing CWA section 316(b) regulations establishing national standards. EPA divided the rulemaking into three phases:

1. Phase I addressed new facilities and was completed in December 2001 (40 CFR Part 125, Subpart I);
2. Phase II addressed existing electric generating plants that use at least 50 million gallons per day (mgd) of cooling water and was completed in July 2004 (40 CF Part 125, Subpart J).
3. Phase III addressed other existing facilities, including small existing electric generating plants that use less than 50 mgd of cooling water, manufacturers, and new offshore and coastal oil and gas extraction facilities.

The Phase III regulations, finalized in June 2006, establish national standards only for new offshore and coastal oil and gas extraction facilities (40 CFR Part 125, Subpart N). EPA decided that other Phase III industrial facilities withdrawing water for cooling purposes would not be covered by national standards but would continue to be subject to CWA section 316(b) requirements set by the NPDES Permitting Director on a case-by-case, BPJ basis (40 CFR 125.90(b) and 401.14). All three regulations were subject to judicial challenges.

In 2014 the EPA published rules (79 FR 48300, August 15, 2014) constituting their response to the remand of the Phase II and Phase III rules. These rules established requirements under section 316(b) of the CWA for existing power generating facilities and existing manufacturing and industrial facilities that withdraw more than 2 million gallons per day (mgd) of water from waters of the U.S. and use at least 25 percent of the water they withdraw exclusively for cooling purposes. These national requirements apply to the location, design, construction, and capacity of cooling water intake structures at regulated facilities by setting requirements that reflect the best technology available for minimizing adverse environmental impact.

Volume 2 of this manual discusses additional regulatory requirements and permit conditions for cooling water intake structures.

3.2.4.4 Concentrated Animal Feeding Operations (CAFOs)

Animal feeding operations[8] *(AFOs)* are agricultural facilities where animals are kept and raised in confined situations. AFOs typically maintain animals, feed, and manure and have production operations in a limited land area. Manure and wastewater from AFOs have the potential to contribute pollutants such as nitrogen and phosphorus, organic matter, sediments, pathogens, heavy metals, hormones, antibiotics, and ammonia to the environment.

AFOs that meet DEQ's definition of a *concentrated animal feeding operation (CAFO)*, or that are designated as CAFOs by DEQ, and that discharge or propose to discharge to waters of the U.S. are required to obtain an IPDES permit.

CAFOs are subject to requirements that limit discharges from the production area and requirements applicable to land application areas under the control of the CAFO operator. Large CAFOs are subject to a no discharge requirement for production areas, whereas other CAFOs are

subject to BPJ requirements for their production areas. One of the principal substantive pollution control conditions in any CAFO permit is the requirement to implement the terms of the nutrient management plan (NMP) incorporated into the permit when permit authorization is granted.

Additional permit regulations and application requirements for CAFOs are discussed in Volume 2 of this guide.

3.2.4.5 Concentrated Aquatic Animal Production (CAAP) Facilities

In 2004 EPA promulgated new effluent guidelines that address *concentrated aquatic animal production (CAAP)* facilities. These effluent guidelines apply to CAAP facilities (flow-through, recirculating, and net pen) that directly discharge wastewater and have annual production equal to or greater than 100,000 pounds of aquatic animals. The rule requires a BMP plan and implementation of measures, including recordkeeping and reporting requirements, to minimize discharges of solids, to prevent spills of drugs, feed, and chemicals that could result in discharges to waters of the U.S., and to ensure proper maintenance of the facility. A facility that does not meet the effluent guideline threshold might still need an IPDES permit if it meets the CAAP facilities thresholds established in the NPDES regulations at 40 CFR 122.24(b) or if it is designated as a CAAP facility by DEQ under the designation authority in 40 CFR 122.24(c).

Idaho also has the "*Idaho Waste Management Guidelines for Aquaculture Operations*" (DEQ 1997) found at *https://www.deq.idaho.gov/media/488801-aquaculture_guidelines.pdf.*

Additional permit regulations and application requirements for CAAPs are discussed in Volume 2 of this guide.

3.2.4.6 Ground Water Remediation Facilities

Facilities conducting groundwater remediation activities, such as pump and treat, or seepage water collection systems in which treated groundwater is discharged to waters of the U.S. within Idaho, are eligible for coverage under a ground water remediation permit. In addition, construction/excavation dewatering activities, building dewatering, and aquifer pump testing that occur at designated or known contaminated sites are eligible for coverage.

3.2.4.7 Small Suction Dredge Mining

On May 6, 2013 the EPA's general permit For Small Suction Dredge Placer Miners in Idaho became effective. Under this permit, owners and operators of placer mining operations in Idaho with small suction dredges having: (1) intake nozzle size of 5 inches in diameter or less (or the diametrical equivalent defined in the permit); and (2) equipment rated at 15 horsepower or less are authorized to discharge to waters of the U.S., in accordance with effluent limitations, monitoring requirements, and other conditions in the permit. However, some water bodies are excluded from coverage of the permit in order to protect beneficial uses.

Additional permit regulations and application requirements for small suction dredge mining are discussed in Volume 2 of this guide.

3.2.4.8 Pesticide Discharges

On October 31, 2011 the EPA Pesticide General Permit (PGP) for Discharges from the Application of Pesticides became effective. This permit covers any operator who meets the eligibility requirements identified in the PGP and has submitted a NOI.

This permit is available to operators who discharge to waters of the U.S. from the application of (1) biological pesticides or (2) chemical pesticides that leave a residue (collectively called pesticides), when the pesticide application is for one of the following pesticide use patterns:

- Mosquito and Other Flying Insect Pest Control—to control public health/nuisance and other flying insect pests that develop or are present during a portion of their life cycle in or above standing or flowing water. Public health/nuisance and other flying insect pests in this use category include mosquitoes and black flies.
- Weed and Algae Pest Control—to control weeds, algae, and pathogens that are pests in water and at water's edge, including ditches and/or canals.
- Animal Pest Control—to control animal pests in water and at water's edge. Animal pests in this use category include fish, insects, mollusks, and pathogens.
- Forest Canopy Pest Control—application of a pesticide to a forest canopy to control the population of a pest species (e.g., insect or pathogen) where, to target the pests effectively, a portion of the pesticide unavoidably will be applied over and deposited to water.

Volume 2 of this guide addresses additional permit regulations and application requirements for the PGP.

3.2.4.9 Vessel Discharges

On March 30, 2005, the U.S. District Court for the Northern District of California (in Northwest Environmental Advocates et al. v. EPA) ruled that the EPA regulation excluding discharges incidental to the normal operation of a vessel from NPDES permitting exceeded the Agency's authority under the CWA. On September 18, 2006, the Court issued an order revoking this regulation [40 CFR 122.3(a)] as of September 30, 2008. EPA appealed the District Court's decision, and on July 23, 2008, the Ninth Circuit upheld the decision, leaving the September 30, 2008 *vacatur* date in effect. In response to the Court order, EPA developed two proposed permits to regulate discharges from vessels. The district court ultimately extended the date of vacatur to February 6, 2009.

In July 2008, Congress amended the CWA (P.L. No. 110-288) to add section 402(r), which excludes discharges incidental to the normal operation of a recreational vessel from NPDES permitting. Instead, it directs EPA to regulate those discharges under a newly created CWA section 312(o). As a result of the law, EPA did not finalize the previously proposed Recreational Vessel General Permit and instead undertook rulemaking to develop BMPs for these vessels under the authority of CWA section 312(o).

In July 2010 P.L. 111-215 (Senate Bill S. 3372) was signed into law. This law amends P.L. 110-299 (Senate Bill S. 3298), which generally imposes a moratorium during which time neither EPA nor states may require NPDES permits for discharges incidental to the normal operation of commercial fishing vessels and other non-recreational vessels less than 79 feet. As a result, of

P.L. 110-299, the Vessel General Permit (VGP) does not cover vessels less than 79 feet, or commercial fishing vessels, unless they have ballast water discharges. P.L. 111-215 extended the expiration date of the moratorium from July 31, 2010, to December 18, 2013. As a result of the court ruling, EPA issued the VGP on December 18, 2008. The 2008 VGP regulates discharges incidental to the normal operation of vessels operating in a capacity as a means of transportation. The VGP includes the following:

- General effluent limits applicable to all discharges;
- General effluent limits applicable to 26 specific discharge streams;
- Narrative water-quality based effluent limits;
- Inspection, monitoring, recordkeeping, and reporting requirements; and
- Additional requirements applicable to certain vessel types.

EPA estimates that approximately 61,000 domestically flagged commercial vessels and approximately 8,000 foreign flagged vessels could be affected by this permit.

3.2.5 Hydraulic Connectivity

In some cases, there are discharges of pollutants to or on the ground, near a surface water, that can result in pollutants entering surface water. On a case-by-case basis, DEQ will determine the appropriate regulatory mechanism to address the discharge. This may include the application of Idaho's Wastewater Rules, Recycled Water Rules, Subsurface Sewage Rules or the IPDES rules.

3.2.6 Non-Permitted Sectors

There are additional sectors that are not permitted by the EPA NPDES program (e.g. dewatering of utility vaults). Idaho Code §39-175B states that the IPDES program,

> …shall not impose conditions or requirements more stringent or broader in scope than the clean water act and regulations…[and] the department will not require NPDES permits for activities and sources not required to have permits by the United States environmental protection agency.

As a result, DEQ does not intend to require permits addressing those sectors that do not have NPDES permits or are not required by EPA to obtain permits.

3.3 IPDES Fee Schedule

The IPDES fee schedule is based on a combination of application and annual fees, depending on several factors, including:

- Permit type (e.g., IP vs. GP);
- Permit sector (e.g., POTW, Industrial, Storm Water);
- Project size or impact (e.g. major/minor, project area size); and
- Population served or equivalent dwelling units (EDUs).

All IPDES fees discussed here pertain to the July 1, 2015 "Rules Regulating the IPDES Program." Any change in the IPDES fee schedule requires authorization by the Idaho legislature.

3.3.1 POTWs and Domestic Sewage Treatment Works

POTWs, domestic sewage treatment works, and sewer districts are charged an annual fee of $1.74 per EDU that the facility serves; these facilities are not assessed an application fee. DEQ defines *EDU*[9] as:

> A measure where one (1) equivalent dwelling unit is equivalent to wastewater generated from one (1) single-family residence. The number of EDUs must be calculated from the municipality's population served divided by the average number of people per household as defined in the most recent Census Bureau data (for that municipality, county, or average number of persons per household for the state of Idaho).

This refers to the most recent US Census Bureau annual estimate for the municipality or area served (e.g., sewer districts may not be clearly represented in US Census Bureau statistics).

In this theoretical example, if a facility serves a community of 10,000 people, and the average number of people per household is 3.5, then the annual fee would be calculated as:

$ 1.74 x EDUs = $ Annual Fee $\longrightarrow$ $ 1.74 x (10,000/3.5) = $ 4971.43

To determine the appropriate annual fee for these facilities, DEQ requires calculating EDUs by[10]:

> i. Using the most recent Census Bureau statistics for estimates of the population served and the average number of people in a household; or
>
> ii. Existing facilities may report to the Department the number of EDUs served, annually; or
>
> iii. New facilities may report to the Department the number of EDUs to be served, based on the facility planning design as part of the IPDES permit application.

Other Municipal Discharges

There are no IPDES fees for other municipal discharge programs (e.g., MS4s, pretreatment). Fees for those sources are covered by the annual fees paid by POTWs and domestic sewage treatment works.

3.3.2 All Other Permit Types and Sectors

Table 3, identifies the fee schedule for all permitted IPDES dischargers other than POTWs, domestic sewage treatment works, and sewer districts which are addressed in the previous section of this guidance[11].

Table 3. The IPDES fee schedule for all permitted IPDES dischargers except for POTWs, domestic sewage treatment works, and sewer districts[12].

Permit Type	Application ($)	Annual ($)
Industrial Permits*	**—**	**—**
Major	0	13,000
Minor	0	4,000
Storm Water Permits	**—**	**—**
Construction (CGP)	—	—
1-10 acres	200	0
10-50 acres	400	75
50-100 acres	750	100
100-500 acres	1,000	400
>500 acres	1,250	400
Low Erosivity Waiver (CGP)	125	0
Industrial (MSGP) Permits	1,500	1,000
Cert. of No Exposure (MSGP)	250	100
Other General Permits	**0**	**0**

***For description of major vs. minor facilities, see section 3.2.2 (Major and Minor Facility Designation) and Appendix B (IPDES Permit Rating Work Sheet and Instructions).**

3.3.3 Fee Assessment and Payment

3.3.3.1 Annual Fees

DEQ will generate annual fee assessments for each IPDES-permitted facility that is required. Annual fees will be assessed in June for the 12 months between October 1 of the previous calendar year and September 30 of the current calendar year. DEQ will mail the annual fee assessment to each facility on or before July 1 of each year[13].

Owners or operators of multi-year storm water facilities or construction projects are subject to annual fees that will be assessed in the year (October of the previous calendar year through September of the current calendar year) immediately following the receipt of the application or notice of intent for coverage[14]. In subsequent years, annual fees will be assessed in the same manner as individual IPDES-permitted facilities. DEQ will provide a final assessment of annual fees upon approval of a notice of termination.

Annual fees will be assessed according to the number of months a permittee was covered by an IPDES permit within a given year (i.e., October of the previous calendar year through September of the current calendar year). If a permittee was covered for less than a full 12 months, the assessed fee will be pro-rated to account for less than a full year's coverage under the permit[15].

Payment of annual fees to DEQ are due on October 1, unless it is a Saturday, Sunday, or legal holiday, in which event the payment is due on the successive business day. Figure 1 illustrates the annual fee assessment schedule. Fees paid by check or money order must be made payable to the Idaho Department of Environmental Quality and sent to 1410 North Hilton Street, Boise, ID 83706-1255 1255[16].

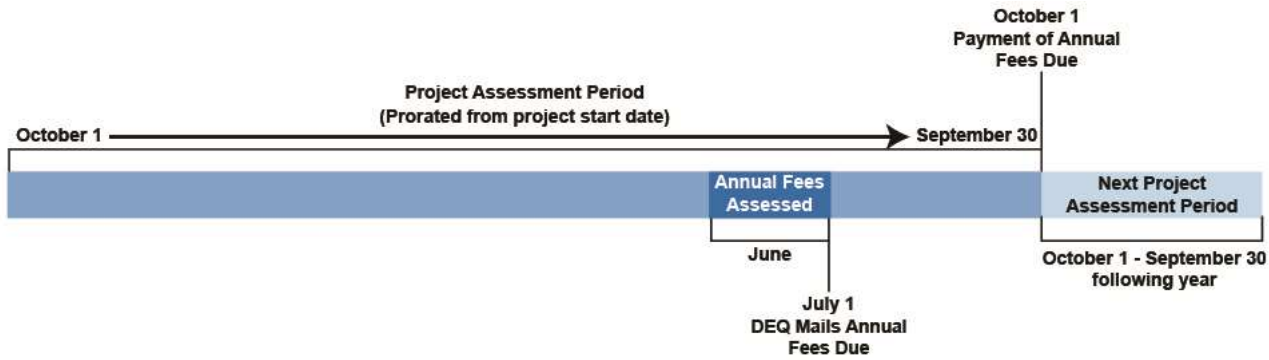


Figure 1. IPDES annual fee assessment schedule.

POTWs and Domestic Sewage Treatment Works

If a facility serves 575 EDUs or more, it may request to divide its annual fee payment into equal monthly or quarterly installments by submitting a request to the Department on the proper request form provided with the initial billing statement. DEQ will notify a facility, in writing, of approval or denial of a requested monthly or quarterly installment plan within ten 10 business days of receiving a request[17].

If a facility has been approved to pay monthly installments then each installment is due by the first day of each month following permit coverage, unless it is a Saturday, a Sunday, or a legal holiday, in which event it is due on the successive business day[18].

If a facility has been approved to pay quarterly installments then each installment is due by the first day of the month of each quarter following permit coverage (October 1, January 1, April 1, and July 1), unless it is a Saturday, a Sunday, or a legal holiday, in which event it is due on the first successive business day[19].

3.3.3.2 Application Fees

DEQ will assess application fees at the time of application for coverage under an individual permit, or notice of intent for coverage under a general permit[20].

Payment of an application fee is due with an application for an individual permit or notice of intent for coverage under a general permit, if required[21].

3.3.4 Delinquent Fees

DEQ will not consider a permit application to be complete until all applicable fees are paid[22].

3.3.4.1 Annual Fees

Annual fees will be considered delinquent in payment if DEQ has not received the assessed annual fee by November 1. If the permittee has been approved by DEQ to pay monthly or quarterly installments, its installment will be considered delinquent if DEQ has not received it by the last day of the month or quarter in which payment is due[23].

3.3.4.2 Suspension of Services and Other Actions

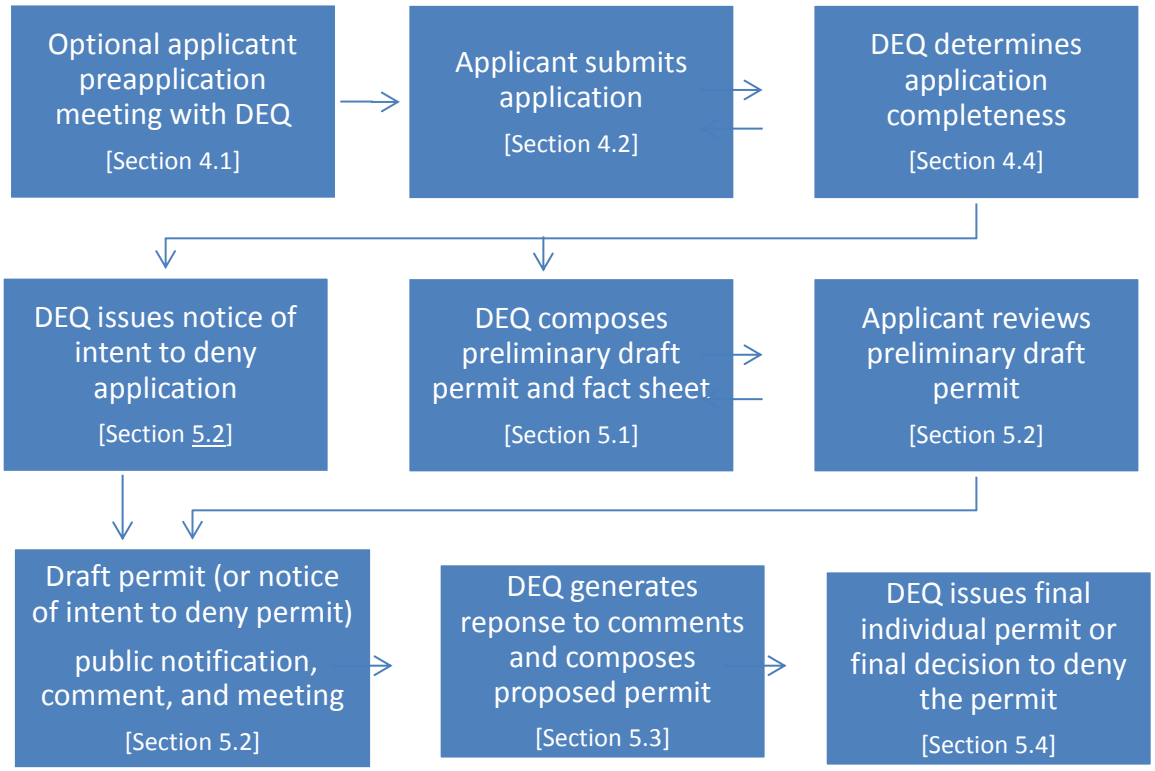
For any permittee that is delinquent in payment of fees in excess of 90 days, DEQ will suspend providing any technical services (e.g. review plans and specs, monitoring plans, and preliminary engineering reports). DEQ will inform the permittee of the fee delinquency in a warning letter identifying administrative enforcement actions that DEQ may pursue if the permittee does not pay all applicable fees[24].

For any permittee delinquent in payment of fees in excess of 180 days, DEQ will suspend all technical services provided and consider the permittee in non-compliance with permit conditions and subject to potential enforcement action[25].

4 Individual Permit Application Process

This section describes the permit application process and the information that must be submitted to support permit development for all individual permits. Application details specific for each individual permit sector can be found in Volume 2. For details regarding the permit development and NOI submittal for coverage under a general permit, see section 6.

Figure 2 presents a flow chart identifying the main steps in the IPDES individual permit application and development process. This section will address the first three steps (application process): 1) optional pre-application meeting, 2) application submittal, and 3) application completeness determination activities. Permit development steps 4 – 9 are presented in section 5.



4.1

Figure 2. Individual permit development process.

4.1 Pre-Application Meeting

Any person who intends to apply for a permit or who proposes to discharge a pollutant into the waters of the US in Idaho should contact DEQ to schedule a meeting prior to submitting an application[26]. This pre-application process takes place before a permit application is submitted, involves the voluntary participation of the permit applicant, and serves three purposes: (1) determine whether the activities or facility will require an IPDES permit and whether other suitable permitting options are available (e.g., reuse, discharge to ground water, elimination of the discharge); (2) identify the IPDES permit application requirements; and (3) identify the

IPDES permit application submittal schedule. Additionally, DEQ personnel and the applicant may discuss any applicable antidegradation provisions.

DEQ encourages potential wastewater discharge applicants to contact DEQ prior to submitting a permit application to discuss whether a surface water discharge permit (IPDES) is the most prudent method for disposing of treated wastewater. DEQ has multiple permitting programs for wastewater collection, treatment, disposal, as well as beneficial reuse of treated wastewater. Each permit type available for disposing or reusing treated wastewater has benefits which the facility may determine to be economically, socially, and environmentally feasible and desirable. The potential permitting schemes include:

- Individual/Subsurface Sewage Disposal Rules[27]
- Recycled Water Rules[28]
- Rules Regulating the IPDES Program[29]

If an operator has already been issued an IPDES permit but is planning or has completed material or substantial alterations or additions to the facility or activity since the current permit was issued, a pre-application meeting may be appropriate to discuss pertinent IPDES permit modifications or, if permit renewal is eminent, how the renewed permit may differ from the existing permit.

The operator or owner should contact the appropriate DEQ regional office to schedule a meeting. The operator, owner, and consulting engineer should attend the meeting with the documentation necessary to identify the facility or activity, or any changes proposed for the facility or activity. The process for modifying an existing permit will be discussed in section 7.

Some basic information should be brought to the meeting to convey to DEQ the purpose for or the proposed changes to a permitted facility or activity. Once the appropriate permitting program has been identified, DEQ can assist the applicant with determining the necessary information required of a complete application.

The information DEQ recommends to support a pre-application meeting varies depending on the facility or activity. Information that should be brought to, or provided in advance of the pre-application meeting, includes:

- Owner and operator information, such as:
  - Company name;
  - Addresses;
  - Representative name(s) and title/purpose (consultant, contractor, operator, etc.); and
  - Phone numbers and email addresses;
- Facility or activity location;
- A facility description (applicable SIC or NAICS codes) and wastewater constituents:
  - Anticipated or measured daily volume of wastewater generated and the basis for this flow rate (extrapolation from similar facility data is acceptable). Generated wastewater may be from one or more of the following:
    - Process wastewater;
    - Non-process wastewater; and
    - Sanitary wastewater;
  - Description of processes either used or planned to be used at the facility or activity;

  - Description of any seasonality of discharge or potential for discharge/non-discharge options;
  - Anticipated or known pollutants and their effluent concentrations; and
  - If a Publicly Owned Treatment Works (POTW):
    - Will/does the facility receive industrial wastewater?; and
    - Will/does the collection system accept and transport storm water?;
- A topographic map of the area extending at least one (1) mile outside the facility's or activity's boundary;
- Whether a mixing zone will be requested; and
- Any information concerning potential waiver requests.

If the applicant believes that some information is a trade secret or should be held confidential, DEQ recommends that each page describing the confidential information have a notification employing such language as "trade secret," "proprietary," or "confidential," as required by DEQ[30]. Since no documentation or information must be submitted to DEQ during the pre-application meeting, an owner or operator may claim all information as confidential. However, an owner or operator may want to work with DEQ to determine what information cannot be claimed as confidential during this pre-application meeting to avoid issues later in the permitting process. Please be aware that information ***required*** by Idaho rules and supporting an individual permit application cannot be held confidential. The applicability of a confidential designation for IPDES permitting purposes will be addressed in appropriate sections of this guide and in Volume 2.

4.2 Individual Permit Application—Common Content

4.2.1 Web-based Interface for Permit Application Submittal

DEQ is developing web-based tools that will support submittal of electronic applications along with all necessary supporting documentation (reports, maps, etc.), and will interface with the IPDES CRIPS database. The web-based tools and database are integral to DEQ providing new and renewed permits that are accurate, thorough, and issued in a timely manner.

Applicants must submit their new permit and existing permit renewal applications using the web-based tools. This will speed up the application submittal by eliminating the mailing of hard copies, DEQ data entry and associated errors. DEQ will provide support to those facilities and activities that are unable to submit their applications using the web-based tool. However, the applicant must contact DEQ and request paper copies of all pertinent application forms and instructions well in advance of the minimum time required to submit an application. Please read section 4.3, Time to Apply, for additional information on timely application submittal and the risks associated with application submission delays.

4.2.2 Who Must Submit the Application

Rules Regulating the IPDES Program stipulate that the operator must obtain the IPDES permit. Additionally, the application must be signed by a certifying official[31].

In contrast to the status of information and documentation evaluated at the pre-application meeting, as noted in section 4.1, all information submitted in support of developing an IPDES permit, when required, may not be classified as confidential[32]. This information includes:

- The name and address of any IPDES applicant or permittee;
- The content of any IPDES permit;
- IPDES permit applications, and information required to be submitted for IPDES applications;
- Information submitted in any attachments used to supply information required by the applications; and
- *Effluent data*[33].

4.2.3 Owner and Operator Information

Information identifying the legal entity owning and operating the facility or activity is required on all applications. This information includes:

- The owner's name, (company, corporation, municipality, etc.);
- The responsible signatory person's name and title;
- Mailing address;
- Phone number(s);
- Email addresses; and
- The federally issued Employer Identification Number (EIN).

Similarly, information regarding the operator must be divulged:

- The operator's name, (company, corporation, municipality, etc.);
- Whether the operator is also the owner of the facility or activity;
- Mailing Address;
- Phone number(s);
- Email addresses; and
- The operator's EIN.

Finally, a billing address must also be provided. This information includes:

- The name (company or municipal billing office) to which the bill need be submitted;
- The billing address;
- The contact person's name and title;
- Phone number(s); and
- Email addresses, if available.

4.2.4 Facility or Activity Physical Location and Description

The facility or activity physical location and description must be identified and submitted as part of the application information. This information includes:

- The physical address of the facility or activity;
- The facility location (latitude and longitude in decimal degrees at the entrance);
- Township, range, and section;
- County;

- Whether it lies on Indian lands; and
- Facility or activity status as federal, state, private, public, or other.

A map of the area extending to one mile outside the facility's or activity's property boundary should be supplied with the application (Figure 3).This map should indicate:

- Area surrounding all unit processes (topographic if available) extending one (1) mile past the property boundary;
- Influent and effluent pipes/structures;
- Springs or other surface water bodies;
- Drinking water wells within one (1) mile of the property;
- Areas where sewage sludge produced by the treatment works is stored, treated or disposed; and
- Areas assigned to receive, store, treat, or dispose of hazardous waste.

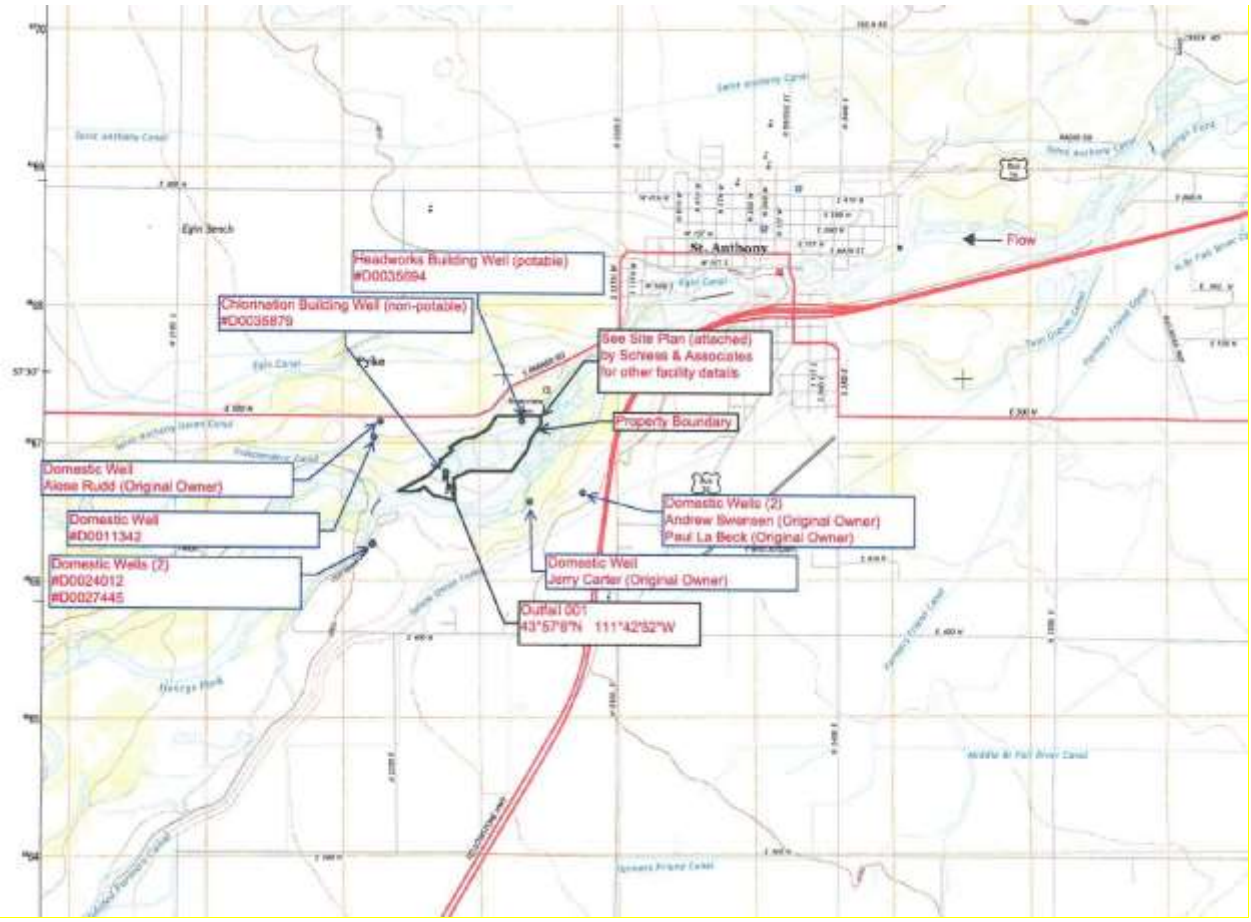


Figure 3. Example map.

4.2.5 Outfall Description

For point source dischargers a complete description of the outfall(s) is required. This location information should include:

- Outfall location – latitude and longitude in decimal degrees of the actual outfall location;

- Distance from shoreline (if applicable);
- Distance above or below water surface;
- Applicable wastewater flow rate(s) (MGD) (indicate measured or estimated), as required by the application, which may include:
  - Annual average daily;
  - Average weekly;
  - Average monthly;
  - Maximum daily;
  - Design;
- Wastewater pollutant analytical results and the associated EPA testing method[34];
- Whether discharge is continuous or intermittent (frequency, duration, months in which discharge occurs); and
- If the outfall has a diffuser, the type must be specified.

Wastewater discharge flow rates must be provided in units of million gallons per day (MGD). These data must be submitted for each of the last 3 years, and, for the annual average rate, be based on a 12-month averaging period.

If the applicant is requesting a mixing zone, the request must be made concurrently with the submittal of the application using the appropriate form. The required information necessary to support a mixing zone analysis includes:

- Type of outfall (single port, multiport, or surface side channel discharge);
- Location and orientation of discharge pipe or port;
- Receiving water body characteristics including:
  - Lake/reservoir bathymetry or stream channel profile for flowing waters;
  - Surface water drinking water intakes and public swimming beaches within five (5) miles (may not be applicable in upstream situations); and
  - Critical flow conditions;
- Effluent and receiving water pollutant concentrations; and
- Existing authorized mixing zones.

4.2.6 Description of Receiving Waters

The water body receiving the discharge will need to be identified. The application also requires critical low flow (e.g., 7Q10 or 4B3, 1Q10 or 1B3, 30Q5, and harmonic mean flow) and the hardness of the receiving water at critical low flow to determine the potential to exceed water quality standards. Some of these data may be difficult to accurately measure, especially in waters without an active gaging station. In some instances consulting with DEQ to estimate values may be the most appropriate option.

Applicants seeking a new IPDES discharge permit and applicants proposing an increase in discharge should be aware of the beneficial use status of the receiving water. They should determine the receiving water body's designated beneficial uses as specified in Idaho's Water Quality Standards[35] and the beneficial use support status for each use by consulting the most recently approved Integrated Report (*http://www.deq.idaho.gov/water-quality/surface-water/monitoring-assessment/integrated-report/*).

Alternatively, this can be accomplished by contacting the appropriate DEQ regional office's Surface Water Quality program staff. The applicant should be able to identify the location of the facility or activity to DEQ staff so that the receiving water body status can be identified. If the water body is impaired for a pollutant that may be discharged, DEQ staff will need to determine whether a total maximum daily load (TMDL) has been developed for the receiving water body and whether there is a wasteload allocation or reserve for growth available for the proposed discharge. If the quality of water exceeds levels necessary to support aquatic life or recreation, or both, that quality must be maintained and protected. The discharger will need to provide justification that lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located[36].

4.2.7 Other State and Federal Permits Affiliated with the Facility or Activity

The facility or activity must also submit information regarding other permits or construction approvals received or applied for under the following programs.

- Hazardous waste management program under Rules and Standards for Hazardous Waste[37];
- Underground injection control (UIC) program under the Idaho Department of Water Resources UIC program, Rules and Minimum Standards for the Construction and Use of Injection Wells[38];
- IPDES program under Rules Regulating the IPDES Program[39];
- Prevention of significant deterioration (PSD) program under Rules for the Control of Air Pollution in Idaho[40];
- Nonattainment program under Rules for the Control of Air Pollution in Idaho[41];
- National emission standards for hazardous pollutants (NESHAPS) preconstruction approval under Rules for the Control of Air Pollution in Idaho[42];
- Dredge or fill permits under the CWA section 404;
- Sludge management program under Wastewater Rules[43] and section 380, Sewage Sludge of the Rules Regulating the IPDES Program;
- Subsurface sewage disposal permits under Individual/Subsurface Sewage Disposal Rules[44];
- Reuse permits under Recycled Water Rules[45]; and
- Other relevant environmental permits, programs or activities, including those subject to state jurisdiction, approval, and permits.

4.2.8 Compliance with Permit Prohibitions

Some information will be required by all applicants to help DEQ determine that the facility or activity discharges are in compliance with permit prohibitions[46]. Information that the applicant provides should address the proposed discharges of any potential sources of radiological, chemical, or biological warfare agents or high level radioactive waste[47]. Although it is unlikely these will be present in most facilities' or activities' wastewater, the applicant must divulge this information if any of these constituents may be present at their facility or activity.

Aspects of IPDES permits that are applicable to all permits and permittees involve information required by DEQ to determine whether the facility or activity complies with components of Idaho's Water Quality Standards including:

- Antidegradation policy and implementation provisions[48];
- Mixing zone provisions[49]; and
- Criteria for authorization of a compliance schedule[50].

4.2.9 Waiver Requests

A waiver request is required either prior to submittal of an application or concurrently with the application, depending upon the type of waiver being sought. Permit specific waiver requests will be addressed in more detail in Volume 2.

Some waiver requests require EPA concurrence and may impact the results of the application completeness determination. Specifically, if a POTW or TWTDS requests a waiver from submitting specific information, claiming that information is not of material concern for the permit[51], and DEQ concurs, but EPA does not, then DEQ will not consider the permit application to be complete[52]. If an applicant reapplying for a permit submits a waiver request to EPA more than two hundred ten (210) days before the existing permit expires, and EPA has not disapproved the waiver request one hundred eighty-one (181) days before the permit expires, then DEQ will consider the permit application to be complete without the information that is the subject of the waiver request[53]. Applicants are encouraged to discuss any potential waiver requests with DEQ at the pre-application meeting.

4.3 Time to Apply

Specific application submittal deadlines are stipulated in the IPDES rules[54]. For a permit renewal, an application must be submitted and deemed complete at least 180 days before the current permit expires. For a new permit, an application must be submitted and deemed complete at least 180 days before the applicant intends to begin discharging. If the applicant cannot submit a complete application at least 180 days prior to permit expiration or beginning discharge, they must obtain DEQ's written approval in advance of the 180 day requirement. An application for an individual construction storm water permit must be submitted and deemed complete at least 90 days before construction is anticipated to begin. These minimum application submittal milestones are identified in Table 4.

Early permit application submittal is good risk management, and it provides DEQ time to assess the application for completeness, identify deficiencies in the application, request and obtain information from the applicant, generate the permit and fact sheet, and complete the public comment and permit revision process prior to issuing the final permit. Timeliness of NOI submittal for new or renewed coverage under a general permit will be addressed in section 6.

An applicant seeking to renew a permit should submit a complete application in a timely manner to provide DEQ the option of administratively continuing the permit. This is prudent risk management. Idaho's IPDES rule on continuation of individual permits[55], lists two criteria that must be met in order to qualify for an administrative extension:

- Submittal of a complete permit application; and
- Submittal of the application in a timely manner.

DEQ is allowed 60 days to determine if the application is complete for an existing source or sludge-only facility[56]. In order to provide adequate time for DEQ to assess the completeness of an application renewal without jeopardizing the possibility of obtaining an administrative extension, the application should be submitted at least 240 days (180 days by rule + 60 days for DEQ review = 240 days) prior to the permit's expiration date. It is possible that applications for complex facilities with multiple discharge points or types of permits may require even more time to ensure application completeness.

For an applicant seeking a new permit, submittal of an application early in the facility construction period will prevent lost revenue or an idle facility because the facility will have a valid permit when it is ready to be brought online. DEQ is allowed 30 days to determine if the application is complete for a new source or new discharge[57]. In order to provide adequate time for DEQ to assess the completeness of a new application without jeopardizing the possibility of not discharging on schedule, the application should be submitted at least 210 days (180 days by rule + 30 days for DEQ review = 210 days) prior to the applicant anticipated discharge date.

In the event that a permit is not reissued prior to its expiration date, and the permittee has submitted a complete application to renew the permit in a timely manner, the expired permit's conditions remain fully effective and enforceable until the effective date of a new permit[58]. DEQ will notify the permittee in writing that the expiring permit will not be reissued prior to its expiration date, and that the expiring permit will be administratively extended until the new permit is issued. Should an application not be submitted according to the rule requirements, a permittee would be considered in violation and may be subject to an enforcement action.

Table 4. When to submit a complete application for an IPDES individual permit.

Type of Discharge	Minimum Application Submittal Timeline
New	At least 180 days before the date on which the discharge is to commence
Existing	At least 180 days before expiration date of existing permit
Construction storm water	At least 90 days before the date on which construction is to commence

4.4 Application Completeness Review

DEQ will evaluate a submitted application to determine whether it is complete. DEQ will not start developing a draft permit until the application has been determined to be complete. An application is complete when an application form and any required information are completed and submitted to DEQ's satisfaction[59], allowing DEQ to calculate all pertinent limits, establish necessary compliance schedules, and identify special conditions.

For those facilities and activities that must submit fees, DEQ will not consider an application as complete until all applicable fees are paid[60]. Additionally, DEQ may schedule a facility or site visit to assist in application completeness determination, or to become familiar with the facility. The applicant is obligated to accommodate this request in order to support the completeness determination; failure to accommodate a site visit request is cause for permit denial[61].

DEQ will review submitted applications and supply a completeness determination within 30 days for new permits and within 60 days for permit renewals. Since the completeness determination process is time constrained, and may jeopardize the possibility of administratively extending an existing permit, DEQ will prioritize completeness determination efforts ahead of other permitting activities. The completeness determination notification will be provided in a written format, either as a letter or email, and will be retained as part of the administrative record. Figure 4 presents a flow chart defining the Application Completeness Determination process.

DEQ may request additional information not provided in the application at any time prior to making an application completeness determination. Additional information may be necessary to establish permit specific conditions. After DEQ has determined the application to be complete, it qualifies a permit for an administrative extension, if necessary, but does not preclude DEQ from requesting additional information needed to clarify, modify, or supplement previously submitted material[62], and compose a complete and accurate permit.

If the applicant believes data collection will result in a delay in application submittal, the applicant must obtain DEQ's approval to submit an application in less than one hundred eighty (180) days before the expiration date of the existing permit[63]. Alternatively, at DEQ's discretion (and if a schedule for submission is agreed upon by DEQ and the permittee), DEQ may deem an application complete that initially lacks some necessary information for limit calculations, compliance schedule development, special conditions identification, or other specific information required to compose a complete and accurate permit.

Some applications require data to be collected prior to the application being submitted. These data must be analyzed using sufficiently sensitive analytical methods[64]. Identification of the analytical method utilized to assess the collected samples must be included as part of the application. DEQ will evaluate the analytical method's minimum level to determine whether it is sufficiently sensitive to detect the targeted pollutant at or below the water quality criterion, or meets the sufficiently sensitive methods criteria[65]. If data is being collected to support a permit renewal, evaluation of the analytical method is still required to determine whether it is sufficiently sensitive to yield the data required for permit generation. Instances in which data is still being collected may precipitate a delay in permit generation.

If the applicant is securing additional permits from other state or federal agencies, DEQ will assess the IPDES application completeness independently of these other permit applications[66].

Waiver requests may also impact application completeness. Please review section 4.2.9, Waiver Requests, and the sector specific sections of Volume 2 applicable to your permit type.

These special situations illuminate the need for applicants to submit the application package early enough to allow DEQ to determine completeness based upon an acceptable data collection and submittal plan.

There are various sector-specific application requirements that must be completed to support DEQ's permit generation process. The sector-specific requirements will be discussed in the individual sections in Volume 2.

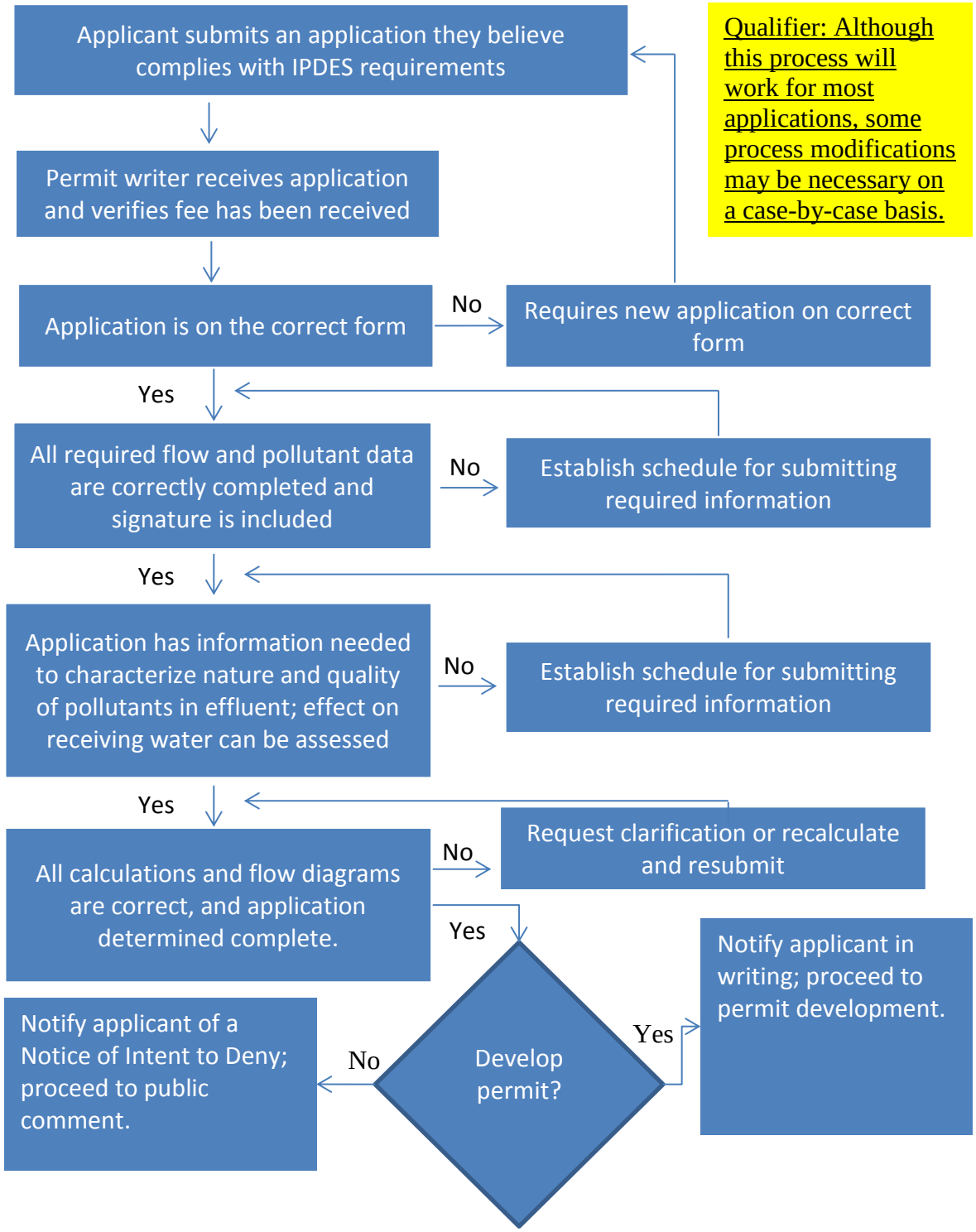


Figure 4. Application completeness determination process.

4.5 Permitting Assistance

DEQ IPDES personnel are available to provide clarification on this guidance and answer any questions users may have related to IPDES permit application, compliance, monitoring, reporting, inspection, and the web interface. The IPDES staff work closely with DEQ's Surface Water and Wastewater Program staff, and will pursue answers to questions or relay your question to the appropriate staff. IPDES program staff contact information can be found on DEQ's website at *http://www.deq.idaho.gov/water-quality/ipdes/*.

5 Individual Permit Development Process

This section provides an overview of the required content for ~~sections of~~ an individual IPDES permit and fact sheet, and the development process. ~~Please refer to Figure 2~~ Figure 5 ~~for~~ ~~a flow chart of~~ illustrates the process for developing and issuing an individual permit. A permit contains the conditions a permittee must meet. Information considered in development and the rationale for permit conditions is included in the supporting fact sheet for each permit, which makes up part of the documentation that supports a draft permit.

Although this section identifies common components of nearly all permits and fact sheets, the contents and structure may vary depending on the nature of the discharge and permit sector (e.g., industrial, MS4, POTW) These sector specific attribute will be discussed in Volume 2. Appendix C provides an outline of the individual permit and fact sheet development and issuance process.

Stakeholder Coordination

To the extent practicable, DEQ will coordinate with and inform applicants, permittees, and EPA throughout the permit development process – beginning with the preapplication meeting and continuing through the issuance ~~(or denial)~~ of a permit, as well as any compliance, inspection, and enforcement activities (discussed in sections 9 and 10). The permit development coordination includes interpreting monitoring and reporting data, characterizing the effluent and receiving water body, and developing effluent limitations, compliance schedules, and other permit conditions. This communication will help the applicant, permittee, and EPA to be well-informed of the permit development and will help DEQ to develop more complete, accurate, and ~~defensible~~ enforceable permits.

5.1 Development of the Draft Permit and Fact Sheet

All IPDES permits consist, at a minimum, of five sections:

- Cover Page (section 5.1.1)
- Development of Effluent Limitations (section 5.1.2)
- Monitoring and Reporting Requirements (section 5.1.3)
- Special Conditions (section 5.1.4)
- Conditions Applicable to all Permits (section 5.1.5)

A fact sheet contains ~~some~~ similar structure and content to that of a permit. The fact sheet, however, provides the basis and explanation of permit decisions and effluent limits, including

findings that compliance with effluent limits will result in controls on pollutants of concern which are sufficient to achieve and maintain applicable WQS. The permit fact sheet also includes an applicant's contact information and the facility or activity permit history, a description of the wastewater source (e.g. service area, process wastewater, non-process wastewater, storm water, etc.), treatment facility and processes, the outfall(s) location and design, and a summary of current permit compliance.

IPDES fact sheets typically contain the following major components:

- Information on public comment, public meeting, and appeal procedures
- A description of the proposed discharge
- A listing of the proposed effluent limitations and other conditions
- A description of the discharge location
- Information supporting the conditions in the draft permit

~~Although these sections are part of all permits and fact sheets, the contents may vary depending on the nature of the discharge, type of permit (e.g., general vs. individual), and permit sector (e.g., industrial, MS4, POTW).~~

5.1.1 Cover Page

The permit cover page(s) include information authorizing a discharge and the applicable dates of the permit including:

- Operator
- Facility or permittee name
- Facility physical and mailing address
- IPDES permit number
- Receiving water body name as identified in the Assessment Database (ADB)/Water Quality Standards (WQS)
- Outfalls and locations—from application (latitude and longitude), verified by the DEQ
  - Including secondary and emergency outfalls, and recycled water discharge, if applicable
- *Issuance date*—the date the permit is signed by DEQ
- *Effective date*—the date permit conditions take effect
- Reapplication due date—the date by which a permittee must submit a complete application
- Expiration date—the date permit coverage terminates
- Signature—DEQ Director, or designee
- Schedule of submissions—what a permittee must complete and/or submit during the permit period
- Authorized discharge ~~authorization~~ —describing the permitted facility or activity, general treatment processes, and the receiving water body

The fact sheet cover~~(s)~~ page(s) include information about the permit development, including:

- Facility or permittee name
- Facility physical and mailing address
- IPDES permit number

- DEQ technical contact information
- Receiving water body name as identified in the ADB/WQS
- Public comment open date—the date on which a minimum 30-day public comment period for the draft permit begins
- Public comment close date—the date on which the public comment period for the draft permit ends
- Public meeting date (if applicable)—the date on which a public meeting for the draft permit is held
- Other permit development information, as appropriate (e.g. location for document review, public comment and response information,)

~~It is important to note that, permit and fact sheet cover pages may differ due to the nature of unique circumstances regarding each permit (e.g. MS4s to be addressed in Volume 2).~~

5.1.1.1 Schedule of Submissions

The schedule of submissions is a summary of items a permittee must complete and/or submit to DEQ during the term of this permit. This list includes a due date for each item and references to the section of the permit which requires the submission.

Examples of these items may include, but are not limited to:

- Discharge Monitoring Reports (DMRs);
- Quality Assurance Project Plans (QAPPs);
- Operation and Maintenance (O&M) plans;
- Whole Effluent Toxicity (WET) tests and reports
- Permit application for renewal
- Surface water monitoring reports
- Receiving water studies
- Pollution prevention plans (e.g. nutrients, toxics, etc.)
- ~~Phosphorus management plans~~
- ~~Toxics management plans~~
- Methylmercury fish tissue annual reports
- Emergency response and public notification plans
- Inflow & Infiltration (I&I) reports
- Sanitary Sewer Overflow (SSO) reports
- Best Management Practices (BMP) plan
- Total chlorine residual effluent limits
- Twenty-four hour notice of noncompliance reporting
- Ambient monitoring reports
- Temperature monitoring reports
- Outfall inspections
- Engineering studies
- Facility planning
- Pretreatment annual reports
- Sewage sludge (Biosolids) annual reports

- Local limits evaluations
- Compliance evaluation reports
- Other sector or permit specific requirements

~~Schedules of submission may differ due to the unique nature of each permit (e.g. MS4s to be addressed in Volume 2), or they may not be required.~~

5.1.1.2 Authorized Discharge

This section of an individual permit defines the authorized discharge, a description of the permitted facility or activity, general treatment processes, and the receiving water body.

5.1.2 Development of Effluent Limitations

Effluent limitations in a permit are the primary mechanism for controlling discharges of pollutants to receiving waters. The fact sheet explains how effluent limitations included in the permit are developed (Figure 5) and outlines the steps to development of effluent limitations.

The development of IPDES permits will consider the impact of the proposed discharge on the quality of the receiving water. When analyzing the impact of a discharge on the receiving water, DEQ may determine that Technology-Based Effluent Limits (TBEL) alone will not achieve the applicable water quality standards.

When TBELs alone are not enough to protect water quality, IPDES rules, the CWA and federal regulations require DEQ to develop Water Quality-Based Effluent Limits (WQBELs). WQBELs ensure that authorizing the discharge still meets the CWA objective of restoring and maintaining the chemical, physical, and biological integrity of the nation's waters as well as providing for the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water (fishable/swimmable).

Water quality goals for a water body are defined by Idaho WQS. Requirements more stringent than promulgated technology limitations are included in a permit if they are necessary to achieve WQS; this includes narrative criteria and antidegradation provisions.

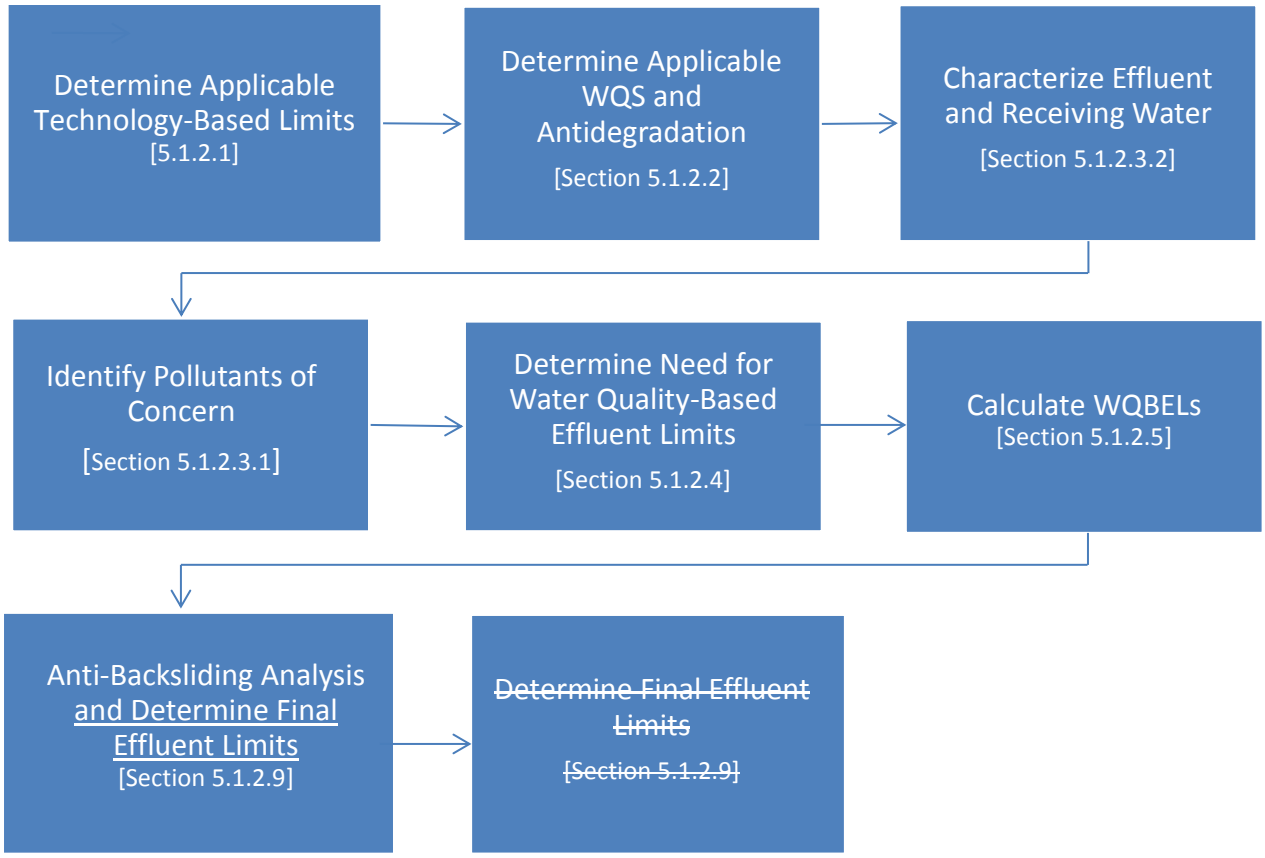


Figure 5. Development of effluent limitations.

5.1.2.1 Technology-Based Effluent Limitations and Standards

Effluent limitation guidelines (ELGs) and standards are developed at a national level and promulgated in the CFR. DEQ develops TBELs for permits based on these ELGs and standards and determines how much of the pollutant(s) can be removed from the effluent using available technology. Consequently, they do not account for the potential impact of a discharge on the receiving water body. Any water quality impact is addressed through reasonable potential analysis and development of WQBELs (see sections 5.1.2.4 and 5.1.2.5).

The first step in identifying appropriate effluent limitations is to evaluate what, if any, TBELs are required, representing the minimum level of control that must be imposed in a permit. Based on the permit and type of discharge, DEQ will determine which pollutants require TBELs. Necessary TBELs are based on:

- Standards promulgated under the CWA section 301;
- New source performance standards, CWA section 306;
- Effluent limitations determined on a case-by-case basis under CWA 402(a)(l), 4); or
- A combination of the three[67].

New sources are subject to specific standards referenced in state and federal regulations[68].

The application of TBELs is different for POTWs than industrial permits. Volume 2 and DEQ's *Effluent Limit Development Guidance* (DEQ XXXX) will more fully address TBEL requirements specific to sectors (e.g. POTWs, MS4s, and industrial discharges).

TBELS for POTW and Domestic Sewage Dischargers

Based on CWA 301(b)(1)(B) provisions and 304(d) amendments, EPA developed secondary treatment regulations and alternative standards, referred to as "equivalent to secondary treatment," for certain types of POTWs. Secondary treatment and equivalent to secondary treatment standards are also appropriate for privately owned domestic sewage treatment works and sewer districts since they have similar influent quality and treatment technologies.

Determining if secondary treatment standards or equivalent to secondary standards apply and determining the specific discharge limitations can be a complex process. Under these conditions, DEQ ensures that compliance with limitations are measurable and recognize that percent removal limitations may require influent monitoring.

TBELs for Industrial Dischargers

When developing TBELs for industrial (non-domestic) facilities, DEQ considers all applicable technology standards and requirements for all pollutants discharged. If no applicable ELGs exist for a discharge or pollutant, DEQ must identify any needed site-specific TBELs on a case-by-case basis, in accordance CWA sections 301(b)(2) and 304(b). The site-specific TBELs reflect the Best Professional Judgment (BPJ) of DEQ, taking into account the same factors EPA would use in establishing a national effluent guideline, but applying them to circumstances of the permit. DEQ also identifies if state laws or regulations might require more stringent performance standards than those required by federal regulations. In some cases, a single permit could have TBELs based on effluent guidelines, BPJ, and state law (as well as WQBELs based on water quality standards).

5.1.2.2 Determine Applicable Water Quality Standards

The CWA and implementing regulations require states to develop and, from time to time, revise WQS. Wherever attainable, WQS protect water quality to provide for the protection and propagation of fish, shellfish and wildlife, and recreation in and on the water (i.e., fishable/swimmable). In establishing standards, DEQ must consider the use and value of waters for public water supplies, propagation of fish and wildlife, recreation, agriculture and industrial purposes, and navigation. EPA ~~Regions~~ reviews and approves or disapprove new and revised water quality standards ~~adopted by states. The purpose of EPA's review is~~ to ensure that the new and revised water quality standards meet the requirements of the CWA and federal regulations.

When developing an IPDES permit, DEQ will identify and implement the applicable water quality standards for the receiving water. The fact sheet will describe any applicable water quality standards and how they are supported by permit conditions. Although there are many components that make up water quality standards (e.g. mixing zones, variances), the three primary components are:

- Beneficial uses;
- Water Quality Criteria; and
- Antidegradation.

Beneficial uses of the water include the ways in which humans and animals use the water. Criteria specify what water quality is needed to protect beneficial uses. Criteria can be numeric concentrations or narrative requirements. Antidegradation is a policy developed to maintain and protect water quality.

Beneficial Uses

The first part of a WQS is a classification system for water bodies based on the expected uses of those water bodies. The uses in this system are called beneficial uses. A designated use is a beneficial use assigned to a specific water body in Idaho WQS. The CWA also requires Idaho to recognize existing uses, which are uses that are/were actually attained in a water body on or after November 28, 1975, whether or not they are designated uses. In some cases, a water body does not have uses designated. For these water bodies, DEQ applies a presumed use protection, meaning the water body will be protected for cold water aquatic life and contact recreation. Often this presumed use protection is referred to as a presumed use. DEQ must also consider and ensure the attainment and maintenance of the water quality standards of downstream waters when establishing designated uses.

Water Quality Criteria

The second part of a WQS is the set of water quality criteria sufficient to support the beneficial uses of each water body. While a water body may have multiple beneficial uses, the criteria must protect the most sensitive use. DEQ has adopted both numeric and narrative water quality criteria. Numeric water quality criteria are developed for specific parameters to protect aquatic life and human health and, in some cases, wildlife from the deleterious effects of pollutants. Narrative criteria are implemented where numeric criteria cannot be established, or to supplement numeric criteria.

Numeric criteria for the protection of aquatic life are designed to protect aquatic organisms, including plants and animals, human health, or other categories (e.g., wildlife). Numeric criteria typically address both short-term (acute) and long-term (chronic) effects. Each numeric criteria generally consists of three components: magnitude, duration, and frequency.

- Magnitude: The level of pollutant (or pollutant parameter), usually expressed as a concentration, that is allowable.
- Duration: The period (averaging period) over which the in-stream concentration is averaged for comparison with criteria concentrations.
- Frequency: How often criteria may be exceeded.

Numeric criteria and effluent limitations are often not expressed in the same way. Criteria are generally expressed as a magnitude, duration and frequency. For example to protect aquatic life in a receiving water body the concentration of arsenic may not exceed 340 ug/L (magnitude) as a one-hour average (duration) more than once in three years (frequency). Whereas, effluent limitations in IPDES permits are generally expressed as a magnitude in mass or concentration (e.g., mg/L, µ/L, lbs/day) and an averaging period (e.g., maximum daily, average weekly,

average monthly). Typically, the components of the criteria are addressed in water quality models through the use of statistically derived receiving water and effluent flow values that ensure that criteria are met under critical conditions.

DEQ WQS also include narrative water quality criteria to supplement numeric criteria. Narrative criteria are statements that describe the desired water quality goal for a water body. Narrative criteria, for example, require that surface water be "free from hazardous materials in concentrations found to be of public health significance or to impair designated beneficial uses" or be "free from toxic substances in concentrations that impair designated beneficial uses." DEQ can utilize narrative criteria as the basis for limiting specific pollutants for which numeric criteria don't exist or as the basis for limiting toxicity using WET requirements where the toxicity has not yet been traced to a specific pollutant or pollutants[69].

Antidegradation

The third part of WQS is antidegradation policy. This set of procedures and guidance is aimed at maintaining the existing quality of Idaho waters, *Idaho Antidegradation Implementation Procedures* (DEQ 2016 draft). Maintaining water quality better than the minimums set by water quality criteria is a primary objective of the CWA. This objective is achieved by reviewing water quality related permits for their effect on water quality. If the water receiving the discharge is of high quality (e.g. Tier 2, see below), proposed degradation in water quality is evaluated closely to determine if it can be minimized or avoided. If significant degradation cannot be avoided, then the activity is evaluated to determine if the activity is necessary and important to the social or economic health of the affected public.

Effluent limitations included in IPDES permits must be consistent with Idaho's antidegradation policy[70], which establishes three tiers of water quality protection.

Tier 1 maintains and protects existing uses and water quality conditions necessary to support such uses. Where an existing use is established, it must be protected even if it is not listed in the water quality standards as a designated use. Tier 1 requirements are applicable to all surface waters.

Tier 2 maintains and protects "high quality" waters—water bodies where existing conditions are better than necessary to support CWA "fishable/swimmable" uses. Water quality may be lowered in tier 2 waters, but only with public review of the necessity for degradation based on the social and economic importance of the activity. In no case may water quality be lowered to a level that would interfere with existing or designated uses.

Tier 3 maintains and protects water quality in outstanding resource waters (ORWs). Except for certain temporary changes, water quality cannot be lowered in such waters. ORWs generally include the highest quality waters of the U.S. However, the ORW classification also offers special protection for waters of exceptional ecological significance, such as those that are ecologically important, unique, or sensitive. In Idaho, designation as an ORW requires legislative action.

5.1.2.3 Effluent and Receiving Water Characterization

After identifying the most current and approved water quality standards that apply to the receiving water body, DEQ characterizes the effluent discharged by the facility or activity. DEQ uses the information from those characterizations to determine whether WQBELs are required (section 5.1.2.4) and, if so, to calculate WQBELs (section 5.1.2.5). Characterizing the effluent and receiving water can be divided into three steps as discussed in detail in the subsections below.

The fact sheet supporting each individual permit identifies and describes:

- Pollutants of concern in the discharge;
- Critical conditions of the effluent and receiving waters; and
- Mixing zone applicability, analysis, and conditions.

5.1.2.3.1 Identify Pollutants of Concern

There are several sources of information for and methods of identifying *pollutants of concern* for WQBEL development. These pollutants may not necessarily receive an effluent limitation in an IPDES permit, but do go through a reasonable potential analysis. The following five categories identify pollutants of concern for potential WQBEL development:

Pollutants with TBELs

Any pollutant with a TBEL may need more stringent limitations necessary to support WQS: Pollutants subject to TBELs are addressed in state and federal regulations. POTWs must meet TBELs established in federal regulations, identified as secondary treatment or equivalent to secondary treatment[71], while industries must meet ELGs[72]. If an industry does not have an ELG, the characterized effluent will be assessed and limits established, if necessary, using BPJ. Any pollutant with a TBEL may also need more stringent limitations to support WQS.

Pollutants with a Wasteload Allocation from a TMDL

Any pollutant for which a *wasteload allocation* (WLA) has been assigned to the facility through a TMDL: ~~Every 2 years,~~ DEQ publishes a priority list (a "§303(d) list") of Category 5 impaired waters, known as Idaho's Integrated Report. For waters identified on this list, DEQ must develop a TMDL for the pollutants, set at a level to achieve WQS (in some cases the impairment may be due to pollution such as flow or habitat alteration).

A TMDL is a calculation of the maximum amount of a single pollutant that a water body can receive and still meet WQS and an allocation of that amount to the pollutant's sources. The portions of the TMDL assigned to point sources are WLAs, and the portions assigned to nonpoint sources and background concentrations of the pollutant are called load allocations (LAs). The calculation must include a margin of safety to ensure that the water body can be used for the purposes designated in the water quality standards, to provide for the uncertainty in predicting how well pollutant reduction will result in meeting water quality standards, and to account for seasonal variations. A TMDL might also include a reserve capacity to accommodate expanded or new discharges in the future.

$$TMDL = WLA + LA + Margin\ of\ Safety + Reserve\ Capacity$$

IPDES permits must include effluent limitations developed consistent with the assumptions and requirements of any WLA that has been assigned to the discharge as part of an approved TMDL. As a result, any pollutant for which a WLA has been assigned to the permitted facility through a TMDL is a pollutant of concern.

Pollutants with WQBELs in Previous Permit

Any pollutant for which DEQ determines WQBELs in the previous permit continue to apply: Where those conditions no longer apply, DEQ needs to complete an anti-backsliding analysis to determine whether to remove the WQBELs from the reissued permit. In addition, DEQ may need to conduct an antidegradation analysis to determine if the revised limitation would allow degradation of the quality of the receiving water.

Pollutants Identified as Present in Effluent through Monitoring

Any pollutant identified in effluent monitoring data reported in the discharger's IPDES permit application, DMRs, or special studies: In addition, DEQ may collect data through compliance inspection monitoring or other special study. Therefore, DEQ can match information on which pollutants are present in the effluent to the applicable water quality standards to identify parameters that are candidates for WQBELs.

Pollutants Otherwise Expected to be Present in the Discharge

Any pollutant for which neither the discharger nor DEQ have monitoring data but the discharger or DEQ expects that the pollutant could be present in the discharge (because of the raw materials stored or used, products or by-products of the facility operation, or available data and information on similar facilities). If there are no analytical data to verify the concentrations of these pollutants in the effluent, DEQ must either postpone a quantitative analysis of the need for WQBELs and collect, or require the discharger to collect, effluent monitoring data, or base a determination of the need for WQBELs on other information, such as the effluent characteristics of a similar discharge.

Similarly, pollutants of concern include those present in the effluent that the Integrated Report identifies as contributing to the listing of the receiving water body in Category 5, for which a TMDL has not yet been developed.

5.1.2.3.2 Identify Critical Conditions of the Effluent and Receiving Water

An important part of characterizing the effluent and receiving water is identifying the critical conditions. Receiving water body low flow conditions, facility design discharge rates, and effluent concentrations are used to assess the need for and calculate WQBELs[73]. Some key effluent and receiving water conditions are:

Effluent Flow Rate

Effluent flow is a critical design condition used when modeling the impact on a receiving water body. DEQ should be able to obtain effluent flow data from DMRs or a permit application. However, DEQ will evaluate concerns about calculating limits based on actual flow in case there is a change in the water body which would not allow expansion of the discharge. DEQ ~~must~~ will then specify which flow measurement(s) and metrics for dilution and mass balance to use as the critical effluent ~~flow~~ values in WQBEL calculations ~~(e.g., the maximum daily flow reported on the permit application, the maximum of the monthly average flows from discharge monitoring reports for the past three years, the facility design flow)~~. In some instances, multiple critical flows through the identification of flow tiering or seasonal flows may be appropriate.

Effluent Pollutant Concentration

DEQ can determine the critical effluent concentration of a pollutant of concern by gathering effluent data representative of the discharge (e.g., a concentration that represents close to the maximum concentration of the pollutant expected over time). In many cases, DEQ has a limited effluent data set and, would not have a high degree of certainty that the data include the maximum potential effluent concentration of the pollutant of concern. Additionally, DEQ must consider the variability of the pollutant in the effluent when determining the need for WQBELs[74].

As described in EPA's *Technical Support Document for Water Quality-Based Toxics Control* (TSD) (EPA 1991a), a maximum projected effluent concentration will be statistically calculated based on the maximum value reported in available effluent data and a coefficient of variation (CV) that accounts for the number of samples and effluent variability. ~~Following the *TSD*,~~ DEQ will establish the maximum projected effluent concentration based on appropriate statistical analysis of the data available. ~~DEQ will, in general, use effluent data collected during the five years prior to permit reissuance to perform reasonable potential analyses.~~

~~The TSD procedures allow DEQ to project a critical effluent concentration (e.g., the 99th or 95th percentile of a lognormal effluent concentration distribution) from a limited data set using statistical procedures and the characteristics of the lognormal distribution. For effluent with pollutant concentrations that do not follow a lognormal distribution, DEQ will rely on alternative procedures for determining the critical effluent pollutant concentration.~~

For additional details see DEQ's *Effluent Limit Development Guidance* (DEQ XXXX) and Chapter 3 of the TSD, which provide more details regarding critical conditions and other variables used in effluent limit calculations. Additionally, pollutants of concern may differ with each sector, facility, and activity. Volume 2 of the User's Guide will provide additional information specific to each permit sector.

Receiving Water Flow Rate and Non-Flowing Water

For rivers and streams, an important critical condition is the stream flow upstream of the discharge. This information is typically gathered using state databases, USGS data, and other information. For most pollutants and criteria, the critical flow in rivers and streams is some measure of the low flow of that river or stream; however, the critical condition could be different

(for example, a high flow, where wet weather sources are a major problem). If a discharge is controlled so that it does not cause water quality criteria to be exceeded in the receiving water at the critical flow condition, the discharge controls should be protective and ensure that water quality criteria, and beneficial uses, are attained under all receiving water flow conditions.

The water body will be considered non-flowing when the receiving water body has a mean detention time greater than 15 days. DEQ will assess non-flowing water bodies on a case-by-case basis. Volume 2 of the User's Guide will provide additional information on situations where the receiving water body is designated non-flowing.

Examples of typical critical *hydrologically based design flows* found in Idaho WQS include the 7Q10 low flow applicable to chronic aquatic life criteria and the 1Q10 low flow applicable to acute aquatic life criteria. Other measures of critical flow are the biologically-based design flows. Examples include the 1B3, 4b3, and the harmonic mean flow applicable to human health criteria for carcinogen pollutants.

Receiving Water Background Pollutant Concentration

DEQ also needs the critical background concentration in the receiving water ~~of the pollutant of concern~~, to ensure that any pollutant limitations derived are protective of the beneficial uses and support the antidegradation policy and implementation[75]. When available, ambient data provide the most reliable receiving water background pollutant characterization. When data are not available, DEQ may include ambient monitoring requirements in the ~~new~~ permit~~'s compliance schedule~~ conditions, along with a reopener clause. When data is not available, but is being collected, ambient monitoring requirements and the availability of mixing would be determined on a case-by-case basis dependent on the potential risk to beneficial uses (sensitivity of uses and quality of effluent).

Related Receiving Water Characteristics Necessary for Calculations

For water bodies other than free-flowing rivers and streams, there might be critical environmental conditions that apply rather than flow (e.g., temperature, alkalinity). In addition, depending on the pollutant of concern, the effects of biological activity and reaction chemistry might be important in assessing the impact of a discharge on the receiving water. These may include pH, temperature, hardness, or reaction rates, to name a few.

5.1.2.3.3 Identify Mixing Zone Applicability, Analysis, and Conditions

A mixing zone is an area within a water body around the discharge point in which pollutant concentrations may exceed WQS. The boundary of the mixing zone is defined as that location where pollutant concentrations must achieve a level that meets water quality criteria. Toxic pollutants can have an acute zone in which the acute criteria (i.e., criterion maximum concentration, or CMC) may be exceeded and a chronic zone where the chronic criteria (i.e., criterion continuous concentration, or CCC) may be exceeded. The authorization of a mixing zone for dilution of pollutants in a discharge is not guaranteed and DEQ maintains the right to determine its necessity and size.

The process of modeling or visualizing how the effluent discharge and receiving water mix is accomplished by performing a mixing zone analysis. Mixing zone dimensions depend upon

many factors associated with the receiving water body, effluent, and discharge point. Receiving water body attributes may include, but are not limited to the stream's low flow, cross-section, pH, and hardness; similar characteristics apply to non-flowing water bodies. Effluent attributes may include, but are not limited to the pollutant of concern's concentration and discharge rate, while discharge point characteristics may include, but are not limited to the size of the discharge pipe, the configuration of the diffuser, if used, and the location and orientation of the discharge pipe relative to the water body.

Idaho's WQS require regulatory mixing zones to be no larger than necessary[76]. For flowing water bodies, a mixing zone is not to exceed 25% of the low-flow volume of the receiving water for dilution and 25% of the width of the receiving water. For nonflowing waters, the regulatory mixing zone is not to exceed 10% of the total horizontal area of the water body for existing discharges and 5% of the area or 100 meters in length (whichever is smaller) for new discharges. However, under some circumstances, DEQ may allow ~~a regulatory~~ mixing zone that varies from these limits[77].

If the applicant is requesting a mixing zone, the request must be made concurrently with the submittal of an IPDES permit application using the required IPDES form. Idaho mixing zone policy is described in the Idaho Mixing Zone Implementation Guidance (DEQ XXXX).

5.1.2.4 Determine Need for WQBELs

Once the applicable water quality standards have been identified and the effluent and receiving waters characterized, DEQ uses a process known as a *reasonable potential analysis* (RPA) to determine whether WQBELs are required. That is, to determine if the pollutants of concern are or may be discharged at a level which will have the reasonable potential to cause, or contribute to an excursion above any water quality standard, including narrative criteria for water quality[78]. An RPA uses effluent and receiving water data and modeling techniques to determine if the discharge has a reasonable potential to exceed WQS. DEQ will determine reasonable potential for an exceedance of numeric water quality criteria in general by following the procedures in DEQ's *Effluent Limitation Development Guidance* (2016 XXXX), consistent with the TSD (EPA 1991a).

Evaluating the impact that the effluent may have on the receiving may water require using a water quality model. In the majority of situations, DEQ will typically use a steady-state water quality model to assess the impact of a discharge on its receiving water. Steady-state means that the model projects the impact of the effluent on the receiving water under a single, or steady, set of environmental conditions. Steady-state models are more commonly used than dynamic models, and they can be utilized to develop seasonal and tiered effluent limitations (EPA 1991a).

The specific steady-state model used will depend on the pollutant or parameter of concern and whether there is rapid and complete mixing or incomplete mixing of the effluent and the receiving water under critical conditions. Because the model is run under a single set of conditions, those conditions generally are set at receiving water low flow conditions for protection of receiving water quality as discussed in section 5.1.2.3.2. DEQ will authorize the mixing zone (e.g., percent of stream flow) and determine the amount of the dilution (dilution factor) available under these critical conditions.

Dynamic models project the impact of the effluent on the receiving water under a range of conditions. For discharges with variable conditions and sufficient flow and concentration data, DEQ may deploy a dynamic model to determine the available dilution, mixing zone size, and allowable effluent concentration for different seasons or tiers of flow.

Some requirements for determining reasonable potential to exceed (RPTE) the criterion include[79]:

- When performing a RPA, DEQ must account for:
  - Existing controls on point and non-point sources of the pollutant;
  - Variability of the pollutant in the effluent;
  - Sensitivity of species to toxicity testing; and
  - Dilution of the effluent in receiving water.
- If a RPTE is determined, the permit must contain effluent limits for that pollutant.
- If a RPTE is determined for the numeric criterion for (WET), the permit must contain effluent limits for whole effluent toxicity.
- If a RPTE of a narrative criterion is determined based on toxicity testing data, or other discharge information, the permit must contain effluent limits for whole effluent toxicity. Unless DEQ demonstrates in the permit's fact sheet[80] that chemical-specific limits are sufficient to attain and maintain applicable numeric and narrative state water quality standards.
- Where Idaho has not established a numeric criteria for a specific chemical pollutant, DEQ must establish effluent limits using one of the following options to determine RPTE[81]:
  - A calculated numeric water quality target or concentration demonstrated to protect the designated use;
  - EPA water quality criteria under the CWA section 304(a); or
  - An indicator parameter for the pollutant of concern.

5.1.2.5 Calculating WQBELs

If DEQ has determined that a pollutant or pollutant parameter is discharged at a level that will cause, have reasonable potential to cause, or contribute to an excursion above any WQS, DEQ must develop WQBELs for that pollutant. DEQ will follow procedures consistent with the *Effluent Limitation Development Guidance* (2016 XXXX) and *TSD* (EPA 1991a) to calculate WQBELs for pollutants that show reasonable potential.

DEQ will first determine a wasteload allocation (WLA) that represents the level of effluent quality necessary to attain and maintain the applicable narrative and numerical WQS in the receiving water. The WLA will be based on the applicable WQS while accounting for dilution and background concentrations of the pollutant. DEQ will develop WLAs for acute, chronic, and human health criteria and long term average (LTA) values for each WLA. Finally, DEQ will use the most restrictive LTA to establish effluent limits for a permit.

DEQ will then account for effluent variability to calculate the appropriate effluent limits (e.g. average monthly, average weekly, ~~and~~ maximum daily) ~~effluent limits~~ to include in the permit, as appropriate. DEQ will calculate concentration limits for pollutants of concern~~, including establishing a monthly average concentration limit~~ that represents an appropriate distribution of

the projected effluent data set~~. Similarly, DEQ will establish a daily maximum concentration limit~~ and ensure compliance with anti-backsliding and antidegradation requirements.

DEQ will also consult EPA and DEQ guidance, policy, regulations and rules, as follows:

- *U.S. EPA NPDES Permit Writers' Manual*, Chapter 6, Water Quality-Based Effluent Limits (EPA 2010a)
- *Guidance on Water Quality-Based Effluent Limits Set Below Analytical Detection / Quantitation Limits* (EPA 2005)
- *Policy for the Development of Water Quality-Based Permit Limitations for Toxic Pollutants* (EPA 1984b)
- *Permit Writer's Guide to Water Quality-Based Permitting for Toxic Pollutants* (EPA 1987a, 1987b)
- *Water Quality Standard Handbook: Second Edition* (EPA 1994b)
- Toxic Pollutant Effluent Standards and Prohibitions 40 CFR §129.1 through §129.105, incorporated by reference at IDAPA 58.01.25.003.02.t.
- Criteria and Standards for Determining Alternative Effluent Limitations 40 CFR §127.70 through §125.73, incorporated by reference at IDAPA 58.01.25.003.02.q.
- *Idaho Antidegradation Implementation Procedures* (DEQ 2016 draft)
- *Water Body Assessment Guidance* (DEQ 2002b)

There is some flexibility in calculating effluent limits for IPDES permits, as described in DEQ's *Effluent Limit Development Guidance* (DEQ XXXX). However, effluent limits must:

- Ensure compliance with all WQS[82] (including antidegradation);
- Be consistent with assumptions used to develop TMDLs[83];
- Be enforceable;
- Be expressed as mass[84] except:
  - pH, temperature, radiation, or other pollutants which cannot be appropriately expressed by mass;
  - When applicable standards and limits are expressed in terms of other units of measurement; or
  - Where permit limits are established on a case-by-case basis[85];
  - Where limits expressed in terms of mass are not feasible because the mass of pollutant discharged cannot be related to a measure of operation (e.g., discharges of TSS from certain mining operations), and permit conditions ensure that dilution will not be used as a substitute for treatment.
- Be consistent with effluent limits from the current permit, unless backsliding is justified (see section 5.1.2.9)

In addition, the following factors will be considered in the development of permit effluent limitations:

- Limits are calculated for each outfall, except for:
  - Discharge points for storm water, or other point sources, controlled by implementing BMPs, or

  - When effluent limits imposed at the point of discharge are impractical or infeasible and limits are more effective when imposed on internal waste streams prior to mixing with other waste streams or cooling water[86].
- Limits calculated by design flow for POTWs or production flow for other individual permits[87].
- Metals expressed as total recoverable[88], unless:
  - An applicable effluent standard or limitation has been promulgated under the CWA and specifies the limitation for the metal in the dissolved, ~~or~~ valent, or total form.
  - It is necessary to express the limitation on the metal in the dissolved, valent, or total form to carry out the provisions of the CWA, for permit limitations established on a case-by-case basis[89], or
  - All approved analytical methods for the metal inherently measure only its dissolved form (e.g., hexavalent chromium).
- Type of discharge—continuous/non-continuous[90]
- Mass limitations[91]
- Internal waste streams[92]
- Disposal of pollutants other than to surface water[93]

5.1.2.6 Variances, Waivers, and Intake Credits

Variances, waivers, and intake credits provide unique exceptions to a particular effluent, WQS, monitoring, or reporting requirement. DEQ does not expect to routinely receive such requests. Variances, waivers, and intake credits are further discussed in section 8.

~~***5.1.2.7 Effluent Limitations for Thermal Discharges***[94]~~

~~Thermal effluent limitations in permits may be less stringent than those required by applicable standards. To do so, however, the discharger must demonstrate that the alternative effluent limitations will assure the protection and propagation of a balanced indigenous community of shellfish, fish and wildlife in and on the water body to which the discharge is to be made, and cumulative impacts of the discharge must be considered together with all other significant impacts on the species affected. Further, alternative thermal limitations must be consistent with applicable WQS[95].~~

~~Variances for thermal discharges under CWA section 316(a) are further discussed in section 8.~~

~~***5.1.2.8 Intake Credits***[96]~~

~~Some facilities might be unable to comply with TBELs or WQBELs because of pollutants in their intake water. Under certain circumstances, the IPDES regulations allow credit for pollutants in intake water (Section 8).~~

~~Determinations for intake credits will be made on a pollutant-by-pollutant and outfall-by-outfall basis. Effluent limitations must be consistent with assumptions and requirements of TMDLs. An *intake pollutant* must be from the same water body as the discharge to be eligible for credit. This can be established if:~~

- ~~Background concentration of the pollutant in the receiving water is similar to the intake water,~~
- ~~There is a direct hydrological connection between intake and discharge points, and~~
- ~~The water quality characteristics are similar in the intake and receiving waters.~~

~~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.~~

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

~~*Intake Credits for TBELs*~~[97]

~~The discharger may request that TBELs be adjusted to reflect intake pollutant credits if:~~

- ~~The applicable effluent limitations and standards~~[98] ~~are applied on a net basis; or~~
- ~~The discharger demonstrates that the properly installed and operated control system it proposes or uses would meet the limitations and standards in the absence of pollutants in the intake waters.~~

~~The following are requirements for establishing TBELs that incorporate intake pollutant credits:~~

- ~~Credits for conventional pollutants, such as BOD or TSS, are available when the permittee demonstrates that the constituents in the effluent are substantially similar to those in the intake water (unless appropriate additional limits are placed on process water pollutants at the outfall or elsewhere).~~
- ~~Credit can be granted to allow the permittee to meet the applicable limitation or standard, up to a maximum value equal to the influent concentration.~~
- ~~Additional monitoring may be necessary to determine eligibility for credits and compliance with permit limits.~~
- ~~Credit can be granted only if the discharger demonstrates that the intake water is drawn from the same body of water into which the discharge is made. DEQ may waive this requirement if they determine that no environmental degradation will result.~~
- ~~Intake pollutant credits do not apply to the discharge of raw water clarifier sludge generated from the treatment of intake water.~~

~~*Intake Credits for WQBELs*~~[99]

~~If an RPTE exists, then DEQ may establish WQBELs that reflect intake credit for pollutants as long as the discharge would not cause greater impacts than if the intake water had not been removed from the water body, and where a discharger demonstrates that the following conditions are met:~~

- ~~The facility removes the intake water from the same water body that it is discharged to.~~

- ~~The ambient background concentration of the pollutant does not meet the most stringent applicable water quality criterion for that pollutant.~~
- ~~The facility does not alter the intake pollutant chemically or physically in a manner that would cause adverse water quality impacts to occur that would not happen if the pollutants had been left in the water body.~~
- ~~The timing and location of the discharge would not cause adverse water quality impacts.~~
- ~~The pollutant concentration at the point of discharge does not increase compared to the intake water concentration.~~
- ~~A discharger may add mass of the pollutant to its waste stream if an equal or greater mass is removed prior to discharge, so there is no net addition of the pollutant in the discharge compared to the intake water.~~

~~Where intake water for a facility is provided by a municipal water supply system, and the supplier provides treatment of the raw water that removes an intake water pollutant, the concentration of the intake water pollutant will be determined at the point where the water enters the water supplier's distribution system.~~

~~Where a facility discharges intake pollutants from multiple sources that originate from the receiving water body and from other water bodies, DEQ may derive an effluent limit reflecting the flow-weighted amount of each pollutant source provided that conditions are met and adequate monitoring to determine compliance can be established and is included in the permit.~~

~~The permit specifies how compliance with mass and concentration-based limitations for the intake water pollutant will be assessed. This may be accomplished by setting the effluent limitation based on background concentration data. Alternatively, DEQ may determine compliance by monitoring the pollutant concentrations in the intake water and in the effluent. This monitoring may be supplemented by monitoring internal waste streams or by DEQ evaluation of implemented best management practices.~~

~~Effluent limitations developed using pollutant intake credits will be established to comply with all other applicable state and federal laws and regulations including technology-based requirements and anti-degradation policies.~~

~~When determining whether WQBELs are necessary, information from chemical-specific, whole effluent toxicity and biological assessments will be considered independently.~~

5.1.2.9 Anti-Backsliding and Determining Final Effluent Limitations ~~and Anti-Backsliding~~

After calculating applicable TBELs and WQBELs, the effluent limits are compared and the more stringent effluent limits are included as proposed effluent limits in the draft IPDES permit for each pollutant. For reissued permits, proposed effluent limits are also compared to previous effluent limits to ensure the proposed effluent limits are consistent with the anti-backsliding provisions of the CWA. This means proposed effluent limits that are less stringent than previous effluent limits may have to be revised. When determining final effluent limitations, DEQ ensures all applicable statutory and regulatory requirements, including CWA standards, technology and water quality standards, are fully implemented.

Antibacksliding

CWA section 402(o) expressly prohibits backsliding. Backsliding refers to the easing of ~~from certain existing~~ effluent limitations, permit conditions, or required standards from those established in the previous permit. ~~and is contained in three main parts~~ There are certain exceptions to the backsliding prohibitions, and ~~of: (1) a prohibition on specific backsliding, (2) exceptions to the prohibition, and (3)~~ a safety clause that provides an absolute limitation on backsliding.

Prohibitions against Backsliding

First, CWA section 402(o)(1) prohibits the relaxation of effluent limitations established in the prior permit for two situations:

1. ~~To~~ It is prohibited to revise an existing TBEL that was developed on a case-by-case basis using ~~best~~ BPJ in order to reflect subsequently promulgated effluent limitation guidelines (ELGs) and standards that would result in a less stringent effluent limitation. (see *Exceptions for Case-by-Case TBELs*)
2. It is prohibited to relax ~~Relaxation of~~ an effluent limitation that is based on state standards, such as WQS or treatment standards, unless the change is consistent with CWA section 303(d)(4). (see *Exceptions for Limitations Based on State Standards*)

Exceptions for Case-by-Case TBELs

CWA section 402(o)(2) outlines specific exceptions[100] to the first general prohibition against revising an existing TBEL developed on a case-by-case basis using BPJ to reflect subsequently promulgated, less stringent effluent guidelines in a renewed, reissued, or modified permit. Relaxed limitations may be allowed where:

- There has been material and substantial alternations or additions to the permitted facility that justify the relaxation.
- New information (other than revised regulations, guidance, or test methods) is available that was not available at the time of permit issuance and that would have justified a less stringent effluent limitation. If the effluent limitation was based on water quality standards, any changes must result in a decrease in pollutants discharged.
- Technical mistakes or mistaken interpretations of the law were made in issuing the permit under CWA section 402(a)(1)(b).
- Good cause exists because of events beyond the permittee's control (e.g., natural disasters) and for which there is no reasonably available remedy.
- The permit has been modified under CWA sections 301(c), 301(g), 310(i), 301(k), 301(n), or 316(a).
- The permittee has installed and properly operated and maintained required treatment facilities but still has been unable to meet the effluent limitations (relaxation may be allowed only to the treatment levels actually achieved).

Exceptions for Limitations Based on State Standards

Alternatively, CWA section 402(o)(1) allows relaxation of WQBELs and effluent limitations based on state standards if it is consistent with the provisions of CWA section 303(d)(4) or if one

of the exceptions in CWA section 402(o)(2) is met (except that relaxation of limits based on technical mistakes or mistaken interpretations are not allowed for WQBELs). The two provisions constitute independent exceptions to the prohibition against relaxing permit effluent limitations, and if either is met, relaxation is permissible.

The two provisions are tied to the water quality of the receiving water body. One provision addresses water bodies where water quality standards are attained, while the other provision addresses water bodies where water quality standards are not attained.

Water Quality Standards Attained – If the permit's limitation is based on a TMDL, WLA, other water quality standard, or any other permitting standard, less stringent effluent limits are allowed only if they comply with the antidegradation policy.

Water Quality Standards Not Attained – Less stringent permit limitations will only be allowed if both of the following criteria are met:

1. The existing effluent limitations are based on a TMDL or WLA; and
2. Attainment of water quality standards will be ensured, or the designated use not being attained is removed in accordance with the water quality standards.

~~Although there are six exceptions in section 402(o)(2) where effluent limitations may be relaxed, the exceptions for technical mistakes or mistaken interpretations and permit modification do not apply to WQBELs.~~

Safety Clause

CWA section 402(o)(3) is a safety clause that provides an absolute limitation on backsliding. This section prohibits the relaxation of effluent limitations in all cases if the revised effluent limitation would result in a violation of applicable effluent guidelines or WQS, including antidegradation requirements.

Final Effluent Limitations

The final effluent limits are expressed in the permit and fact sheet with tables or conditions for each outfall that identify effluent limits by pollutant, the point of compliance, and clearly state the applicable flow tier or season. In addition, the permit's fact sheet explains how the final limitations were determined and how those limitations meet both technology and water quality standards (including antidegradation) and, where appropriate, how an anti-backsliding analysis was applied to the final effluent limitations. If a mixing zone is authorized, the fact sheet describes the analysis supporting this authorization.

5.1.3 Monitoring and Reporting Requirements

Monitoring and reporting requirements identified in a permit and fact sheet are used to characterize wastestreams and receiving waters, evaluate wastewater treatment efficiency, and determine compliance with permit effluent limits and state WQS. Further, fact sheets will explain the justification for waivers of any application requirements or monitoring requirements, and if applicable, an explanation of why the permit contains applicable conditions or waivers[101].

Monitoring

DEQ utilizes a monitoring matrix to establish consistent monitoring requirements based on the type and design capacity of facilities and other factors, as appropriate.

Individual IPDES permits include conditions regarding effluent and receiving water monitoring that allow DEQ to determine the impact of the effluent on the receiving water body. These conditions require the permittee to conduct routine or episodic monitoring of permitted discharges, ambient conditions, and, sometimes, internal operations. Monitoring data is necessary for several reasons including: assessing treatment efficiency; evaluating effluent and receiving water characteristics; determining compliance with effluent limitations established in permits; and as a basis for enforcement actions.

An IPDES permit specifies the appropriate monitoring location(s) to determine compliance with the effluent limitations and provide the necessary data to determine the effects on the receiving water. DEQ will consult with the permittee to ensure the monitoring location(s) is a safe and accessible sampling point representative of the discharge or receiving water. The permittee is responsible for securing approval to access the monitoring locations and obtain any samples required in the permit.

DEQ considers several factors when determining monitoring requirements to be included in the permit. Factors that affect sampling location, frequency, and method include:

- Applicability of effluent limitation guidelines and standards (effluent guidelines);
- Waste stream and process variability;
- Access to sample locations;
- Pollutants discharged;
- Effluent limitations;
- Discharge frequency (e.g., continuous versus intermittent);
- Effect of flow and pollutant load on the receiving water;
- Characteristics of the pollutants discharged;
- Receiving water analyses;
- WET testing
- Sewage sludge (biosolids);
- Expanded effluent testing (priority pollutants); and
- Permittee's compliance history.

Considering the need for sufficient data and the potential cost to the permittee, the permit specifies the date that monitoring should begin, and establishes monitoring frequencies sufficient to characterize the effluent quality and detect events of noncompliance. Monitoring frequency is determined on a case-by-case basis, and decisions for setting monitoring frequency are described in the fact sheet.

To establish a monitoring frequency, DEQ will consider:

- Variability of the effluent's pollutant concentration;
- Design capacity of the treatment facility;
- Treatment method;
- Compliance history;

- Cost of monitoring;
- Location of discharge;
- Sensitivity of receiving water;
- Nature of pollutants;
- Frequency of discharge;
- Number of samples used in developing effluent limitations;
- Tiered limitations; and
- Site or discharge specific conditions.

For each pollutant with an effluent limit or monitoring requirement, the permit and fact sheet lists the unit of measure; monitoring type (e.g. temperature logger), interval, and frequency[102] (monthly, weekly, daily); sample collection location, sample method[103] (grab, composite, continuous, etc.), analytical methods[104], and any required 'reporting levels' or instrument sensitivity/capability. Certain sample collection and storage requirements are identified as part of the analytical methods specified in 40 CFR Part 136.

The permit also will specify the *minimum levels* (ML) or *method detection limits* (MDLs) for each pollutant (sector specific details in Volume 2). ~~For purposes of reporting on the DMR for a single sample, if a value is less than the MDL, the permittee must report "less than {numeric value of the MDL}" and if a value is less than the ML, the permittee must report "less than {numeric value of the ML}."~~

~~For purposes of calculating monthly averages, zero may be assigned for values less than the MDL, and the {numeric value of the MDL} may be assigned for values between the MDL and the ML. If the average value is less than the MDL, the permittee must report "less than {numeric value of the MDL}" and if the average value is less than the ML, the permittee must report "less than {numeric value of the ML}." If a value is equal to or greater than the ML, the permittee must report and use the actual value. The resulting average value must be compared to the compliance level, the ML, in assessing compliance.~~

Reporting Requirements and Recordkeeping[105]

Reporting conditions in the permit require the discharger to submit analytical results to DEQ along with information necessary to evaluate discharge characteristics and compliance with the effluent limits. This periodic monitoring and reporting establishes an ongoing record of a permittee's compliance status and; it creates a basis for compliance assistance and any necessary enforcement actions (section 10).

The IPDES regulations require the permittee to maintain records and periodically report on monitoring activities. The permittee must retain all monitoring information, for a period of at least three (3) years, or as specified in the permit, from the date of the sample, measurement, report or application.

Where pollutants are limited by both mass and other units of measurement, the permittee is required to comply with and report both limitations. The permit will also specify that if the permittee monitors any pollutant more frequently than required by the permit, using EPA-approved test procedures or as specified in the permit, the permittee must include the results of this monitoring in the calculation and reporting of the data submitted in the DMR. Additionally,

upon request by DEQ, the permittee must submit results of any other sampling, regardless of the test method used.

DEQ will establish requirements to report monitoring results on a case-by-case basis with a frequency dependent on the nature and effect of the discharge, but in no case less than once a year[106]. A permit that does not require monitoring results reports at least annually must require the permittee to report, at least annually, all instances of noncompliance not reported[107]. However, IPDES regulations state that monitoring frequency and reporting should be dependent on the nature and effect of the discharge or sludge use or disposal. Thus, the DEQ may require more frequent reporting.

Submitting DMR and Related Information

Facilities covered under an individual permit are required to submit discharge monitoring reports using EPA's NetDMR, in accordance with the frequency of submittal identified in the permit, unless provided a waiver in accordance with federal regulations. EPA and the permittees will be responsible for quality control checks to ensure data input accuracy and retain qualifiers on analytical results. EPA's electronic reporting rule requires that all NPDES permitted facilities submit data via NetDMR by December 21, 2016. As a result, IPDES permittees will have already been fully utilizing NetDMR upon DEQ implementation of the IPDES program. DEQ will acquire data from NetDMR and/or ICIS-NPDES in order to effectively track IPDES permit compliance.

Although permittees must electronically submit DMRs directly to EPA's NetDMR, other reporting records (e.g. annual and other reports, etc.) must be submitted to DEQ, as specified in the permit. DEQ will then submit the appropriate data and records to ICIS-NPDES, in accordance with federal regulations.

5.1.4 Special Conditions

Special permit conditions ~~supplement numeric effluent limitations and~~ may require the permittee to undertake activities to reduce the overall quantity of pollutants being discharged, ~~or~~ to collect information that could be used in determining future permit requirements, or DEQ may restrict the number of discharges allowed to sensitive water bodies. Examples include, but are not limited to additional monitoring activities, special studies, BMPs, and compliance schedules.

There are many different reasons to ~~supplement numeric effluent limitations~~ include special conditions in permit, including:

- To address unique situations, such as facilities discharging pollutants for which data characterizing the assimilative capacity of a receiving water body or the effectiveness of treatment are absent or limited~~, making development of TBELs or WQBELs more difficult or impossible~~;
- To incorporate preventive conditions, such as requirements to install process control alarms, containment structures, good housekeeping practices, and others;
- To address foreseeable changes to discharges, such as planned changes to process, products, or raw materials that could affect discharge characteristics;
- To incorporate compliance schedules to provide the time necessary to comply with permit conditions;

- To incorporate other IPDES programmatic requirements (e.g., pretreatment, sewage sludge);
- To identify additional monitoring requirements that provide data to evaluate the need for future changes in permit limitations;
- To increase or decrease monitoring requirements, depending on monitoring results or changes in processes or products; or
- To impose requirements for special studies such as ambient stream surveys, toxicity identification evaluations (TIEs) and toxicity reduction evaluations (TREs), bioaccumulation studies, sediment studies, mixing or mixing zone studies, pollutant reduction evaluations, or other such information-gathering studies.

The following subsections address several types of special conditions that apply to individual permits. Additional sector specific permit special conditions are included in Volume 2 of the User's Guide.

5.1.4.1 Additional Monitoring and Special Studies

Additional monitoring requirements and special studies, beyond those required under the effluent limitations section of the permit, are useful for collecting data previously unavailable during permit development. These generally are used to supplement numeric effluent limitations or support future permit development activities. Examples of the types of special studies that could be required in an IPDES permit include the following:

- **Treatability studies**—These may be required in a permit when insufficient treatability information for a pollutant or pollutants would hinder DEQ from developing defensible TBELs. Treatability studies can also be required when DEQ suspects that a facility might not be able to comply with an effluent limitation.
- **Toxicity identification evaluation/toxicity reduction evaluation (TIE/TRE)**—These could be required in a permit when wastewater discharges are found to be toxic using WET tests. The purpose of these evaluations is to identify and control the sources of toxicity in an effluent. Further guidance related to EPA recommended TIE/TRE procedures and requirements can be found in the following guidance manuals:
  - *Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants* (EPA 1999) *www.epa.gov/npdes/pubs/tre.pdf*
  - *Clarifications Regarding Toxicity Reduction and Identification Evaluations in the National Pollutant Discharge Elimination System Program* (EPA 2001a) *www.epa.gov/npdes/pubs/owmfinaltretie.pdf*
  - *Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations* (EPA 1989) (see endnote 3 in EPA Permit Writers Manual (EPA 2010) for ordering instructions).
  - *Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures*. 2nd ed (EPA 1991b) *www.epa.gov/npdes/pubs/owm0330.pdf*
  - *Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I* (EPA 1992b) *www.epa.gov/npdes/pubs/owm0255.pdf*
  - *Methods for Aquatic Toxicity Identification Evaluations: Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA 1993a) *www.epa.gov/npdes/pubs/owm0343.pdf*

- *Methods for Aquatic Toxicity Identification Evaluations: Phase III Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA 1993b) *www.epa.gov/npdes/pubs/owm0341.pdf*

- **Mixing or mixing zone studies**—These may be required in a permit to assist in determining how effluent and receiving waters mix, and in establishing a regulatory mixing zone that can be applied when developing WQBELs.
- **Sediment monitoring**—This could be included in a permit if pollutants contained in wastewater discharges may accumulate in the sediments of the receiving water.
- **Bioaccumulation studies**—These may be required in a permit to determine whether pollutants contained in discharges bioaccumulate in aquatic organisms (e.g., fish, invertebrates). Such studies could be required when water quality criteria are expressed in terms of fish tissue levels. Additional guidance related to evaluating the bioaccumulation potential of a pollutant can be found in the EPA *Great Lakes Water Quality Initiative Technical Support Document for the Procedure to Determine Bioaccumulation Factors* (EPA 1994c).

When establishing additional monitoring or special studies, DEQ will ensure that any requirements related to the study (e.g., special sampling or analytical procedures) are specified in the appropriate permit condition. In addition, DEQ will establish a reasonable schedule for completion of the study or monitoring program and submission of the compiled report. If the anticipated schedule is greater than one year, an interim progress report during the study is advisable.

5.1.4.2 Best Management Practices (BMPs)[108]

An IPDES permit includes BMPs to control or abate the discharge of pollutants when:

- Authorized under the CWA section 304(e) for the control of toxic pollutants and hazardous substances from ancillary industrial activities;
- Authorized under the CWA section 402(p) for the control of storm water discharges
- Numeric effluent limitations are infeasible; or
- The practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA.

Permits may include BMP requirements, which like all permit effluent limits are enforceable, using either of two approaches:

- Site-, process-, or pollutant-specific BMPs. Site-, process-, or pollutant-specific BMPs may be appropriate in the case of individual permits where DEQ is familiar with specific circumstances at the facility.
- A requirement to develop a BMP plan. Development of a BMP plan by the permittee may be more appropriate for a particularly complex or unique facility. The permittee is required to develop and submit to DEQ an approved BMP plan that includes appropriate BMPs based on circumstances at its facility.

The implementation of BMPs for sector specific permits will be identified in Volume 2.

5.1.4.3 Compliance Schedules

Permits may contain schedules of compliance to provide additional time to achieve compliance with the IPDES rules, the CWA, and applicable federal regulations[109]. Schedules developed under this provision require compliance by the permittee as soon as possible but may not extend the date for final compliance beyond compliance dates established by the CWA. Thus, compliance schedules in permits are not appropriate for every type of permit requirement.

For example, a permit may not establish a compliance schedule for TBELs because the statutory deadlines for meeting technology standards (i.e., secondary treatment standards and effluent guidelines) have passed. This restriction applies to both existing and new dischargers. Permittees should note, however, that a new source or new discharger is allowed up to 90 days to start-up its pollution control equipment and achieve compliance with its permit conditions[110].

Compliance schedules must also meet the following requirements[111]:

- A facility's first IPDES permit may contain a compliance schedule when necessary to allow reasonable opportunity to attain compliance with requirements issued or revised after construction of the facility commenced, but less than 3 years before commencement of the authorized discharge.
- For recommencing dischargers a schedule of compliance is available only when necessary to allow opportunity to obtain compliance with requirements issued or revised less than 3 years before recommencement of discharge.
- If a compliance schedule exceeds one year from the date the permit was issued, interim requirements and associated dates must be established.
  - The time between interim dates may not exceed:
    - One year; except
    - If associated with sludge use and disposal, then the time between interim dates may not exceed 6 months; or
    - If the time necessary for completion of an interim requirement is more than one year and is not readily divisible into stages, then the compliance schedule will specify dates for submission of progress reports, which may define a date for project completion.
- Permittees must notify DEQ within 14 days, as specified in the permit, following each interim requirement whether compliance or noncompliance with the interim or final requirement has been attained.
- DEQ may establish interim effluent limits, as appropriate.
- DEQ may grant schedules of compliance longer than the term of the permit currently issued, as needed on a case-by-case basis.

If a permittee is considering terminating discharges from their facility during the term of the permit, it is recommended that they discuss this with DEQ. This action may warrant a modification to the permit, or if known prior to permit issuance, may be included in the permit in an alternative schedule of compliance[112]. Alternative schedules of compliance are appropriate when a permittee cannot comply with new effluent limits and may decide to cease discharge rather than continue to operate.

- Alternative compliance schedules must be within the term of the permit currently issued, and;
- Require interim deadline where permittee makes a final decision and notifies DEQ whether they will cease discharge or comply with applicable effluent limitations no later than the specified date.

Special conditions that are applicable to specific sectors are addressed in Volume 2.

5.1.5 Conditions Applicable to all Permits[113]

Some conditions apply to all IPDES permits and delineate the legal, administrative, and procedural requirements of the permit. Each permit must have a section outlining the duty to comply, the duty to reapply, the need to halt or reduce activity, and the duty to mitigate, among others. While the exact text and language for each of the sections may vary depending on the type of permit, most often the language will be as found in the rules. ~~Nothing in this section precludes citizens to undertake a civil action under CWA section 505 (DEQ 2016).~~

Duty to Comply reiterates the permittee's (operator's) obligation to adhere to the conditions and requirements specified in the permit. This includes the obligation to operate the facility in an efficient manner, monitor and report stipulated pollutant quantities (mass, concentration, or both) and effluent discharge rates, report upsets, bypasses, or illicit discharges and spills in a timely manner, and comply with all of the requirements stipulated in the permit.

Duty to Reapply addresses the need for the permittee (operator) to create and submit a complete application, early enough prior to the expiration of the current permit, to allow DEQ time to determine the application complete and begin the permit creation process. It would be preferable for all parties involved if the permit application could be submitted sooner than required, providing DEQ personnel time to issue a final permit prior to the expiration of the current permit.

Duty to Halt or Reduce Activity addresses the permittee's (operator's) responsibility to reduce or cease discharging if they know that the discharge is violating or will violate the permit limits. This section effectively says that the permittee (operator) cannot rely on the argument that they would have to halt or reduce production in order to comply with their permit limitations.

Duty to Mitigate requires the permittee (operator) to take all reasonable steps to prevent violating the effluent limits or sludge usage requirements if it would pose a threat to human health or the environment. The duty to mitigate requires the facility and its operators to follow all proper operating procedures and adhere to all applicable state and federal regulations.

Proper Operation and Maintenance requires that the permittee (operator) perform preventative maintenance as required, keep the unit processes and supporting equipment in good condition, and maintain the backup equipment in a state that can be quickly utilized, without the backup equipment being online. Systems required to have redundant operations and equipment must to keep them functional so that they can be brought online quickly to address emergency situations, such as upsets or excessive peak flows. These O&M requirements extend to laboratory operations, if present, and to the required QAPPs.

Throughout all sample collection and analysis activities, permittees must prepare a QAPP consistent with the EPA-approved QA/QC and chain-of-custody procedures described in *Requirements for Quality Assurance Project Plans* (EPA/QA/R-5)(EPA 2001b) and *Guidance for Quality Assurance Project Plans* (EPA/QA/G-5)(EPA 2002b), or DEQ equivalent.

Permit Actions conveys to the permittee (operator) that the permit may be modified, revoked and reissued, or terminated for cause. Justifiable cause could include, but is not limited to requests for modification or termination from the permittee, notification of facility upgrades or process changes, and repeated noncompliance with the current permit conditions.

Property Rights informs the permittee (operator) that the permit does not convey any property right or exclusion privilege to the permittee. The permit is more of a license to discharge, similar to a driver's license which allows the holder to operate a motor vehicle as long as they obey the laws.

Duty to Provide Information reiterates the obligation that the permittee (operator) must make available all required monitoring results, operational logs, and other information required to be collected and retained by the permit when requested from DEQ. These information requests may arise during inspections or permit renewal activities to assess compliance with the permit, or evaluate new permit limits during a permit renewal effort.

Inspection and Entry conveys to the permittee (operator) their obligation to provide DEQ representatives access to the facility, equipment, discharge location, land application fields, records repositories, or any other site affiliated with the permitted operation, when requested. Access not only allows DEQ representatives entry to the property, but also allows the representative access to copy records that are required to be generated and retained by the permit. This is required to support compliance evaluation, which may include installation and maintenance of DEQ's composite monitors at internal or distal monitoring points.

Monitoring and Records addresses issues to the permittee (operator) such as how long the monitoring data records and reports must be retained, identify the types of records (discharge monitoring reports, calibration and maintenance records, strip chart recordings), copies of reports, all application information, who collected samples, the dates samples were analyzed, who performed the sample analyses, the analytical techniques and methods used, the analytical results, and other information associated with the facility operation, maintenance, and discharge quantity and quality.

Signatory Requirements informs the permittee (operator) that all required submittals must be signed by a certifying official or duly authorized representative. This section identifies that all applications, reports, and other permit required information must be certified as true and accurate. This section also conveys the penalties associated with submitting false information.

Reporting Requirements identifies the different requirements the permittee (operator) is obligated to submit to DEQ. These requirements to notify DEQ include, but are not limited to:

- The new introduction of toxic pollutants;
- When the facility is planning to alter operations or equipment, which may change the facility's classification to a new source or new discharger;
- When it may be sold to another party;

- When monitoring occurs more frequently than required in the current permit;
- When any permit noncompliance occurs that may endanger health or the environment; and
- When the permittee becomes aware that a failure to report information, whether in the application or any report, has occurred.

This section in Rule is quite lengthy, and it is recommended that the permittee (operator) read the Rule to understand the breadth of reporting requirements that are included in the permit.

Bypass Terms and Conditions warns the permittee (operator) that bypasses are prohibited discharges, and DEQ may pursue enforcement is bypasses occur at the facility. This section also addresses what constitutes justification for bypassing the treatment works, and what reporting requirements are if a bypass does occur.

Upset Terms and Conditions are very similar to the section on bypasses. Upsets are strictly limited to discharges that are authorized under a TBEL. The burden of proof that an upset was justified still resides with the permittee (operator). The notification requirements (24-hour verbal) and remedial action requirements appear in this section also. DEQ has discretion in implementing compliance assistance and enforcement related to upset events.

Finally, ***Penalties and Fines*** addresses the fine requirements stipulated in the Rules.

5.2 Permit Denial

There may be instances when an application is submitted that results in DEQ denying the facility a permit[114]. This situation may arise due to various reasons which include, but may not necessarily be limited to:

- The facility is in a sector that EPA does not currently issue permits for (see 3.2.5);
- The discharge would impair anchorage or navigation in the receiving water in the judgement of the Secretary of the Army;
- The facility receives chemical, or biological warfare waste;
- The facility receives high level radioactive waste;
- The facility does not have a WLA in a TMDL and the receiving water body does not have assimilative capacity;
- For a new application, the TMDL for the receiving water body does not have adequate reserve capacity; or
- The discharge causes a violation of WQS that can't be mitigated by any level of effluent limitations.

If DEQ reaches the point at which an NOI to deny a permit is issued, the applicant may still avail themselves of the opportunity to discuss alternative permitting programs, or altering the waste streams that are proposed to be discharged to surface waters. Hopefully, these situations will not arise due to the applicant's opportunity to discuss applicability of an IPDES permit for their effluent during the preapplication meeting (see section 4.1). Alternatively, if DEQ arrives at this point and issues an NOI to deny, all NOIs are classified as a type of draft permit and must be processed through the public notification and comment process[115].

5.3 Permittee and Public Participation on the Draft Permit

The basic process providing for public participation on an IPDES permit (either individual or general permit) is identified in the IPDES Rules and outlined in the *Public Participation in the Permitting Process Guidance* (DEQ 2016). A brief overview of this process is outlined below.

Prior to formal public notice of a draft IPDES permit, DEQ will post the notice of a forthcoming draft permit on the DEQ website and provide a permit applicant 10 business days to review the preliminary draft permit, unless the review period is waived in part or in whole by the applicant. In some cases, DEQ may allow the applicant a longer preliminary draft review period for complex permits. While this is primarily intended for the applicant to review and discuss with DEQ any errors and omissions in the preliminary draft permit, it also provides the public notification that a draft permit will be made available for public review and comment in 10-days.

Public notification of a draft permit initiates a minimum 30-day public review and comment period[116]. This public notice is provided by a combination of mailings or any other method reasonably calculated to give notice to the persons potentially affected, including press releases or use of any other forum or media to elicit public participation to:

1. The applicant;
2. Any other agency that has issued or is required to issue a permit for the same facility or activity;
3. Affected federal and state agencies with jurisdiction over fish, shellfish, wildlife, and other natural resources (including downstream states or Canada), state historic preservation officers (SHPO), and any affected Indian tribe;
4. Any state agency responsible for plan development under the CWA, the USACE, the US Fish and Wildlife Service, and the National Marine Fisheries Service;
5. Any user identified in the permit application of a privately owned treatment works;
6. Any person who requested to be on a mailing list;
7. Any local government having jurisdiction over the area where the facility is proposed to be located; and
8. Each state agency having any authority under state law with respect to the construction or operation of the facility.

Requests for extending a public comment period must be provided to DEQ in writing before the last day of the comment period.

The permit application, draft permit, and fact sheet describing the terms of the permit will be available during the public comment period. DEQ may schedule a public meeting on the draft permit if there is significant public interest, an interested party requests in writing a public meeting within the first 14 days of the public comment period, or for other good reason[117].

As identified in the Memorandum of Agreement (MOA) between DEQ and EPA (DEQ and EPA 2016), EPA will review draft permits rather than proposed permits. EPA, however, may choose to review a proposed permit instead of or in addition to review of the draft permit.

5.4 Proposed Permit

After the close of the minimum 30-day public comment period, DEQ considers information provided by the public, prepares a document summarizing the public comments received on the draft permit, and may make changes to the draft permit. After the public comment period and prior to issuing the final permit decision, DEQ will give the applicant an opportunity to provide additional information to respond to public comments. DEQ may request more information from the applicant in order to respond to public comments[118]. However, new data and information provided by any party prior to issuing ~~the~~ a proposed permit may necessitate another public comment period if it results in substantive changes to the draft permit. In such cases, the subsequent public comment period only pertains to those components of the draft permit that had changed.

DEQ may then develop a proposed permit. EPA may take up to 90 days to provide specific grounds for objection of a proposed permit. The EPA review process will be defined in the MOA (DEQ and EPA 2016). If EPA objects to a proposed permit, any state, interstate agency, or interested person may request EPA to hold a public hearing regarding the objection. Additionally, DEQ may submit a revised permit that meets EPA's objections. However, EPA may issue the final permit if DEQ does not submit a revised permit that meets EPA's objections within the time periods specified in the NPDES memorandum of agreement between EPA and DEQ[119].

5.5 Issue Final Permit[120]

Following the closure of the public comment period(s) on a draft permit, and after receipt of any comments on the proposed permit from EPA, DEQ will issue a final permit decision and fact sheet. A final permit decision means a final agency order and the final permit action to issue, deny, modify, revoke and reissue, or terminate a permit.

DEQ will ~~provide a copy~~ serve notice of the final permit to the permittee and ~~will notify~~ each person who has submitted written comments or requested notice of the final permit. The service of notice for the decision will be at the same time and the same method for all parties and may be by mailings or any other method reasonably ~~calculated~~ determined to provide notice. DEQ will also provide the final permit to the permittee and post the final permit, response to comments, revised fact sheet, and associated permit documents on the DEQ webpage. A final permit decision becomes effective 28 days after notice of the decision unless a later effective date is specified in the decision, or a Petition for Review is filed with DEQ[121] (section 11).

DEQ will base final permit decisions on the administrative record[122]. The administrative record for any final permit consists of the administrative record for the draft permit and fact sheet, the proposed permit and associated information and:

- All comments received during the public comment period:
- The record of, and any written materials submitted as part of a public meeting;
- The application or NOI to deny the application, and any supporting data provided by the applicant; and
- Any other relevant correspondence and documents.

The final permit, response to comments, revised fact sheet, and associated permit documents will be posted on the DEQ webpage.

6 General Permit Development Process

A general permit is a single permit that authorizes multiple sources to discharge pollutants to ~~surface~~ waters of the U.S. in Idaho. This differs from an individual permit which authorizes an individual source to discharge ~~treated effluent~~ pollutants. Just like individual permits, general permits are issued for a term not to exceed five years. General permits use Best Management Practices (BMPs) more frequently than individual permits to control water pollution. Facilities seeking coverage under a general permit are required to submit a *Notice of Intent* (NOI) that complies with the information requirements specified in the general permit. ~~Idaho's~~ The IPDES web interface provides access to NOIs so that the applicant can electronically submit the required information. This section provides an overview of the applicability of general permits, addressing what types of discharges are eligible for coverage under a general permit, the content of general permit sections, ~~and~~ the permit development process, and obtaining and terminating coverage under a general permit.
~~**This section provides an overview of the applicability of general permits, addressing what types of discharges are eligible for coverage under a general permit, the content of general permit sections, and the permit development process.**~~

Figure 6~~General permit development process flow chart.~~ presents ~~a flow chart of~~ the process for developing new, and reissuing or modifying existing general permits. Information considered in developing permit conditions, and the rationale behind all permit conditions is included in each general permit's fact sheet.

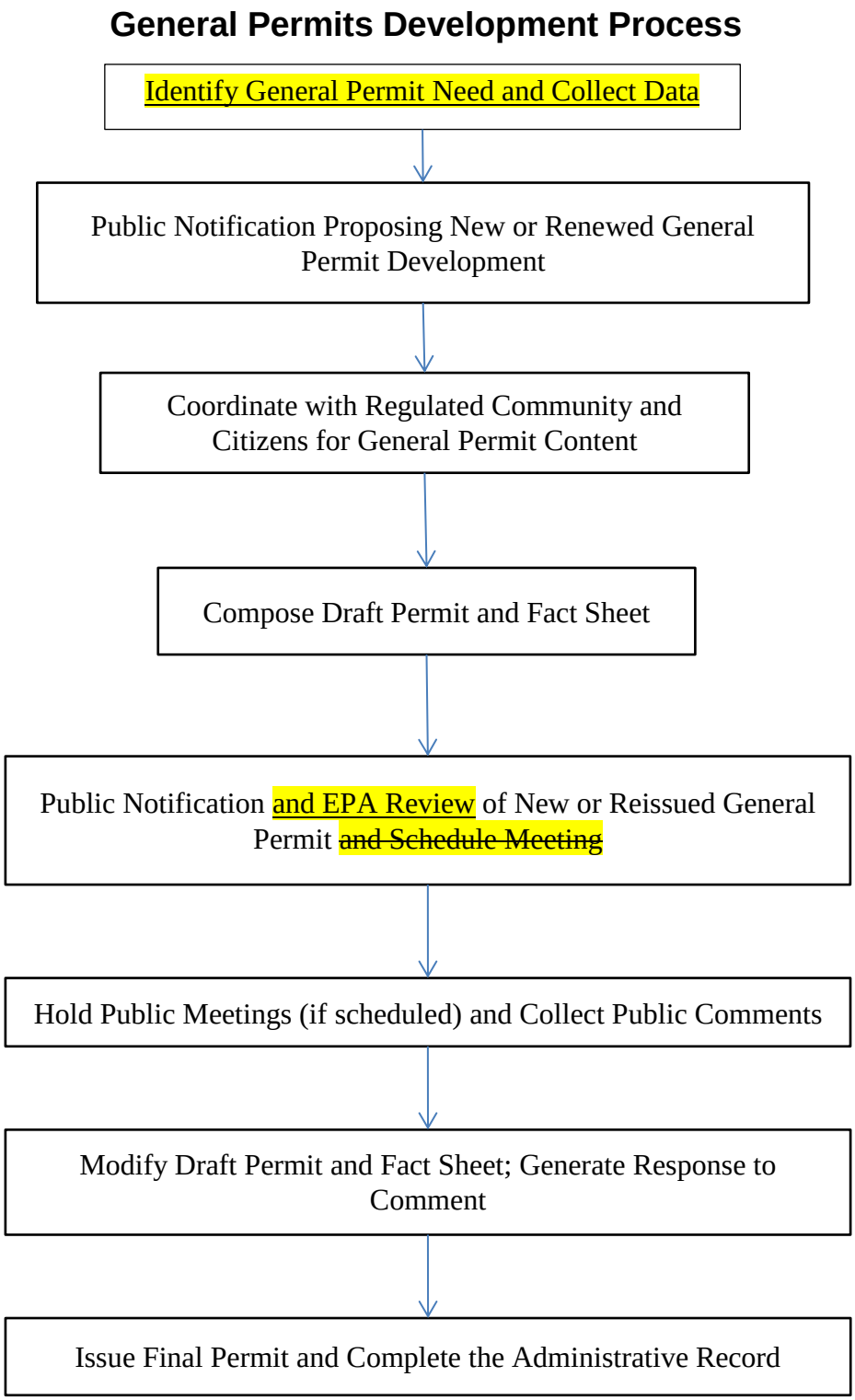


Figure 6. General permit development process flow chart.

This section provides an overview of:

- The general permit development process;
- Sectors covered by IPDES general permits;
- Coverage area(s);
- Which permit attributes are sector specific and will be covered in Volume 2;
- How the public and permitted community may participate in the development of new and renewed general permits; and
- The avenues for IPDES coverage that exist if a potential discharger is denied coverage under a general permit.

General permits may be written for activities that share similar wastewater constituents, facilities or activities that use the same or similar operations, activities that discharge to receiving waters that have similar restrictions imposing the same or similar effluent limitations, and sources that may be more economically, or appropriately regulated under a general permit.

General permits have been used by EPA to address the following categories of sources:

- Storm Water Construction General Permit (CGP)
- Multi-Sector General Permit (MSGP) for Industrial Storm Water requirements
- Municipal Separate Storm Sewer System (MS4)
- Confined Aquatic Animal Production (CAAP) Facility
- Confined Animal Feeding Operations (CAFO)
- Ground Water Remediation (GWGP)
- Drinking Water Treatment Plant (DWGP)
- Small Suction Dredge (SSD) Mining
- Pesticide (PGP)
- Vessel (VGP)

General permits are written to provide multiple dischargers coverage within a geographic area; all waters of the U.S. in Idaho within that area may be subjected to receiving discharged effluent. The waters must be assessed for the ability to assimilate the pollutants being discharged without exceeding WQS. This large task may be simplified by categorizing surface waters into smaller groups based upon their current water quality, critical flow, or volume. Alternatively, the geographic area may be categorized based upon climatic conditions or ecoregions (e.g. southern Idaho's low precipitation climate versus northern Idaho's high precipitation climate).

Although many of the steps in developing a general permit are similar, the permit development and discharge authorization process may vary from permit to permit depending on specific circumstances. General permits may include different tiered effluent limits, permit conditions, or requirements based on a number of factors, including but not limited to:

- The number and type of discharges and pollutants;
- The condition or status of the receiving water bodies; and
- The results of antidegradation, RPA, mixing zone, and other analyses.

~~Although the information presented in these sections pertain to all general permits and fact sheets, each permit and fact sheet may vary depending on the nature of the discharges and permit sector.~~

Stakeholder Coordination

To the extent practicable, DEQ intends to coordinate with and inform applicants, permittees, and EPA throughout the general permit development process – beginning with the pre-development notification, continuing through the issuance ~~(or denial)~~ of the final general permit, as well as any compliance, inspection, and enforcement activities (discussed in sections 9 and 10). The general permit development coordination includes interpreting monitoring and reporting data, characterizing the effluent and receiving water bodies, developing effluent limitations, monitoring and reporting requirements, and other permit conditions. This communication will keep the permittee (operator), DEQ IPDES permit writers and CIE personnel, and EPA well-informed of the general permit development. The goal is for DEQ personnel to develop complete, accurate, and enforceable permits.

6.1 Authority to Issue General Permits

General permits are one way to efficiently and effectively manage the permitting burden while still complying with the regulatory requirements of the CWA. EPA has addressed questions concerning general permit validity in multiple court cases across the U.S. The Ninth Circuit Court[1] noted that "[g]eneral permitting has long been recognized as a lawful means of authorizing discharges." The courts have determined that general permits are applicable media to control multiple dischargers in geographic or political areas. The court determined that the CWA §402 does not limit the scope of NPDES permits to individual permits alone, as long as the permit complies with the limitations specified in the CWA.

General permits have been used to address multiple ~~minor~~ point sources of similar classification operating in a geographic area that employ substantially similar operations and processes, discharge effluent with similar qualities, and would be restricted by individual permits with the same discharge limitations or operating conditions. Consequently, general permits have not been restricted to storm water discharges alone.

6.2 Individual versus General Permits

While there may be various reasons for issuing a general permit instead of multiple individual permits, the main reason is that less time and resources are required. A general permit will define effluent limits, monitoring, sampling, reporting, and recordkeeping requirements for all activities covered under the general permit while having broader coverage than an individual permit.

Similar to an individual permit, a general permit's discharge limitations are initially addressed by technology-based effluent limits (TBELs). BMPs are a subcategory of TBELs. The assumption is that a properly installed and maintained BMP will provide suitable effluent treatment prior to discharge to receiving waters. This may not be the case when the facility or activity is proposing to discharge to an impaired water body. Receiving water body characteristics may require water quality-based effluent limits (WQBELs) be developed as well.

[1] U.S. Court of Appeals for the Ninth Circuit - 344 F.3d 832 (9th Cir. 2003). Argued and Submitted December 3, 2001 — Pasadena, California. Filed September 15, 2003

~~General permits are written to provide multiple dischargers coverage within a geographic area; all waters of the U.S. in Idaho, within that area may be subjected to receiving discharged effluent. The waters must be assessed for the ability to assimilate the pollutants being discharged without exceeding WQS. This large task that may be simplified by categorizing surface waters into smaller groups based upon their current water quality tier, critical flow, or volume. Alternatively, the geographic area may be categorized based upon climatic conditions or ecoregions (e.g. southern Idaho's low precipitation climate versus northern Idaho's high precipitation climate).~~

6.3 General Permit Development

There are five criteria that a class or category of discharger must meet before a general permit can be composed to address the discharges. These criteria are:

1. The class or category of discharger should have the same or substantially similar types of operations;
2. The same types of pollutants should be discharged;
3. The same effluent limitations or operating conditions are applicable;
4. The sources require the same or similar monitoring where tiered conditions may be used for minor differences within a class (e.g. size or seasonal activity); and
5. The discharges are more appropriately controlled under a general permit.

Once the five criteria have been verified for a particular class or category of discharger, the actual development of the general permit can proceed. The general permit development process does not differ significantly from that of an individual permit. A permit contains the conditions a permittee must meet, while information considered in development and the rationale for permit conditions is included in the supporting fact sheet for each permit.

~~Appendix D provides an outline of the general permit and fact sheet development and issuance process.~~

6.4 Development of the Draft Permit and Fact Sheet

IPDES general permits will consist, at a minimum, of the following ~~five~~ six sections:

- Cover Page (section 6.4.1)
- Permit Eligibility and NOI Requirements (section 6.4.2)
- Development of Effluent Limitations (section 6.4.3)
- Monitoring and Reporting Requirements (section 6.4.4)
- Special Conditions (section 6.4.5)
- Conditions Applicable to all Permits (section 6.4.6)

The fact sheet contains similar structure and content, but it also provides the reasoning behind the permit conditions and effluent limits found in the permit. The fact sheet also includes a general description of the wastewater sources, treatment systems and processes, and the receiving water's quality and resulting impacts.

IPDES fact sheets for general permits ~~typically~~ may also contain the following major components:

- Information on public comment, public meeting, and appeal procedures;
- A description of the proposed eligible discharges;
- Notice of Intent (NOI) requirements;
- A listing of the proposed effluent limitations, and how limits were established; and
- Information supporting the conditions found in the draft permit.

~~Although the information presented in these sections are part of all general permits and fact sheets, the contents may vary depending on the nature of the discharge, and permit sector.~~

6.4.1 Cover Page

The permit cover page(s) include information authorizing a discharge and the applicable dates of the permit including:

- IPDES general permit title and number;
- A permit coverage statement;
- Permit posting requirements;
- *Issuance date*—the date the permit is signed by DEQ;
- *Effective date*—the date permit conditions take effect;
- Reapplication due date—the date by which a permittee must submit a notice of intent;
- Expiration date—the date permit coverage terminates; and
- Signature—DEQ Director, or designee;

The fact sheet cover page(s) includes information about the permit development, including:

- General permit name and number(s);
- DEQ technical contact information;
- Public comment open date—the date on which a minimum 30-day public comment period for the draft permit begins;
- Public comment close date—the date on which the public comment period for the draft permit ends;
- Public meeting date (if applicable)—the date on which a public meeting for the draft permit is held; and
- Description of coverage.

~~It is important to note that permit and fact sheet cover pages may differ due to the nature of unique circumstances regarding each permit.~~

6.4.1.1 Schedule of Submissions

The schedule of submissions is a summary of items a permittee must complete and/or submit to DEQ during the term of this permit. This list includes a due date for each item and references to the section of the permit which requires the submission.

Examples of these items may include, but are not limited to:

- Notice of Intent (NOI);

- Discharge Monitoring Reports (DMRs);
- Quality Assurance Project Plans (QAPPs);
- Operation and Maintenance (O&M) plans;
- Permit coverage renewal;
- Surface water monitoring reports;
- Best Management Practices (BMP) plan;
- Storm Water Pollution Prevention Plan (SWPPP);
- Pollution Management Plans (e.g. nutrients and toxics, etc.)
- Nutrient Management Plan (NMP);
- Storm Water Management Plan (SWMP);
- Emergency response and public notification plans;
- Twenty-four hour notice of noncompliance reporting;
- Ambient monitoring reports;
- Temperature monitoring reports;
- Outfall inspections;
- Engineering studies;
- Facility planning;
- Sewage sludge (Biosolids) annual reports;
- Annual report;
- Compliance evaluation reports;
- Notice of Termination (NOT) of discharge; and
- Other sector or permit specific requirements

Schedules of submission may differ due to the unique nature of each permit or they may not be required.

6.4.2 Permit Eligibility and NOI Requirements

This section of a general permit describes the facilities or activities that are authorized to discharge, the information that must be submitted in the NOI, and the process to obtain, modify, or terminate permit coverage.

6.4.2.1 Permit Coverage and Eligibility

This section of a general permit addresses:

- Facilities authorized to discharge;
- Receiving waters covered by the general permit;
- Required steps for obtaining authorization to discharge under the general permit;
- Notification of coverage;
- Conditions that may preclude coverage under the general permit and necessitate an application for an individual permit;
- Transfer of authority to discharge (if appropriate); and
- Termination or inactivation of authority to discharge (if appropriate)~~, and~~.
- ~~A description of what qualifies as a facility expansion or a new source.~~

6.4.2.2 Notice of Intent (NOI) Requirements (Note: this sections moved from 6.4.7)

An applicant seeking discharge coverage under an IPDES general permit must submit an NOI to obtain coverage for discharges to water of the U.S. The required contents of an NOI are unique for each general permit and are listed and described in the permit. This section of the User's Guide outlines elements that a general permit may require for NOIs. All NOIs must include, but are not limited to[123]:

- Legal name and address of the owner or operator
- Facility or activity name and physical address
- Type of facility or discharge
- Receiving water body

6.4.2.2.1 Owner and Operator Information

Information identifying the legal entity owning and operating the facility or activity is required on all applications. This information includes:

- The owner's name, (company, corporation, municipality, etc.);
- The certifying signatory person's name and title;
- Mailing address;
- Phone number(s);
- Email addresses; and
- The federally issued Employer Identification Number (EIN).

Similarly, information regarding the operator must be divulged:

- The operator's name, (company, corporation, municipality, etc.);
- Whether the operator is also the owner of the facility or activity;
- Mailing Address;
- Phone number(s);
- Email addresses; and
- The operator's EIN.

Finally, if an annual fee is applicable for the general permit coverage sought, a billing address must be provided. This information includes, but is not limited to:

- The name (company or municipal billing office) to which the bill need be submitted;
- The billing address;
- The contact person's name and title;
- Phone number(s); and
- Email addresses, if available.

6.4.2.2.2 Facility or Activity ~~Physical~~ Location and Description

The facility's or activity's physical location and description must be identified and submitted as part of the eNOI information. This information may include, but is not limited to:

- ~~The physical address of the facility or activity;~~
- The facility location (latitude and longitude at the entrance);
- Outfall locations (latitude and longitude);

- Township, range, and section;
- County;
- Whether it lies on Indian lands;
- Site specific requirements identified in the permit (SIC codes, etc.);
- Type of discharge;
- Expected nature of the discharge;
- The potential for toxic and conventional pollutants in the discharges;
- The expected volume of the discharges (if known);
- Other means of identifying discharges covered by the permit;
- The estimated number of discharges to be covered by the permit; and
- Facility or activity status as federal, state, private, public, or other.

A map of the area extending to one-quarter (¼) mile outside the facility's or activity's property boundary should be supplied with the application. This map should indicate:

- Area surrounding all unit processes (topographic if available) extending one-quarter (¼) mile past the property boundary;
- Influent and effluent pipes/structures;
- Springs or other surface water bodies;
- Drinking water wells within one (1) mile of the property; and
- Areas where waste sludge, manure, or other solid biologically degradable waste is produced, stored, treated or disposed.
- Areas assigned to receive, store, treat, or dispose of hazardous waste

6.4.2.2.3 Compliance with Permit Prohibitions

Some information will be required by all applicants to help DEQ determine that the facility or activity discharges are in compliance with permit prohibitions[124]. Aspects applicable to all IPDES general permits and permittees involve information required by DEQ to determine whether the facility or activity complies with the antidegradation policy of Idaho's WQS.

~~6.4.2.2.4 Site Specific Requirements~~

~~The NOI section of an IDPES general permit should also include questions or data elements that are necessary to properly authorize coverage under the general permit. These may include:~~

- ~~Identify receiving water body~~
- ~~Site specific requirements identified in the permit (SIC codes, etc);~~

6.4.2.2.5 Sector Specific Requirements

Many sectors covered under a general permit will have specific plans that must be submitted concurrently with the NOI. Examples of these plans include, but are not limited to:

- Storm Water Pollution Prevention Plan (SWPPP);
- Storm Water Management Plan (SWMP); or
- Nutrient Management Plan (NMP).

6.4.2.2.6 NOI Submission Timeline

Each permit will specify deadlines for submitting a NOI for permit coverage. It will also clearly explain when a discharger, who has submitted a complete and timely NOI, is authorized to discharge under the permit. The permit will specify when and how the permittee (operator) will receive notification of permit coverage. Options include:

- Upon receipt of the NOI by DEQ;
- After a specified waiting period;
- On a date specified in the general permit; or
- Upon receipt of notification of coverage from DEQ.

Under certain conditions, DEQ may choose not to require an NOI, where a NOI may not be necessary. For example, facilities covered under an individual permit may not be required to submit an NOI for future coverage under a general permit. Alternatively, DEQ may use the requirements of another agency's application permit process to cover a pollutant discharge activity under an IPDES general permit. DEQ will indicate, in the permit conditions and the public notice of the general permit, the reasons for not requiring a NOI. In order to determine whether an NOI is not necessary, DEQ will consider the information listed in Sections 6.4.2 through 6.4.2.2.5.

- ~~Type of discharge;~~
- ~~Expected nature of the discharge;~~
- ~~The potential for toxic and conventional pollutants in the discharges;~~
- ~~The expected volume of the discharges;~~
- ~~Other means of identifying discharges covered by the permit; and~~
- ~~The estimated number of discharges to be covered by the permit.~~

The fact sheet for each general permit will describe facilities or activities authorized by the permit at the time the permit is generated. The fact sheet associated with each general permit includes facility or activity descriptions for discharges covered under the current permit that requested coverage under the re-issued permit. For new general permits, NOIs and accompanying documents for discharges that gain coverage after the permit is issued will be accessible to the public via the web-based interface.

6.4.3 Development of Effluent Limitations

Effluent limitations in a permit are the primary mechanism for controlling discharges of pollutants to receiving waters. The fact sheet explains how effluent limitations included in the permit are developed (Figure 7) and outlines effluent limitation development. Developing effluent limitations in general permits may take on different forms depending on the types of discharge and the potential to impact the receiving water bodies.

When analyzing the impact of a discharge on the receiving water body, DEQ will assess whether TBELs, which include BMPs, will achieve the required effluent quality to prevent a violation, or contribute to the exceedance of a WQS. Since general permits provide discharge coverage to multiple facilities or activities that may be located in various watersheds across the state, the focal points for developing effluent limits are:

1. Identify pollutants of concern and then identify effluent concentrations representative of the facilities' or activities' treatment processes or BMPs; and
2. Assessing how these pollutants impact the various receiving water bodies.

There is a tremendous amount of time and effort required to evaluate these impacts on water bodies throughout the state. Therefore, DEQ may simplify this process by assessing limited TBELs, including BMPs, appropriate for the facility or activity, and aggregating water bodies that share similar characteristics or beneficial uses or attributes (e.g. tier 1, tier 2, etc.). This will be presented in more detail in Volume 2 of this User's Guide.

When TBELs alone are not enough to protect water quality, IPDES rules, the CWA and federal regulations require DEQ to develop WQBELs. WQBELs ensure that authorizing the discharge still meets the CWA objective of restoring and maintaining the chemical, physical, and biological integrity of the nation's waters as well as providing for the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water (fishable/swimmable). Water quality goals for a water body are defined by Idaho WQS. Requirements more stringent than promulgated technology limitations are included in a permit if they are necessary to achieve WQS; this includes narrative criteria and antidegradation provisions.

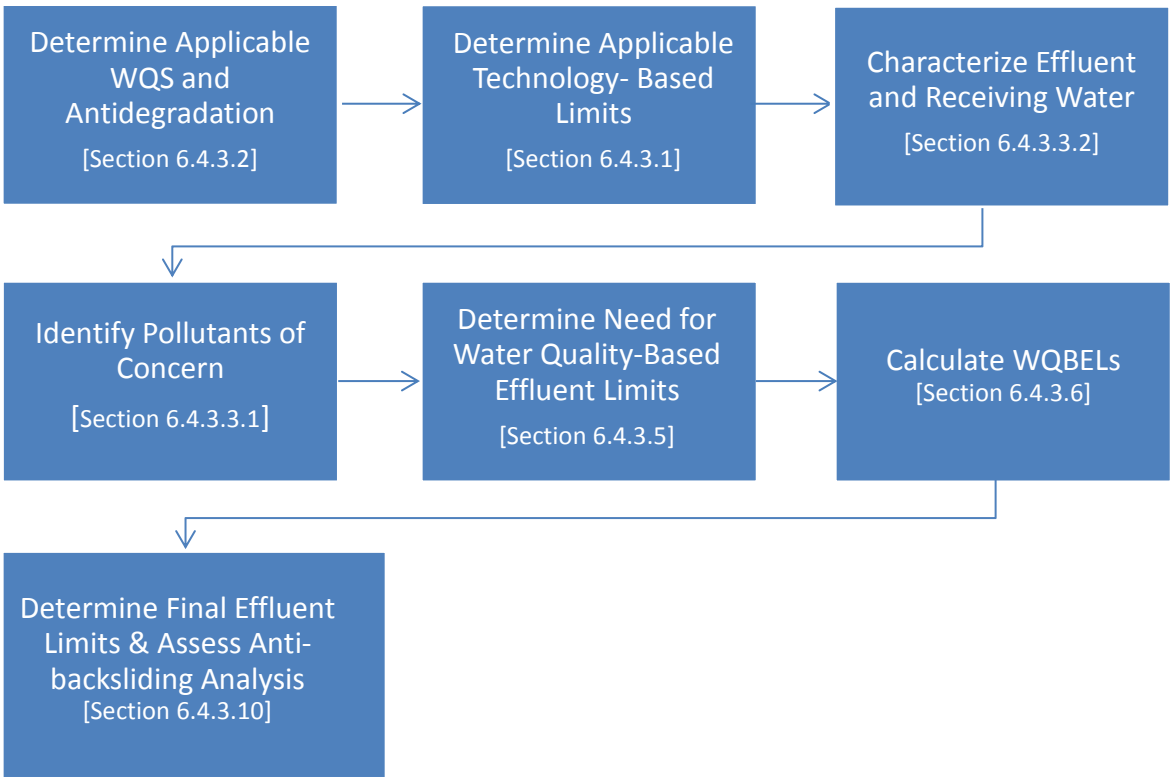


Figure 7. Development of general permit effluent limitations.

6.4.3.1 Technology-Based Effluent Limitations and Standards

One of the major strategies of the CWA in making "reasonable further progress toward the national goal of eliminating the discharge of all pollutants" is to require effluent limitations

based on the capabilities of the technologies available to control those discharges. TBELs aim to prevent pollution by requiring a minimum level of effluent quality that is attainable using demonstrated technologies for reducing discharges of pollutants into the waters of the U.S. BMPs are a subcategory of TBELs, that use system configurations coupled with preventative maintenance practices.

ELGs and standards are developed at a national level and promulgated in the CFR. DEQ develops TBELs for permits based on these ELGs and standards and determines how much of the pollutant(s) can be removed from the effluent using available technology. Consequently, TBELs do not account for the potential impact of a discharge on the receiving water body. Any water quality impact is addressed through reasonable potential analysis and development of WQBELs (see sections 6.4.3.5 and 6.4.3.6).

The first step in identifying appropriate effluent limitations is based on the facility(s) and type(s) of discharges being authorized under a general permit and ~~to~~ evaluating what, if any, TBELs are required, representing the minimum level of control that must be imposed in a permit. ~~Based on the permit, facility, and type of discharge~~ DEQ will determine which pollutants require TBELs. Necessary TBELs are based on:

- Standards promulgated under the CWA section 301;
- New source performance standards, CWA section 306;
- Effluent limitations determined on a case-by-case basis (including BPJs) under CWA 402(a)(l~~), 4~~(B); or
- A combination of the three[125].

The application of TBELs and BMPs may be different for each general permit. Volume 2, ~~and~~ DEQ's *Effluent Limit Development Guidance* (DEQ XXXX) and BMP manuals (for example, DEQ 1997, 2005b) will more fully address TBEL requirements specific to the various types of dischargers and permitted sectors.

6.4.3.2 Determine Applicable Water Quality Standards

The CWA and implementing regulations require states to develop and, from time to time, revise WQS. Wherever attainable, WQS protect water quality to provide for the protection and propagation of fish, shellfish and wildlife, and recreation in and on the water (i.e., fishable/swimmable). In establishing standards, DEQ must consider the use and value of waters for public water supplies, propagation of fish and wildlife, recreation, agriculture and industrial purposes, and navigation. EPA ~~Regions~~ reviews and approves, or disapproves new and revised water quality standards ~~adopted by states. The purpose of EPA's review is~~ to ensure that the new and revised water quality standards meet the requirements of the CWA and federal regulations.

When developing an IPDES general permit, DEQ will identify and implement the applicable water quality standards for the receiving waters. General permits offer a unique challenge when trying to address the applicable water quality standards. Since the general permit is specific to a defined area, that area may be limited to those that have similar water quality (e.g. aquaculture facilities subject to WLA versus cold water aquaculture facilities not subject to WLA). The fact sheet will describe the applicable water quality standards and how they are supported by permit conditions.

Although there are many components that make up water quality standards (e.g. mixing zones, variances), the three primary components are:

- Beneficial uses;
- Water Quality Criteria; and
- Antidegradation.

Beneficial uses of the water include the ways in which humans and animals use the water. Criteria specify what water quality is needed to protect beneficial uses. Criteria can be numeric concentrations or narrative requirements. Antidegradation is a policy developed to maintain and protect water quality.

Beneficial Uses

The first part of a WQS is a classification system for water bodies based on the expected uses of those water bodies. The uses in this system are called beneficial uses. A designated use is a beneficial use assigned to a specific water body in Idaho's WQS. The CWA also requires Idaho to recognize existing uses, which are uses that are/were actually attained in a water body on or after November 28, 1975, whether or not they are designated uses. In some cases, a water body does not have uses designated. For these water bodies, DEQ applies a presumed use protection, meaning the water body will be protected for cold water aquatic life and contact recreation. Often this presumed use protection is referred to as a presumed use. DEQ must also consider and ensure the attainment and maintenance of the water quality standards of downstream waters when establishing designated uses.

Water Quality Criteria

The second part of a WQS is the set of water quality criteria sufficient to support the beneficial uses of each water body. While a water body may have multiple beneficial uses, the criteria must protect the most sensitive use. DEQ has adopted both numeric and narrative water quality criteria. Numeric water quality criteria are developed for specific parameters to protect aquatic life and human health and, in some cases, wildlife from the deleterious effects of pollutants. Narrative criteria are implemented where numeric criteria cannot be established, or to supplement numeric criteria.

Numeric criteria for the protection of aquatic life are designed to protect aquatic organisms, including plants and animals, human health, or other categories (e.g., wildlife). Numeric criteria typically address both short-term (acute) and long-term (chronic) effects. Each numeric criterion generally consists of three components: magnitude, duration, and frequency.

- Magnitude: The level of pollutant (or pollutant parameter), usually expressed as a concentration, that is allowable.
- Duration: The period (averaging period) over which the in-stream concentration is averaged for comparison with criteria concentrations.
- Frequency: How often criteria may be exceeded.

Numeric criteria and effluent limitations are often not expressed in the same way. Criteria are generally expressed as a magnitude, duration and frequency, for example to protect aquatic life in a receiving water body the concentration of arsenic may not exceed 340 µg/L(magnitude) as a

one-hour average (duration) more than once in three years (frequency). Whereas, effluent limitations in IPDES permits are generally expressed as a magnitude in mass or concentration (e.g., mg/L, µ/L, lbs/day) and an averaging period (e.g., maximum daily, average weekly, average monthly). Typically, the components of the criteria are addressed in water quality models through the use of statistically derived receiving water and effluent flow values that ensure that criteria are met under critical conditions.

DEQ WQS also include narrative water quality criteria to supplement numeric criteria. Narrative criteria are statements that describe the desired water quality goal for a water body. Narrative criteria, for example, require that surface waters be "free from hazardous materials in concentrations found to be of public health significance or to impair designated beneficial uses" or be "free from toxic substances in concentrations that impair designated beneficial uses." DEQ can utilize narrative criteria as the basis for limiting specific pollutants for which numeric criteria don't exist or as the basis for limiting toxicity using WET requirements where the toxicity has not yet been traced to a specific pollutant or pollutants[126].

Antidegradation

The third part of WQS is the antidegradation policy. This set of procedures and guidance is aimed at maintaining the existing quality of Idaho waters *Idaho Antidegradation Implementation Procedures* (DEQ 2016 draft). Maintaining water quality better than the minimums set by water quality criteria is a primary objective of the CWA. This objective is achieved by reviewing water quality related permits for their effect on water quality. If the water receiving the discharge is of high quality (e.g. Tier 2, see below), proposed degradation in water quality is evaluated closely to determine if it can be minimized or avoided. If significant degradation cannot be avoided, then the activity is evaluated to determine its necessity and importance both socially and economically to the affected public's health.

Effluent limitations included in IPDES general permits must be consistent with Idaho's antidegradation policy[127], which establishes three tiers of water quality protection.

Tier 1 maintains and protects existing uses and water quality conditions necessary to support such uses. Where an existing use is established, it must be protected even if it is not listed in the water quality standards as a designated use. Tier 1 requirements are applicable to all surface waters.

Tier 2 maintains and protects "high quality" waters—water bodies where existing conditions are better than necessary to support CWA "fishable/swimmable" uses. Water quality may be lowered in tier 2 waters, but only with public review of the necessity for degradation based on the social and economic importance of the activity. In no case may water quality be lowered to a level that would interfere with existing or designated uses.

Tier 3 maintains and protects water quality in outstanding resource waters (ORWs). Except for certain temporary changes, water quality cannot be lowered in such waters. ORWs generally include the highest quality waters of the U.S. However, the ORW classification also offers special protection for waters of exceptional ecological significance, such as those that are ecologically important, unique, or sensitive. In Idaho, designation as an ORW requires legislative action.

6.4.3.3 Effluent and Receiving Water Characterization

After identifying the most current and approved water quality standards that apply to the receiving water bodies covered in the general permit, DEQ characterizes the types of effluent discharged by the category of authorized discharge. DEQ uses the information from those characterizations to determine whether WQBELs are required (section 6.4.3.5) and, if so, to calculate WQBELs (section 6.4.3.6). Characterizing the effluent and receiving water can be divided into three steps as discussed in detail in the subsections below.

The fact sheet supporting each general permit identifies and describes:

- Pollutants of concern in the discharge;
- Critical conditions of the effluent and receiving waters; and
- Mixing zone applicability, analysis, and conditions (Volume 2 of the User's Guide).

6.4.3.3.1 Identify Pollutants of Concern

There are several sources of information for and methods of identifying *pollutants of concern* for WQBEL development. These pollutants may not necessarily receive an effluent limitation in an IPDES permit, but do go through a reasonable potential analysis. The following five categories identify pollutants of concern for potential WQBEL development:

Pollutants with TBELs

Any pollutant discharged from the class of facility or activity with a TBEL, including BMPs, may need more stringent limitations necessary to support WQS: Pollutants subject to TBELs are addressed in state and federal regulations. Industries must meet ELGs[128]. If an industry does not have an ELG, the characterized effluent will be assessed and limits established, if necessary, using BPJ. Any pollutant with a TBEL may also need more stringent limitations to support WQS.

Pollutants with a Wasteload Allocation from a TMDL

Any pollutant for which a *wasteload allocation* (WLA) has been assigned to the facility or activity through a TMDL: ~~Every 2 years,~~ DEQ publishes a priority list (a "§303(d) list") of Category 5 impaired waters, known as Idaho's Integrated Report. For waters identified on this list, DEQ must develop a TMDL for the pollutants, set at a level to achieve WQS (in some cases the impairment may be due to a non-permitting issue such as flow or habitat alteration).

A TMDL is a calculation of the maximum amount of a single pollutant that a water body can receive and still meet WQS. The TMDL also allocates pollutant quantities to the identified sources; these allocations are known as waste load allocations (WLA), from point sources, and load allocations (LA), from nonpoint sources and background concentrations. The calculation must include a margin of safety to ensure that the water body can be used for the purposes designated in the water quality standards, to provide for the uncertainty in predicting how well pollutant reduction will result in meeting water quality standards, and to account for seasonal variations. A TMDL might also include a reserve capacity to accommodate new discharges in the future.

$$TMDL = WLA + LA + Margin\ of\ Safety + Reserve\ Capacity$$

IPDES general permits must include effluent limitations developed consistent with the assumptions and requirements of any WLA that has been assigned to the discharge as part of an approved TMDL. As a result, any pollutant for which a WLA has been assigned to the permitted facility through a TMDL is a pollutant of concern.

Pollutants with WQBELs in Previous Permit

Any pollutant for which DEQ determines WQBELs in the previous permit continue to apply: Where those conditions no longer apply, DEQ needs to complete an anti-backsliding analysis to determine whether to remove the WQBELs from the reissued permit. In addition, DEQ may need to conduct an antidegradation analysis to determine if the revised limitation would allow degradation of the quality of the receiving water.

Pollutants Identified as Present in Effluent through Monitoring

Any pollutant identified in effluent monitoring data reported in the discharger's IPDES general permit NOI, if required, or special studies: In addition, DEQ may collect data through compliance inspection monitoring or other special studies. Therefore, DEQ can match information on which pollutants are present in the effluent to the applicable water quality standards to identify parameters that are candidates for WQBELs.

Pollutants Otherwise Expected to be Present in the Discharge

Any pollutant for which neither the discharger nor DEQ have monitoring data but, the discharger or DEQ expects that the pollutant could be present in the discharge (because of the raw materials stored or used, operational products or by-products, or available data and information on similar facilities). If there are no analytical data DEQ will postpone general permit development ~~to verify the concentrations of these pollutants in the effluent, DEQ must either postpone a WQBEL quantitative analysis~~ in order to collect, ~~or require the discharger to collect, effluent monitoring~~ data, or base the applicability of a WQBEL on other information, such as the effluent characteristics of a similar discharge.

Similarly, pollutants of concern include those that the Integrated Report has identified as contributing to the listing of a Category 5 impaired water body, but for which a TMDL has not yet been developed.

6.4.3.3.2 Identify Critical Conditions of the Effluent and Receiving Water

An important part of characterizing the effluent and receiving water is identifying the critical conditions. This analysis presents a unique challenge for the development of general permits. In this case multiple sources of data identifying receiving water body(s) low flow conditions, ~~facility design~~ discharge rates, and effluent concentrations are used to assess the need for and calculate WQBELs[129]. Some key effluent and receiving water conditions are:

Effluent Flow Rate

~~Effluent flow is a critical design condition used when modeling the effluent's impact on a receiving water body.~~ Depending upon the class of facility or activity the general permit will cover, DEQ may be able to obtain effluent flow data from DMRs, the NOI, area rainfall intensity and frequency graphs, or water rights. However, DEQ will evaluate concerns about calculating limits based on actual flow, when possible, in case there is a change in the water body which would not allow expansion of a discharge. DEQ ~~must~~ will then specify which flow measurements and metrics for dilution and mass balance to use as the critical effluent ~~flow~~ values in WQBEL calculations ~~(e.g., the maximum daily flow, the maximum of the monthly average flows from discharge monitoring reports for the past three years, the facility design flow)~~. In some instances, multiple critical flows through the identification of flow tiering or seasonal flows may be appropriate. Effluent flow rates may not be applicable to all general permits (e.g. pesticide general permit incidental discharge). Identification of effluent flow rates will be addressed in the appropriate general permit sections in Volume 2 of the User's Guide.

Effluent Pollutant Concentration

DEQ can determine the critical effluent concentration of a pollutant of concern by gathering representative effluent data (e.g., a concentration that represents approximately the pollutant maximum concentration over time). In many cases DEQ has a limited effluent data set to assess. Consequently, there may not be a high degree of certainty that the data include the pollutant's maximum potential effluent concentration. Additionally, DEQ must consider the variability of the pollutant in the effluent when determining the need for WQBELs[130].

~~As described in EPA's *Technical Support Document for Water Quality-Based Toxics Control* (TSD) (EPA 1991a), DEQ may project a critical effluent concentration (e.g., the 99th or 95th percentile of a lognormal effluent concentration distribution) from a limited data set using statistical procedures and the characteristics of the lognormal distribution. For effluent with pollutant concentrations that do not follow a lognormal distribution, DEQ will rely on alternative procedures for determining the critical effluent pollutant concentration.~~

For additional details see DEQ's *Effluent Limit Development Guidance* (DEQ XXXX) and Chapter 3 of the TSD, which provide~~s~~ more details regarding critical conditions and other variables used in effluent limit calculations. Additionally, pollutants of concern may differ with each sector, facility, and activity covered under the general permits. Volume 2 of the User's Guide will provide additional information specific to each type of general permit.

Receiving Water Flow Rate and Non-Flowing Water

For rivers and streams, an important critical condition is the stream flow upstream of the discharge. This information is typically gathered using state databases, USGS data, and other information. For most pollutants and criteria, the critical flow in rivers and streams is some measure of the stream's low flow; however, the critical condition could be different (for example, a high flow, where wet weather sources are a major problem). DEQ may also need to account for any additional sources of flow or diversions between the point where a critical low flow has been calculated or measured, and the point of discharge. If a discharge is controlled so that it does not cause water quality criteria to be exceeded in the receiving water at the critical

flow condition, the discharge controls should be protective and ensure that water quality criteria, and beneficial uses, are attained under all receiving water flow conditions.

The water body will be considered non-flowing when the receiving water body has a mean detention time greater than 15 days. DEQ will assess non-flowing water bodies on a case-by-case basis. Volume 2 of the User's Guide will provide additional information on situations where the receiving water body is designated non-flowing.

Examples of typical critical *hydrologically based design flows* found in Idaho WQS include the 7Q10 low flow applicable to chronic aquatic life criteria and the 1Q10 low flow applicable to acute aquatic life criteria. Other measures of critical flow are the biologically-based design flows. Examples include the 1B3, the 4B3, and the harmonic mean flow applicable to human health criteria for carcinogen pollutants.

Receiving Water Background Pollutant Concentration

DEQ also needs the critical background pollutant concentration in the receiving water, to ensure that any pollutant limitations derived are protective of the beneficial uses and support the antidegradation policy and implementation[131]. When available, ambient data provide the most reliable receiving water background pollutant characterization. When data are not available, DEQ may include ambient monitoring requirements in the ~~new~~ permit~~'s compliance schedule~~ conditions.

Related Receiving Water Characteristics Necessary for Calculations

For water bodies other than free-flowing rivers and streams, there might be critical environmental conditions that apply rather than flow (e.g., temperature, alkalinity). In addition, depending on the pollutant of concern, the effects of biological activity and reaction chemistry might be important in assessing the discharge's impact to the receiving water. These environmental attributes may include, but are not necessarily limited to pH, temperature, hardness, or reaction rates.

6.4.3.4 Mixing Zone Applicability

A mixing zone is an area within a water body around the discharge point in which pollutant concentrations may exceed WQS. The boundary of the mixing zone is defined as that location where pollutant concentrations must meet water quality criteria, as described in the Idaho Mixing Zone Implementation Guidance (DEQ XXXX). Mixing zones are not applicable to all general permits, and will be addressed in Volume 2 of the User's Guide.

6.4.3.5 Determine Need for WQBELs

Once the applicable water quality standards have been identified and the effluent and receiving waters characterized, DEQ uses a process known as a *reasonable potential analysis* (RPA) to determine whether WQBELs are required. That is, to determine if the pollutants of concern are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any water quality standard, including narrative criteria for water quality[132]. An RPA uses effluent and receiving water data and modeling techniques to determine if the discharge has a reasonable potential to exceed WQS. DEQ will determine reasonable

potential for an exceedance of numeric water quality criteria in general by following the procedures in DEQ's *Effluent Limitation Development Guidance* (2016 XXXX), consistent with the TSD (EPA 1991a).

~~Evaluating the impact of an effluent on the receiving water body may require modeling. In the majority of situations, DEQ will typically use a steady-state water quality model to assess the impact of a discharge on its receiving water. Steady-state means that the model projects the impact of the effluent on the receiving water under a single, or steady, set of environmental conditions. Steady-state models are more commonly used than dynamic models, and they can be utilized to develop seasonal and tiered effluent limitations (EPA 1991a).~~

~~The specific steady-state model used will depend on the pollutant or parameter of concern and whether there is rapid and complete mixing or incomplete mixing of the effluent and the receiving water under critical conditions. Because the model is run under a single set of conditions, those conditions generally are set at receiving water low flow conditions for protection of receiving water quality as discussed in section 6.4.3.3.2.~~

~~Dynamic models project the impact of the effluent on the receiving water under a range of conditions. For discharges with variable conditions and sufficient flow and concentration data, DEQ may deploy a dynamic model to determine the allowable effluent concentration for different seasons or tiers of flow.~~

~~Some requirements for determining reasonable potential to exceed (RPTE) the criterion include[133]:~~

- ~~When performing a RPA, DEQ must account for:~~
  - ~~Existing controls on point and non-point pollutant sources;~~
  - ~~Variability of the pollutant in the effluent;~~
  - ~~Sensitivity of species to toxicity testing; and~~
  - ~~Dilution of the effluent in receiving water.~~
- ~~If a RPTE is determined, the permit must contain effluent limits for that pollutant.~~
- ~~If a RPTE is determined for the numeric criterion for whole effluent toxicity (WET), the permit must contain WET effluent limits.~~
- ~~If a RPTE of a narrative criterion is determined based on toxicity testing data, or other discharge information, the permit must contain WET effluent limits; Unless DEQ demonstrates in the permit's fact sheet[134] that chemical-specific limits are sufficient to attain and maintain applicable numeric and narrative state water quality standards.~~
- ~~Where Idaho has not established a numeric criteria for a specific chemical pollutant, DEQ must establish effluent limits using one of the following options to determine RPTE[135]:~~
  - ~~A calculated numeric water quality target or concentration demonstrated to protect the designated use;~~
  - ~~EPA water quality criteria under the CWA section 304(a); or~~
  - ~~An indicator parameter for the pollutant of concern.~~

6.4.3.6 Calculating WQBELs

If DEQ has determined that a pollutant or pollutant parameter is discharged at a level that will cause, have reasonable potential to cause, or contribute to an excursion above any WQS, DEQ

must develop WQBELs for that pollutant, or take other action that will be protective of the receiving water (e.g. remove the water body from the general permit's area of applicability, or restrict BMPs and BPJ to those capable of meeting discharge requirements). DEQ will follow procedures consistent with the *Effluent Limitation Development Guidance* (2016 XXXX) and *TSD* (EPA 1991a) to calculate WQBELs for pollutants that show reasonable potential.

DEQ will first determine ~~a~~ WLAs that represent~~s~~ the level of effluent quality necessary to attain and maintain the applicable narrative or numeric ~~receiving water~~ WQS. The WLA will be based on the applicable WQS ~~while~~ and implementations may account~~ing~~ for dilution and background concentrations of the pollutant. DEQ ~~will~~may develop WLAs for acute, chronic, and human health criteria and long term average (LTA) values for each WLA, as appropriate. Finally, DEQ will use the most restrictive LTA to establish effluent limits for a permit.

DEQ will then account for effluent variability to calculate the appropriate effluent limits (e.g. average monthly, average weekly, ~~and~~ maximum daily) ~~effluent limits~~ to include in the permit, as appropriate. DEQ will calculate concentration limits for pollutants of concern~~, establish a daily maximum concentration limit,~~ and ensure compliance with anti-backsliding and antidegradation requirements.

DEQ will also consult EPA and DEQ guidance, policy, regulations and rules, as follows:

- *U.S. EPA NPDES Permit Writers' Manual*, Chapter 6, Water Quality-Based Effluent Limits (EPA 2010a)
- *Guidance on Water Quality-Based Effluent Limits Set Below Analytical Detection / Quantitation Limits* (EPA 2005)
- *Policy for the Development of Water Quality-Based Permit Limitations for Toxic Pollutants* (EPA 1984b)
- *Permit Writer's Guide to Water Quality-Based Permitting for Toxic Pollutants* (EPA 1987a, 1987b)
- *Water Quality Standard Handbook: Second Edition* (EPA 1994b)
- Toxic Pollutant Effluent Standards and Prohibitions 40 CFR §129.1 through §129.105, incorporated by reference at IDAPA 58.01.25.003.02.t.
- Criteria and Standards for Determining Alternative Effluent Limitations 40 CFR §127.70 through §125.73, incorporated by reference at IDAPA 58.01.25.003.02.q.
- *Idaho Antidegradation Implementation Procedures* (DEQ 2016 draft)
- *Water Body Assessment Guidance* (DEQ 2002b)

There is some flexibility in calculating effluent limits for IPDES permits, as described in DEQ's *Effluent Limit Development Guidance* (DEQ XXXX). However, effluent limits must:

- Ensure compliance with all WQS[136] (including antidegradation);
- Be consistent with assumptions used to develop TMDLs[137];
- Be enforceable;
- Be expressed as mass[138] except:
  - pH, temperature, radiation, or other pollutants which cannot be appropriately expressed by mass;
  - When applicable standards and limits are expressed in terms of other units of measurement; or

  - Where permit limits are established on a case-by-case basis[139];
  - Where limits expressed in terms of mass are not feasible because the mass of pollutant discharged cannot be related to a measure of operation (e.g., discharges of TSS from certain mining operations), and permit conditions ensure that dilution will not be used as a substitute for treatment.
- Be consistent with effluent limits from the current permit, unless backsliding is justified (see section 6.4.3.10)

In addition, the following factors will be considered in the development of permit effluent limitations:

- Limits are calculated for each outfall, except for:
  - Discharge points for storm water, or other point sources, controlled by implementing BMPs, or
  - When effluent limits imposed at the point of discharge are impractical or infeasible and limits are more effective when imposed on internal waste streams prior to mixing with other waste streams or cooling water[140].
- Metals expressed as total recoverable[141], unless:
  - An applicable effluent standard or limitation has been promulgated under the CWA and specifies the limitation for the metal in the dissolved, ~~or~~ valent, or total form.
  - It is necessary to express the limitation on the metal in the dissolved, valent, or total form to carry out the provisions of the CWA, for permit limitations established on a case-by-case basis[142], or
  - All approved analytical methods for the metal inherently measure only its dissolved form (e.g., hexavalent chromium).
- Type of discharge—continuous/non-continuous[143]
- Mass limitations[144]
- Internal waste streams[145]
- Disposal of pollutants other than to surface water[146]

6.4.3.7 Variances, Waivers, and Intake Credits

Variances, waivers, and intake credits provide unique exceptions to a particular effluent requirement, WQS, monitoring, or reporting requirement. DEQ does not expect to routinely receive such requests. Variances, waivers, and intake credits are further discussed in section 8.

~~*6.4.3.8 Effluent Limitations for Thermal Discharges*[147]~~

~~Thermal discharge effluent limitations or standards established in permits may be less stringent than those required by applicable standards and limitations. To do so, the discharger must demonstrate that the alternative effluent limitations will assure the protection and propagation of a balanced indigenous community of shellfish, fish and wildlife in and on the water body to which the discharge is to be made. Further, the cumulative impact of the thermal discharge must be considered together with all other significant impacts on the species affected.~~

~~Thermal effluent limitations may not be applicable to all general permits. More information on thermal discharges is available in Volume 2 of the User's Guide. Variances for thermal discharges under CWA section 316(a) are further discussed in section 8.~~

~~6.4.3.9 Intake Credits~~[148]

~~Some facilities might be unable to comply with TBELs or WQBELs because of pollutants in their intake water (section 8). Under certain circumstances, the IPDES regulations allow credit for pollutants in intake water. General permits typically do not address facilities or activities that extract water from and discharge to the same water body. Consequently, intake credits will be addressed in Volume 2 of the User's Guide for those general permits that have facilities or activities that may qualify for intake credits (e.g. CAAP facilities, drinking water treatment facilities, etc).~~

6.4.3.10 Anti-Backsliding and Determining Final Effluent Limitations ~~and Anti-Backsliding~~

After establishing applicable TBELs and WQBELs, the effluent limits are compared and the more stringent effluent limits are included as proposed effluent limits in the draft IPDES general permit. For reissued permits, proposed effluent limits are also compared to previous effluent limits to ensure the proposed effluent limits are consistent with the anti-backsliding provisions of the CWA. This means proposed effluent limits that are less stringent than previous effluent limits may have to be revised. When determining final effluent limitations, DEQ ensures all applicable statutory and regulatory requirements, including CWA standards, technology and water quality standards, are fully implemented.

Antibacksliding

CWA section 402(o) expressly prohibits backsliding. Backsliding refers to the easing of ~~from certain existing~~ effluent limitations, permit conditions, or required standards from those established in the previous permit. ~~and is contained in three main parts~~ There are certain exceptions to the backsliding prohibitions, and ~~of: (1) a prohibition on specific backsliding, (2) exceptions to the prohibition, and (3)~~ a safety clause that provides an absolute limitation on backsliding.

Prohibitions against Backsliding

First, CWA section 402(o)(1) prohibits the relaxation of effluent limitations established in the prior permit for two situations:

1. ~~To~~ It is prohibited to revise an existing TBEL that was developed on a case-by-case basis using ~~best~~ BPJ in order to reflect subsequently promulgated effluent limitation guidelines (ELGs) and standards that would result in a less stringent effluent limitation. (see *Exceptions for Case-by-Case TBELs*)
2. It is prohibited to relax ~~Relaxation of~~ an effluent limitation that is based on state standards, such as WQS or treatment standards, unless the change is consistent with CWA section 303(d)(4). (see *Exceptions for Limitations Based on State Standards*)

Exceptions for Case-by-Case TBELs

CWA section 402(o)(2) outlines specific exceptions[149] to the first general prohibition against revising an existing TBEL that was developed on a case-by-case basis using BPJ to reflect

subsequently promulgated, less stringent effluent guidelines in a renewed, reissued, or modified permit. Relaxed limitations may be allowed where:

- There has been material and substantial alternations or additions to the permitted facility that justify the relaxation.
- New information (other than revised regulations, guidance, or test methods) is available that was not available at the time of permit issuance and that would have justified a less stringent effluent limitation. If the effluent limitation was based on water quality standards, any changes must result in a decrease in pollutants discharged.
- Technical mistakes or mistaken interpretations of the law were made in issuing the permit under CWA section 402(a)(1)(b).
- Good cause exists because of events beyond the permittee's control (e.g., natural disasters) and for which there is no reasonably available remedy.
- The permit has been modified under CWA sections 301(c), 301(g), 310(i), 301(k), 301(n), or 316(a).
- The permittee has installed and properly operated and maintained required treatment facilities but still has been unable to meet the effluent limitations (relaxation may be allowed only to the treatment levels actually achieved).

Exceptions for Limitations Based on State Standards

Alternatively, CWA section 402(o)(1) allows relaxation of WQBELs and effluent limitations based on state standards if it is consistent with the provisions of CWA section 303(d)(4) or if one of the exceptions in CWA section 402(o)(2) is met (except that relaxation of limits based on technical mistakes or mistaken interpretations are not allowed for WQBELs). The two provisions constitute independent exceptions to the prohibition against relaxing permit effluent limitations, and if either is met, relaxation is permissible.

The two provisions are tied to the water quality of the receiving water body. One provision addresses water bodies where water quality standards are attained, while the other provision addresses water bodies where water quality standards are not attained.

Water Quality Standards Attained – If the permit's limitation is based on a TMDL, WLA, other water quality standard, or any other permitting standard, less stringent effluent limits are allowed only if they comply with the antidegradation policy.

Water Quality Standards Not Attained – Less stringent permit limitations will only be allowed if both of the following criteria are met:

1. The existing effluent limitations are based on a TMDL or WLA; and
2. Attainment of water quality standards will be ensured, or the designated use not being attained is removed in accordance with the water quality standards.

~~Although there are six exceptions in section 402(o)(2) where effluent limitations may be relaxed, the exceptions for technical mistakes or mistaken interpretations and permit modification do not apply to WQBELs.~~

Safety Clause

CWA section 402(o)(3) is a safety clause that provides an absolute limitation on backsliding. This section prohibits the relaxation of effluent limitations in all cases if the revised effluent limitation would result in a violation of applicable effluent guidelines or WQS, including antidegradation requirements.

Final Effluent Limitations

The final effluent limits are expressed in the permit and fact sheet with tables or conditions for each outfall that identify effluent limits by pollutant, the point of compliance, and clearly state the applicable flow tier or season. In addition, the permit's fact sheet explains how the final limitations were determined and how those limitations meet both technology and water quality standards (including antidegradation) and, where appropriate, how an anti-backsliding analysis was applied to the final effluent limitations.

6.4.4 Monitoring and Reporting Requirements

Monitoring and reporting requirements identified in a permit and fact sheet are used to characterize waste streams and receiving waters, evaluate wastewater treatment efficiency, and determine compliance with permit effluent limits and state WQS. Further, the fact sheet explains the justification for waivers of any application requirements or monitoring requirements, and if applicable, an explanation of why the permit contains applicable conditions or waivers[150].

Monitoring

Some IPDES general permits include conditions regarding effluent and receiving water monitoring that allow DEQ to determine the impact of the effluent on the receiving water body. These conditions require the permittee to conduct routine or episodic monitoring of permitted discharges, ambient conditions, and, sometimes, internal operations. Monitoring data is necessary for several reasons including:

- Assessing treatment efficiency;
- Evaluating effluent and receiving water characteristics;
- Determining compliance with effluent limitations established in permits; and
- As a basis for enforcement actions.

Typically, an IPDES general permit will provide recommendations for appropriate monitoring locations to determine compliance with the effluent limitations and provide the necessary data to determine the impact on the receiving water. The permittee is responsible for securing approval to access the monitoring locations and obtain any samples required in the permit.

DEQ considers several factors when determining monitoring requirements to be included in the permit. Factors that affect sampling location, frequency, and method include:

- Applicability of effluent limitation guidelines and standards (effluent guidelines);
- Waste stream and process variability;
- Access to sample locations;
- Pollutants discharged;
- Effluent limitations;

- Discharge frequency (e.g., continuous versus intermittent);
- Effect of flow and pollutant load on the receiving water;
- Characteristics of the pollutants discharged;
- Receiving water analyses;
- WET testing;
- Sewage sludge (biosolids);
- Expanded effluent testing (priority pollutants); and
- Permittee's compliance history.

Considering the need for sufficient data and the potential cost to the permittee, the general permit will specify when, following coverage approval, that monitoring should begin. To establish monitoring frequency, DEQ will consider:

- Variability of the effluent's pollutant concentration;
- Design capacity of the treatment facility;
- Treatment method;
- Compliance history;
- Cost of monitoring;
- Location of discharge;
- Sensitivity of receiving water;
- Nature of pollutants;
- Frequency of discharge;
- Number of samples used in developing effluent limitations;
- Tiered limitations; and
- Site or discharge specific conditions.

The decisions for setting monitoring frequency are described in the fact sheet.

For each pollutant with an effluent limit or monitoring requirement, the permit and fact sheet lists the unit of measure; monitoring type (e.g. temperature logger), interval, and frequency[151] (monthly, weekly, daily); sample collection location, sample method[152] (grab, composite, continuous, etc.), analytical methods[153], and any required 'reporting levels' or instrument sensitivity/capability. Certain sample collection and storage requirements are identified as part of the analytical methods specified in 40 CFR Part 136.

The permit also will specify the *minimum levels* (ML) or *method detection limits* (MDLs) for each pollutant (sector specific details in Volume 2). ~~For purposes of reporting on the DMR for a single sample, if a value is less than the method detection level (MDL), the permittee must report "less than {numeric value of the MDL}" and if a value is less than the minimum level (ML), the permittee must report "less than {numeric value of the ML}."~~

~~For purposes of calculating monthly averages, zero may be assigned for values less than the MDL, and the {numeric value of the MDL} may be assigned for values between the MDL and the ML. If the average value is less than the MDL, the permittee must report "less than {numeric value of the MDL}" and if the average value is less than the ML, the permittee must report "less than {numeric value of the ML}." If a value is equal to or greater than the ML, the permittee~~

~~must report and use the actual value. The resulting average value must be compared to the compliance level, the ML, in assessing compliance.~~

Reporting Requirements and Recordkeeping[154]

Reporting conditions in a general permit may require the discharger to submit analytical results to DEQ along with information necessary to evaluate discharge characteristics and compliance with the effluent limits. This periodic monitoring and reporting establishes an ongoing record of a permittee's compliance status; it creates a basis for compliance assistance, and any necessary enforcement actions (section 10).

The IPDES regulations require the permittee to maintain records and periodically report on monitoring activities. The permittee must retain all monitoring information, for a period of at least three (3) years, or as specified in the permit.

Where pollutants are limited by both mass and other units of measurement, the permittee is required to comply with and report both limitations. The permit will also specify that if the permittee monitors any pollutant more frequently than required by the permit, using EPA-approved test procedures or as specified in the permit, the permittee must include the results of this monitoring in the calculation and reporting of the data submitted in the DMR. Additionally, upon request by DEQ, the permittee must submit results of any other sampling, regardless of the test method used.

DEQ will establish requirements to report monitoring results on a case-by-case basis with a frequency dependent on the nature and effect of the discharge, but in no case less than once a year[155]. A general permit that does not require monitoring results reports at least annually must require the permittee to report, at least annually, all instances of noncompliance not reported[156]. However, IPDES regulations state that monitoring frequency and reporting should be dependent on the nature and effect of the discharge or sludge use or disposal. Thus, DEQ may require more frequent reporting.

Submitting DMR and Related Information

Facilities covered under a general permit may be required to submit discharge monitoring reports using EPA's NetDMR, in accordance with the frequency of submittal identified in the permit, unless provided a waiver in accordance with federal regulations. EPA and the permittees will be responsible for quality control checks to ensure data input accuracy and retain qualifiers on analytical results. EPA's electronic reporting rule requires that all NPDES permitted facilities and activities submit data via NetDMR by December 21, 2016. As a result, IPDES permittees will have already been fully utilizing NetDMR upon DEQ implementation of the IPDES program. DEQ will acquire data from NetDMR and/or ICIS-NPDES in order to effectively track IPDES permit compliance.

Although permittees must electronically submit DMRs directly to EPA's NetDMR, other reporting records (e.g. annual and other reports, etc.) must be submitted to DEQ, as specified in the permit. DEQ will then submit the appropriate data and records to ICIS-NPDES, in accordance with federal regulations.

6.4.5 Special Conditions

Special permit conditions ~~supplement numeric effluent limitations and~~ may require the permittee to undertake activities to reduce the overall quantity of pollutants being discharged, ~~or~~ to collect information that could be used in determining future permit requirements, or DEQ may restrict the number of discharges allowed to sensitive water bodies. Examples include, but are not limited to additional monitoring activities, special studies, BMPs, and compliance schedules.

There are many different reasons to ~~supplement numeric effluent limitations~~ include special conditions in the general permit, including:

- To address unique situations, such as facilities discharging pollutants for which data characterizing the assimilative capacity of a receiving water body or the effectiveness of treatment are absent or limited~~, making development of TBELs or WQBELs more difficult or impossible~~;
- To incorporate preventive conditions, such as requirements to install process control alarms, containment structures, good housekeeping practices, and others;
- To address foreseeable changes to discharges, such as planned changes to process, products, or raw materials that could affect discharge characteristics;
- To incorporate compliance schedules to provide the time necessary to comply with permit conditions;
- To incorporate other IPDES programmatic requirements (e.g., pretreatment, sewage sludge);
- To identify additional monitoring requirements that provide data to evaluate the need for future changes in permit limitations;
- To increase or decrease monitoring requirements, depending on monitoring results or changes in processes or products; or
- To impose requirements for special studies such as ambient stream surveys, toxicity identification evaluations (TIEs) and toxicity reduction evaluations (TREs), bioaccumulation studies, sediment studies, pollutant reduction evaluations, or other such information-gathering studies.

The following subsections address several types of special conditions that may apply to facilities or activities covered under a general permit. Additional sector specific permit special conditions are included in Volume 2 of the User's Guide.

6.4.5.1 Additional Monitoring and Special Studies

Additional monitoring requirements and special studies, beyond those required under the effluent limitations section of the permit, are useful for collecting data DEQ previously unavailable during permit development. These generally are used to supplement numeric effluent limitations or support future permit development activities. Examples of the types of special studies that could be required in an IPDES permit include the following:

- **Treatability studies**—These may be required in a permit when insufficient treatability information for a pollutant or pollutants would hinder DEQ from developing defensible TBELs. Treatability studies can also be required when DEQ suspects that a facility might not be able to comply with an effluent limitation.

- **Toxicity identification evaluation/toxicity reduction evaluation (TIE/TRE)**—These could be required in a permit when wastewater discharges are found to be toxic using WET tests. The purpose of these evaluations is to identify and control the sources of toxicity in an effluent. Further guidance related to EPA recommended TIE/TRE procedures and requirements can be found in the following guidance manuals:
  - *Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants* (EPA 1999) *www.epa.gov/npdes/pubs/tre.pdf*
  - *Clarifications Regarding Toxicity Reduction and Identification Evaluations in the National Pollutant Discharge Elimination System Program* (EPA 2001a) *www.epa.gov/npdes/pubs/owmfinaltretie.pdf*
  - *Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations* (EPA 1989) (see endnote 3 in EPA Permit Writers Manual (EPA 2010) for ordering instructions).
  - *Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures*. 2nd ed (EPA 1991b) *www.epa.gov/npdes/pubs/owm0330.pdf*
  - *Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I* (EPA 1992b) *www.epa.gov/npdes/pubs/owm0255.pdf*
  - *Methods for Aquatic Toxicity Identification Evaluations: Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA 1993a) *www.epa.gov/npdes/pubs/owm0343.pdf*
  - *Methods for Aquatic Toxicity Identification Evaluations: Phase III Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA 1993b) *www.epa.gov/npdes/pubs/owm0341.pdf*
- **Sediment monitoring**—This could be included in a permit if pollutants contained in wastewater discharges may accumulate in the sediments of the receiving water.
- **Bioaccumulation studies**—These may be required in a permit to determine whether pollutants contained in discharges bioaccumulate in aquatic organisms (e.g., fish, invertebrates). Such studies could be required when water quality criteria are expressed in terms of fish tissue levels. Additional guidance related to evaluating the bioaccumulation potential of a pollutant can be found in the EPA *Great Lakes Water Quality Initiative Technical Support Document for the Procedure to Determine Bioaccumulation Factors* (EPA 1994c).

When establishing additional monitoring or special studies, DEQ will ensure that any requirements related to the study (e.g., special sampling or analytical procedures) are specified in the appropriate permit condition. In addition, DEQ will establish a reasonable schedule for study completion or monitoring program and submission of the compiled report. If the anticipated schedule is greater than one year, an interim progress report during the study is advisable.

6.4.5.2 Best Management Practices (BMPs)[157]

IPDES general permits may include BMPs to control or abate the discharge of pollutants when:

- Authorized under the CWA section 304(e) for the control of toxic pollutants and hazardous substances from ancillary industrial activities;
- Authorized under the CWA section 402(p) for the control of storm water discharges;

- Numeric effluent limitations are infeasible; or
- The practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA.

Permits may include BMP requirements using either of two approaches:

- Site-, process-, or pollutant-specific BMPs; or
- A requirement to develop a BMP plan. Development of a BMP plan by the permittee may be more appropriate for a particularly complex or unique facility. The permittee is required to develop and submit to DEQ an approved BMP plan that includes appropriate BMPs based on circumstances at its facility.

The implementation of BMPs for sector specific permits will be identified in Volume 2.

6.4.6 Conditions Applicable to all Permits

Some conditions apply to all IPDES permits and delineate the legal, administrative, and procedural requirements of the permit. Each permit must have a section outlining the duty to comply, the duty to reapply, the need to halt or reduce activity, and the duty to mitigate, among others. While the exact text and language for each of the sections may vary depending on the type of permit, most often the language will be as found in the rules. ~~Nothing in this section precludes citizens to undertake a civil action under CWA section 505 (DEQ 2016).~~

Duty to Comply reiterates the permittee's (operator's) obligation to adhere to the conditions and requirements specified in the general permit. This includes the obligation to operate the facility or activity in an efficient manner, monitor and report stipulated pollutant quantities (mass, concentration, or both) and effluent discharge rates, report upsets, bypasses, or illicit discharges and spills in a timely manner, and comply with all of the requirements stipulated in the permit.

Duty to Reapply addresses the need for the permittee (operator) to create and submit a complete NOI as stipulated in the general permit, early enough prior to the expiration of the current permit, to allow DEQ time to determine whether the facility or activity qualifies for coverage under the general permit, or whether it is more appropriate to address in an individual permit. It would be preferable for all parties involved if the NOI could be submitted sooner than required, providing DEQ personnel time to issue a final permit prior to the expiration of the current permit.

Duty to Halt or Reduce Activity addresses the permittee's (operator's) responsibility to reduce or cease discharging if they know that the discharge is violating or will violate the permit limits. This section effectively says that the permittee (operator) cannot rely on the argument that they would have to halt or reduce production in order to comply with their permit limitations.

Duty to Mitigate requires the permittee (operator) to take all reasonable steps to prevent violating the effluent limits or sludge usage requirements if it would pose a threat to human health or the environment. The duty to mitigate requires the facility and its operators to follow all proper operating procedures and adhere to all applicable state and federal regulations.

Proper Operation and Maintenance requires that the permittee (operator) perform preventative maintenance as required, keep the infrastructure, unit processes, and supporting equipment in good condition. Systems required to have redundant operations and equipment must keep them

functional so that they can be brought online quickly to address emergency situations, such as upsets or excessive peak flows. These O&M requirements extend to laboratory operations, if present, and to the required QAPPs.

Throughout all sample collection and analysis activities, permittees must prepare a QAPP consistent with the EPA-approved QA/QC and chain-of-custody procedures described in *Requirements for Quality Assurance Project Plans* (EPA/QA/R-5)(EPA 2001b) and *Guidance for Quality Assurance Project Plans* (EPA/QA/G-5)(EPA 2002b), or DEQ equivalent.

Permit Actions conveys to the permittee (operator) that their coverage may be terminated for cause. Justifiable cause could include, but is not limited to requests for termination from the permittee, notification of facility upgrades or process changes, and repeated noncompliance with the current permit conditions.

Property Rights informs the permittee (operator) that the permit does not convey any property right or exclusion privilege to the permittee. The permit is more of a license to discharge, similar to a driver's license which allows the holder to operate a motor vehicle as long as they obey the laws.

Duty to Provide Information reiterates the obligation that the permittee (operator) must make available all required monitoring results, operational logs, and other information required to be collected and retained by the general permit when requested from DEQ. These information requests may arise during inspections or permit renewal activities to assess compliance with the permit.

Inspection and Entry conveys to the permittee (operator) their obligation to provide DEQ representatives access to the facility, equipment, discharge location, land application fields, records repositories, or any other site affiliated with the permitted operation, when requested. Access not only allows DEQ representatives entry to the property, but also allows the representative access to copy records that are required to be generated and retained by the permit. This is required to support compliance evaluation, which may include installation and maintenance of DEQ's composite monitors at internal or distal monitoring points.

Monitoring and Records informs the permittee (operator) about the requirements for record content and retention, such as:

- How long the monitoring data records and reports must be retained;
- Identifies the types of records (discharge monitoring reports, calibration and maintenance records, strip chart recordings);
- Who collected samples, the dates samples were analyzed, who performed the sample analyses;
- The analytical techniques and methods used;
- The analytical results; and
- Other information associated with the facility operation, maintenance, and discharge quantity and quality.

Signatory Requirements informs the permittee (operator) that all required submittals must be signed by a certifying official or duly authorized representative. This section identifies that all

applications, reports, and other permit required information must be certified as true and accurate. This section also conveys the penalties associated with submitting false information.

Reporting Requirements identifies the different requirements the permittee (operator) is obligated to submit to DEQ. These requirements to notify DEQ include, but are not limited to:

- The new introduction of toxic pollutants;
- When the facility is planning to alter operations or equipment, which may change the facility's classification to a new source or new discharger;
- When it may be sold to another party;
- When monitoring occurs more frequently than required in the current permit;
- When any permit noncompliance occurs that may endanger health or the environment; and
- When the permittee becomes aware that a failure to report information, whether in the application or any report, has occurred.

This section in Rule is quite lengthy, and it is recommended that the permittee (operator) read the Rule to understand the breadth of reporting requirements that are included in the permit.

Bypass Terms and Conditions warns the permittee (operator) that bypasses are prohibited discharges, and DEQ may pursue enforcement if bypasses occur at the facility. This section also addresses what constitutes justification for bypassing the treatment works, and what reporting requirements are if a bypass does occur.

Upset Terms and Conditions are very similar to the section on bypasses. Upsets are strictly limited to discharges that are authorized under a TBEL. The burden of proof that an upset was justified still resides with the permittee (operator). The notification requirements (24-hour verbal) and remedial action requirements appear in this section also. DEQ has discretion in implementing compliance assistance and enforcement related to bypass events.

Finally, ***Penalties and Fines*** addresses the fine requirements stipulated in the Rules.

~~6.4.7 Notice of Intent (NOI)~~ (Note: This section moved to 6.4.2.2)

~~An applicant seeking discharge coverage under an IPDES general permit must submit an NOI to obtain coverage for discharges to water of the U.S. The required contents of an NOI are unique for each general permit and are listed and described in the permit. This section of the User's Guide outlines elements that a general permit may require for NOIs. All NOIs must include, but are not limited to[158]:~~

- ~~Legal name and address of the owner or operator~~
- ~~Facility name and address~~
- ~~Type of facility or discharge~~
- ~~Receiving water body~~

~~*6.4.7.1 Owner and Operator Information*~~

~~Information identifying the legal entity owning and operating the facility or activity is required on all applications. This information includes:~~

- ~~The owner's name, (company, corporation, municipality, etc.);~~
- ~~The certifying signatory person's name and title;~~
- ~~Mailing address;~~
- ~~Phone number(s);~~
- ~~Email addresses; and~~
- ~~The federally issued Employer Identification Number (EIN).~~

~~Similarly, information regarding the operator must be divulged:~~

- ~~The operator's name, (company, corporation, municipality, etc.);~~
- ~~Whether the operator is also the owner of the facility or activity;~~
- ~~Mailing Address;~~
- ~~Phone number(s);~~
- ~~Email addresses; and~~
- ~~The operator's EIN.~~

~~Finally, if a fee is applicable for the general permit coverage sought, a billing address must be provided. This information includes, but is not limited to:~~

- ~~The name (company or municipal billing office) to which the bill need be submitted;~~
- ~~The billing address;~~
- ~~The contact person's name and title;~~
- ~~Phone number(s); and~~
- ~~Email addresses, if available.~~

~~*6.4.7.2 Facility or Activity Physical Location and Description*~~

~~The facility's or activity's physical location and description must be identified and submitted as part of the eNOI information. This information may include, but is not limited to:~~

- ~~The physical address of the facility or activity;~~
- ~~The facility location (latitude and longitude at the entrance);~~
- ~~Township, range, and section;~~
- ~~County;~~
- ~~Whether it lies on Indian lands; and~~
- ~~Facility or activity status as federal, state, private, public, or other.~~

~~A map of the area extending to one-quarter (¼) mile outside the facility's or activity's property boundary should be supplied with the application. This map should indicate:~~

- ~~Area surrounding all unit processes (topographic if available) extending one-quarter (¼) mile past the property boundary;~~
- ~~Influent and effluent pipes/structures;~~
- ~~Springs or other surface water bodies;~~
- ~~Drinking water wells within one (1) mile of the property; and~~
- ~~Areas where waste sludge, manure, or other solid biologically degradable waste is produced, stored, treated or disposed.~~
- ~~Areas assigned to receive, store, treat, or dispose of hazardous waste~~

~~6.4.7.3 Compliance with Permit Prohibitions~~

~~Some information will be required by all applicants to help DEQ determine that the facility or activity discharges are in compliance with permit prohibitions[159]. Aspects applicable to all IPDES general permits and permittees involve information required by DEQ to determine whether the facility or activity complies with the antidegradation policy of Idaho's WQS.~~

~~6.4.7.4 Site Specific Requirements~~

~~The NOI section of an IDPES general permit should also include questions or data elements that are necessary to properly authorize coverage under the general permit. These may include:~~

- ~~Identify receiving water body~~
- ~~Site specific requirements identified in the permit (SIC codes, etc);~~

~~6.4.7.5 Sector Specific Requirements~~

~~Many sectors covered under a general permit will have specific plans that must be submitted concurrently with the NOI. Examples of these plans include, but are not limited to:~~

- ~~Storm Water Pollution Prevention Plan (SWPPP)~~
- ~~Storm Water Management Plan (SWMP)~~
- ~~Nutrient Management Plan (NMP)~~

~~6.4.7.6 NOI Submission Timeline~~

~~Each permit will specify deadlines for submitting a NOI for permit coverage. It will also clearly explain when a discharger, who has submitted a complete and timely NOI, is authorized to discharge under the permit. The permit will specify when and how the permittee (operator) will receive notification of permit coverage. Options include:~~

- ~~Upon receipt of the NOI by DEQ;~~
- ~~After a specified waiting period;~~
- ~~On a date specified in the general permit; or~~
- ~~Upon receipt of notification of coverage from DEQ.~~

~~Under certain conditions, DEQ may choose not to require an NOI, where a NOI may not be necessary. For example, facilities covered under an individual permit may not be required to submit an NOI for future coverage under a general permit. Alternatively, DEQ may use the requirements of another agency's application permit process to cover a pollutant discharge activity under an IPDES general permit. DEQ will indicate, in the permit conditions and the public notice of the general permit, the reasons for not requiring a NOI. In order to determine whether an NOI is not necessary, DEQ will consider the information listed in Sections 6.4.7 through 6.4.7.5.~~

- ~~Type of discharge;~~
- ~~Expected nature of the discharge;~~
- ~~The potential for toxic and conventional pollutants in the discharges;~~
- ~~The expected volume of the discharges;~~
- ~~Other means of identifying discharges covered by the permit; and~~

- ~~The estimated number of discharges to be covered by the permit.~~

~~The fact sheet for each general permit will describe facilities or activities authorized by the permit. The fact sheet associated with each general permit includes facility or activity descriptions for discharges covered under the current permit that requested coverage under the re-issued permit. For new general permits, NOIs and accompanying documents for discharges that gain coverage after the permit is issued will be accessible to the public via the web-based interface.~~

6.5 Permittee and Public Participation

The basic process providing for public participation on an IPDES permit (either individual or general permit) is identified in the IPDES Rules and outlined in the *Public Participation in the Permitting Process Guidance* (DEQ 2016). A brief overview of this process is outlined below. Please refer to the Guidance for more detail.

As discussed in section 6 (Stakeholder Coordination), DEQ will work with current and prospective general permittees and keep them informed during the permit development process. Prior to formal public notice of a draft IPDES permit, DEQ will post the notice of a forthcoming draft permit on the DEQ website. When DEQ has completed a draft general permit, it will issue a public notification, which initiates a minimum 30-day public review and comment period[160]. This public notice is provided by a combination of mailings or any other method reasonably calculated to give notice to the persons potentially affected, including press releases or use of any other forum or media to elicit public participation to:

- The applicants;
- Any other agency that has issued or is required to issue a permit for the same facility or activity;
- Affected federal and state agencies with jurisdiction over fish, shellfish, wildlife, and other natural resources (including downstream states or Canada), state historic preservation officers (SHPO), and any affected Indian tribe;
- Any state agency responsible for plan development under the CWA, the USACE, the US Fish and Wildlife Service, and the National Marine Fisheries Service;
- Any user identified in the permit application of a privately owned treatment works;
- Any person who requested to be on a mailing list;
- Any local government having jurisdiction over the area where the facility is proposed to be located; and
- Each state agency having any authority under state law with respect to the construction or operation of the facility.

Requests for extending a public comment period must be provided to DEQ in writing before the last day of the comment period. The draft permit and fact sheet describing the terms of the permit will be available during the public comment period. DEQ may schedule a public meeting on the draft permit if there is significant public interest, an interested party requests in writing a public meeting within the first 14 days of the public comment period, or for other good reason[161].

6.6 DEQ Coordination with EPA Regarding General Permits

Upon gaining authorization for general permits in Idaho, current or administratively continued EPA issued general permits are transferred to DEQ, unless a permit is being challenged. DEQ assumes permit compliance and enforcement obligations for permits upon transfer. Current and administratively continued permits will remain in effect until DEQ issues an IPDES permit to replace it. At the time authority is transferred from EPA to DEQ, DEQ will transmit, to the permittees covered under the general permit, an IPDES general permit cover sheet or certificate of coverage. The cover sheet will include the name of the permit, permit effective date, and DEQ telephone number and address for inquiries and where to send information. At reissuance, a state-issued IPDES general permit will replace the transferred NPDES general permit.

~~Within thirty (30) calendar days after receipt of a NOI for coverage under a general permit, DEQ will ensure all required information is transmitted to ICIS-NPDES. DEQ will approve or deny coverage according to the current general permit conditions.~~

When drafting a general permit ~~for re-issuance~~, DEQ will consider applicability of current permit conditions and ensure the new draft permit is consistent with WQS and federal regulations including antidegradation and anti-backsliding provisions. At the time a draft general permit is available for public review, DEQ will provide EPA a copy of the public notice, draft general permit, and the fact sheet for formal review.

As identified in the Memorandum of Agreement (MOA) between DEQ and EPA (DEQ and EPA 2016), EPA will review draft permits rather than proposed permits. EPA, however, may choose to review a proposed permit instead of or in addition to review of the draft permit.

6.7 Proposed Permit

After the close of the minimum 30-day public comment period, DEQ will assess the information provided by the public, prepare a document summarizing the public comments received, and may make changes to the draft general permit. However, new data and information provided by any party prior to issuing ~~the~~ a proposed permit may necessitate another public comment period if it results in substantive changes to the draft general permit. In such cases, the subsequent public comment period only pertains to those components of the draft permit that had changed.

EPA may take up to ninety (90) calendar days to review and provide specific grounds for objection of a proposed general permit. EPA will submit in writing to DEQ objections to, or recommendations on changes to the proposed general permit. The EPA review process will be defined in the MOA (DEQ and EPA 2016). If EPA objects to a proposed permit, any state, interstate agency, or interested person may request EPA to hold a public hearing regarding the objection. Additionally, DEQ may submit a revised permit addressing EPA's objections. However, EPA may issue the final general permit if DEQ does not submit a revised permit that acceptably addresses EPA's objections within the time periods specified in the NPDES memorandum of agreement between EPA and DEQ.

6.8 Issue Final Permit

Following the closure of the public comment period(s) on a draft permit, and after receipt of any comments on the proposed permit from EPA, DEQ will issue a final permit decision and fact sheet. A final permit decision means a final agency order and the final permit action to issue, deny, modify, revoke and reissue, or terminate the general permit.

DEQ will provide ~~access to~~ service of notice of the final permit to permittees that have already applied for coverage, and ~~will notify~~ each person who has submitted written comments or requested notice of the final permit decision. The service of notice for the decision will be at the same time and the same method for all parties and may be by mail or any other method reasonably ~~calculated~~ determined to provide notice. DEQ will also post the final permit, response to comments, revised fact sheet, and associated permit documents on the DEQ webpage. A final permit decision becomes effective 28 days after notice of the decision unless a later effective date is specified in the decision, or a Petition for Review is filed with DEQ (section 11). New dischargers interested in coverage under the general permit may apply once the final permit is issued.

DEQ will base final general permit decisions on the administrative record. The administrative record for any final permit consists of the administrative record for the draft permit and fact sheet, the proposed permit and associated information and:

- All comments received during the public comment period:
- The record of, and any written materials submitted as part of a public meeting;
- Any other relevant correspondence and documents.

The final permit, response to comments, revised fact sheet, and associated permit documents will be posted on the DEQ webpage. The final general permit decision is not subject to the appeals process.

6.9 Obtaining Coverage under General Permits

The required NOI content and the submittal process are described in the applicable general permit section of Volume 2.

6.9.1 Who Must Submit the ~~Application~~ NOI

Rules regulating the IPDES Program stipulate that the operator must obtain the IPDES permit. Additionally, the eNOI must be signed by a certified official[162]. Any operator who will discharge pollutants to a water of the U.S. in Idaho, and whose discharge or activity is eligible for coverage by the general permit must apply, unless the discharge is covered under an individual permit[163]. Under certain conditions, DEQ may choose not to require an NOI[164], dischargers eligible for coverage will be automatically covered by the general permit. If this condition exists it must be indicated in the permit conditions. In this case, permittees must still meet all conditions in the general permit.

6.9.2 NOI Submittal Timeliness

In the event that DEQ is unable to issue the renewed general permit prior to its expiration date, those permittees that complied with the renewal notification, specified in the permit, will remain covered under the existing general permit until it is replaced by the issuance of the renewed general permit. Permittees who do not comply with the renewal notification will not be covered under the administratively continued general permit; any future discharge will be considered unauthorized after the termination date of the general permit and may be subject to an enforcement action[165]. Additionally, any new discharges or expanding facilities or activities seeking coverage under an administratively continued general permit will be denied coverage and redirected to apply for an individual permit.

6.9.3 NOI ~~Application~~ Content

Information required in a NOI is specific to the sector and each general permit. Examples of the type of information required are listed in Section 6.4.1.1 and 6.4.2.2 ~~of the general permit development portion of the User Guide~~. Sector specific requirements are outlined in sections of Volume 2.

6.9.4 Web-based Interface for NOI Submittal

DEQ is developing web-based tools that will support submittal of electronic Notices of Intent (eNOI) along with all necessary supporting documentation (reports, maps, etc.). This system will interface with the IPDES CRIPS database. The web-based tools and database are integral to DEQ providing new and renewed permits that are accurate, thorough, and issued in a timely manner. The eNOI system will also allow DEQ to efficiently evaluate submitted information and documents, such as NMP, SWPPP, and SWMP, to determine whether or not the facility or activity qualifies for coverage under the specific general permit.

Operators must submit their new or renewal eNOI using the web-based tools. This will speed up the application submittal by eliminating the mailing of hard copies, DEQ data entry and associated errors. DEQ will provide support to those facilities and activities that are unable to submit their applications using the web-based tool. However, the applicant must contact DEQ and request paper copies of all pertinent eNOI forms and instructions well in advance. Please read section 6.4.7.6, NOI Submission Timeline, for additional information on timely application submittal and the risks associated with application submission delays.

Applicants must keep records of all data used to complete an NOI and any supplemental information submitted for a period of at least three (3) years from the date the NOI is signed[166].

6.9.5 Trade Secrets or Confidential Information

If the applicant believes that some information is a trade secret and should be held confidential, DEQ recommends that each page describing the confidential information have a notification employing such language as "trade secret," "proprietary," or "confidential," as required by DEQ[167]. Please be aware that information ***required*** by Idaho rules and supporting a general permit notice of intent (NOI) cannot be held confidential. The applicability of a confidential designation for IPDES permitting purposes will be addressed in Volume 2.

In contrast to the status of information and documentation evaluated at the pre-application meeting, as noted in section 4.1, all information submitted as specified in the general permit to obtain coverage under an IPDES general permit may not be classified as confidential[168]. This information includes:

- The name and address of the permittee and operator;
- The content of the IPDES general permit;
- IPDES general permit NOI, and information required to be submitted for coverage under general permits;
- Information submitted in any attachments used to supply information required by the applications; and *Effluent data*[169].

6.9.6 ~~NOI Completeness~~ Determining General Permit Eligibility

DEQ will evaluate a submitted NOI to determine whether the facility or activity qualify for coverage under the applied for general permit. A NOI is complete when the NOI form and any required supplemental information are completed and submitted to DEQ's satisfaction[170], allowing DEQ to determine that the conditions of the general permit will control the discharge and support all applicable WQS.

Within 30 calendar days after receipt of a NOI for coverage under a general permit, DEQ will ensure all required information is transmitted to ICIS-NPDES. DEQ will approve or deny coverage according to the current general permit conditions.

Payment of the application fee and any other applicable fee is due with the NOI for coverage under a general permit (section 3.3.3.2).

6.9.7 Permittee Notification of Permit Coverage

Each general permit will specify when a discharger who has submitted a complete and timely NOI is eligible for coverage under the permit. Options available include:

- Upon DEQ's receipt of the NOI;
- After a specified waiting period;
- On a date specified in the general permit; or
- Upon receipt of a notification of coverage letter from DEQ.

In some cases, DEQ may notify a discharger that it is covered by a general permit, even if the discharger has not submitted a NOI[171]. A discharger authorized by a general permit may request to be excluded from coverage of the general permit by applying for an individual IPDES permit[172].

6.9.8 Public Notification of Permit Coverage

NOIs are similar to individual permit applications, and therefore are a public record. After the NOI content is evaluated and the discharge is approved for coverage under the general permit, the NOI and supporting documents are accessible to the public through the web interface or through a public records request. ~~There is no~~ If there is opportunity for public review or comment period for NOIs ~~;~~ it will be specified in the general permit. ~~however, any person may petition DEQ to transition a permittee to an individual permit~~[173]~~.~~ Additionally, each general

permit will specify the public notification process for NOIs and the process for interested persons to petition DEQ to terminate, revoke, or deny coverage under a general permit and require the discharger or applicant to apply for an individual permit[174].

Any sector specific public notification requirements will be described in Volume 2.

6.10 General Permit Coverage Denial

DEQ may terminate, or deny coverage under a general permit and require the discharger or operator apply for and obtain an individual IPDES permit. Any interested person may petition DEQ to deny general permit coverage for a discharge or activity. Cases where an individual permit[175] may be required include, but are not limited to:

- The discharge is not in compliance with the conditions of the general permit;
- There is a change in availability of pollutant control technology or practices for the discharge;
- New effluent limitation guidelines are promulgated for sectors covered by the general permit;
- A TMDL or other water quality management plan containing requirements applicable to the discharge is approved;
- Circumstances have changed since the NOI was submitted and the discharge is no longer appropriately controlled under the general permit, or either a temporary or permanent reduction or elimination of the authorized discharge is necessary; or
- Standards for sewage sludge use or disposal have been promulgated for the sludge use and disposal practice covered by the general IPDES permit; or
- The discharge(s) is a significant contributor of pollutants. In making this determination, DEQ may consider, but is not limited to, the following factors:
  - The location of the discharge with respect to waters of the United States;
  - The size of the discharge; and
  - The quantity and nature of the pollutants discharged.

Please refer to Section 4 for the individual permit application process and Section 5 for the individual permit development process.

Any owner or operator authorized by a general permit may request to be excluded from the coverage of the general permit by applying for an individual permit[176]. When an individual IPDES permit is issued, the applicability of the general permit to the individual IPDES permittee is automatically terminated on the effective date of the individual permit[177]. Alternatively, a source covered by an individual permit, that is otherwise eligible for coverage under a general permit may request that the individual permit be revoked, and that it be covered by the general permit. Upon revocation of the individual permit, the general permit shall apply to the source[178].

6.11 General Permit Termination

Coverage termination under a general permit is required when the potential for discharge ceases. The covered entity is required to submit a Notice of Termination (NOT) on DEQ's interface. DEQ may inspect the facility or activity to verify that permit coverage is no longer necessary.

DEQ may also notify facilities or activities covered under a general permit that coverage will be terminated. If this occurs, DEQ will provide specific reasons for this action, and also provide directions on how to secure coverage under an individual permit, if applicable.

7 Permit Modification, Revocation, Reissuance, Termination, and Transfer

DEQ may need, or be requested to transfer, modify, or terminate a permit. In these situations, DEQ will select the appropriate level of permit modification. The appropriate level of permit modification includes minor or major modifications, revoking and reissuing, and termination. Reasons for performing permit modifications are listed in the IPDES rules, and presented in the following sections.

When DEQ receives information that permit conditions may require modification there are several options for action:

Permit Modification[179]. DEQ may modify a permit prior to its expiration date only for causes specified in Section 7.1.1 or Section 7.1.2. A permit modification can either be a *minor modification* or a *major modification*.

Revoke and Reissue[180]. Substantial permit modifications or permit transfers may require that the permit be revoked and reissued, and that the permittee submit a new application.

Permit Transfer[181]. A permit may be transferred by the permittee to a new owner or operator if the permit is modified or revoked and reissued or through an automatic transfer.

Permit Termination[182]. DEQ may terminate a permit at the request of the permittee or other interested person, or by DEQ's own initiative.

A permit modification or revocation and reissuance may involve many of the same processes and timelines as developing a new or reissued individual or general permit that are described in Section 5 and Section 6. If DEQ decides that a request to modify, or revoke and reissue, or terminate a permit is not justified, a written response will be sent to the requester giving the reason(s) for the decision[183]. DEQ will not public notice a decision to deny a request to modify, revoke and reissue, or terminate a permit. The applicability and the process for permit modification, permit revocation and reissuance, permit transfer, and permit termination are described in the sections below.

7.1 Permit Modification

A permit modification is any change to permit conditions required to bring the permit into compliance with the CWA, federal regulations, Idaho's IPDES rules, and Water Quality Standards. Permit modifications may change the addresses, discharge locations, discharge limits, BMPs, compliance schedules, or other permit requirements. DEQ may decide to modify a permit based on a review of new information received, an inspection of the facility, the results of a file review, or a request by the permittee or another interested party. A permittee or other interested party may send a written request and rationale for permit modification to DEQ at any time they

become aware of current or expected changes in a treatment process, changes in effluent or receiving water quality compared to the quality used to derive permit conditions, changes in discharge conditions, or errors in a permit. All permit modification requests must be submitted to DEQ in writing. DEQ will evaluate the request to determine applicability of permit modification.

Permits may only be modified only for the reasons listed in sections 7.1.1.1 and 7.1.2.1. When a permit is undergoing modification, the permit conditions remain in effect until replaced by the new permit[184].

If a permit has been administratively continued it is not eligible for modification. Requests for modification received related to an administratively continued permit will be evaluated for inclusion in the new permit under development.

7.1.1 Minor Permit Modification

7.1.1.1 Applicability

When the modification of an existing permit satisfies the criteria of a 'minor modification', DEQ may modify the permit without preparation of a draft permit and fact sheet. Changes to a permit that are considered minor permit modifications may include[185]:

- Correct typographical errors
- Require more frequent monitoring or reporting by the permittee;
- Change an interim compliance date in a schedule of compliance. This may occur only if the new date is not more than 120 days after the date specified in the existing permit and does not interfere with attainment of the final compliance date requirement;
- Allow for a change in ownership or operational control of a facility where DEQ determines that no other change in the permit is necessary. This may occur only if a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittee has been submitted to DEQ;
- Change the construction schedule for a new source discharger. The change does not affect the obligation to have all pollution control equipment installed and in operation prior to discharge;
- Delete discharge from an outfall when the discharge from that outfall is terminated and does not result in the discharge of pollutants from other outfalls remains consistent with permit limits;
- Incorporate conditions of a POTW pretreatment program that has been approved in accordance with state and federal regulations;
- Incorporate changes to the terms of a CAFO's nutrient management plan that have been revised in accordance with federal requirements[186]; or
- Make a change in a permit provision that will not result in:
  - An actual or potential increase in the discharge of a pollutant or pollutants into the environment, nor
  - A reduction in monitoring of a permit's compliance with applicable statutes and regulations.

7.1.1.2 Procedure for Minor Permit Modification

A minor permit modification does not require development of a draft permit and fact sheet nor public notification and comment period. Rather, DEQ prepares a written response which is sent to the requester and all interested parties. This response identifies changes authorized in the permit and rationale for the permit modification. The written correspondence and modified permit conditions are incorporated in the permit, fact sheet, and administrative record and permit conditions are effective upon posting on the DEQ website. A minor modification does not change the expiration date of the permit. All other aspects of the permit remain in effect for the original duration of the permit[187].

7.1.2 Major Permit Modification

7.1.2.1 Applicability

When DEQ has information indicating that permit conditions are not appropriate, or receives a request to modify a permit and the proposed modification does not qualify for a minor permit modification described in section 7.1.1, DEQ may determine there is cause for a major permit modification. The following are causes for major modification of a permit, but not revocation and reissuance of permits, except when the permittee requests or agrees:

- *Alterations.* There are material and substantial alterations or additions to the permitted facility or activity that occurred after permit issuance, which justify permit conditions that are different or absent in the existing permit[188].
- *New Information.* New information is received that was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and would have justified the application of different permit conditions at the time of permit issuance including[189]:
  - Development and EPA approval of TMDLs which include WLAs for a permitted facility and approved DEQ-approved water quality trading plans associated with EPA approved TMDLs;
  - For IPDES general permits[190] this cause includes any information indicating that cumulative effects on the environment are unacceptable[191]; and
  - For a new source or new discharge IPDES permit[192] , this cause may include any significant information derived from effluent testing required by the permit[193].
- *New Regulations.* The standards or regulations on which the permit was based have been changed: 1) by promulgation of amended standards or regulations, or 2) by judicial decision after the permit was issued. Permits may be modified during their terms for this cause only as follows[194]:
  - For promulgation of amended standards or regulations, when:
    - The permit condition requested to be modified was based on a promulgated ELG, EPA approved or promulgated water quality standards, or the Secondary Treatment Regulations under 40 CFR Part 133;
    - EPA has revised, withdrawn, or modified that portion of the regulation or ELG on which the permit condition was based, or has approved a DEQ action with regard to a water quality standard on which the permit condition was based; and
    - A permittee requests modification in accordance with IPDES rules[195] within 90 days after notice of the action on which the request is based; and

  - For judicial decisions, a court of competent jurisdiction has remanded and stayed EPA or Idaho promulgated regulations or effluent limitation guidelines, if the remand and stay concerns that portion of the regulations or guidelines on which the permit condition was based and a request is filed by the permittee in accordance with IPDES rules[196] within 90 days of judicial remand.
- *Compliance Schedules*. Permits may be modified to adjust compliance schedule tasks or interim requirements. However, in no case may an IPDES compliance schedule be modified to extend beyond an applicable CWA statutory deadline. Circumstances where compliance schedules may be changed through a permit modification include:
  - When DEQ determines good cause exists for modification of a compliance schedule over which the permittee has little or no control and there is no reasonably available remedy[197];
  - To modify a schedule of compliance to reflect the time lost during construction of an innovative or alternative facility, in the case of a POTW which has received a loan under Rules for Administration of Water Pollution Control Loans.[198]
- *Request for Variance*[199]. When the permittee has filed a request for a variance under CWA §§ 301(c), 301(g), 301(i), 301(k), or 316(a), or for fundamentally different factors within the time specified in IPDES rules[200];
- *Toxics*[201]. When required to incorporate a more stringent effluent limitation for applicable CWA 307(a) toxic effluent standards or prohibitions;
- *Reopener*. When a reopener clause in the permit requires the permit to be reopened to include toxic effluent limits or Pretreatment Program requirements[202];
- *Net Limits*. Upon request of a permittee who qualifies for effluent limitations on a net basis, or when a discharger is no longer eligible for net limitations[203];
- *Pretreatment*[204]. When required to include permit conditions for development of a Pretreatment Program by a POTW;
- *Downstream State Impacts*. If DEQ fails to notify another state whose waters may be affected by a discharge from the approved state, as required by the CWA section 402(b)(3), [205];
- *Non-limited Pollutants*. When the level of discharge of any pollutant which is not limited in the permit exceeds the level which can be achieved by the technology-based treatment requirements appropriate to the permittee[206];
- *Notification Levels*. To establish a notification level as provided in IPDES rules[207];
- *Small MS4s*. To include an effluent limitation requiring implementation of minimum control measures, when[208]:
  - The permit does not include such measures based upon the determination that another entity was responsible for implementing the requirements and
  - The other entity failed to implement the measures that satisfy the requirements;
- *Technical Mistakes*. To correct technical mistakes, such as errors in calculation, or mistaken interpretations of law made in determining permit conditions[209];
- *Inability to Achieve Limits*[210]. When properly installed and maintained treatment technology fails to meet effluent limits DEQ considered appropriate at the time of permit issuance. In this case, the limits in the modified permit may reflect the level of pollutant control actually achieved, but cannot not be less stringent than required by a subsequently promulgated ELG; and

- *Incorporation of Land application or Sludge Disposal Plan Conditions*[211]. When required by a permit condition to incorporate a land application or sludge disposal plan for beneficial reuse of sewage sludge, to revise an existing land application or sludge disposal plan, or to add a land application or sludge disposal plan as required by the Wastewater Rules[212], and the IPDES rules[213].

7.1.2.2 Procedure for Major Permit Modification

DEQ may initiate a major permit modification only for causes identified above. If the permittee or another interested person wishes to have a permit modified, the request must be submitted in writing to DEQ. The written request for modification must provide facts supporting the rationale for the request[214]. DEQ may proceed with the modification as requested, or deny the request. If the request in denied, DEQ prepares a written response and sends it to the requester identifying the rationale for not modifying the permit. DEQ may request that the permittee submit a new application with all pertinent updated information. When DEQ proceeds with a major modification of a permit, the permittee(s) is informed of expected changes to the permit and the timeline for modification.

For any permit modification not processed as a minor modification, DEQ must prepare a draft permit and fact sheet documenting rationale for changes to the permit and allow a public review period[215]. Only conditions proposed for modification are eligible for public comment and appeal. All other aspects of the permit remain in effect while the permit is being modified[216] and the permit expiration date is not eligible for modification. The public review period for a permit modification and the process to issue the modified permit are the same as specified for individual or general permits in Section 5.3 through 5.5 and Section 6.5 to 6.8.

7.1.3 Permit Modification Fees

All minor or major permits modifications will not be assessed any additional fees beyond the required application or annual fee payments, which must be current (Section 3.3, IPDES Fee Schedule).

7.2 Permit Revocation and Reissuance[217]

7.2.1 Applicability

Revoking and reissuing a permit follows a similar process to generating a new permit. The reasons for revoking and reissuing a permit include those listed in section 7.1.2.1, when the permittee requests or agrees, and the following reasons[218]:

- DEQ determines that justification for permit termination exists, but substantive permit modifications are more appropriate;
- DEQ receives a request for permit modification but the extend or impact of the modification warrants revoking and reissuing the permit, or
- DEQ has received notification of a proposed transfer[219] of a permit.

When justification for permit termination exists, including noncompliance with permit conditions, but the necessity for the facility to discharge outweighs terminating the permit[220],

DEQ may revoke and reissue the permit. An example of this type of situation may include a small POTW that has had operating problems resulting in permit noncompliance. DEQ would be likely to revoke and reissue the permit which would contain additional or more restrictive permit conditions, such as new compliance schedules, in order to protect human health and the environment, or ensure the operator's ability to operate and maintain the facility. If revoking and reissuing the permit was due to permit noncompliance, then enforcement action, accompanied by appropriate penalties, may be imposed on the operator.

During the period when the reissued permit is being developed, the facility would be required to comply with the existing permit's conditions. In this situation DEQ oversight will be increased, which may include more frequent inspections, increased monitoring and reporting, or periodic technical assistance depending on the facility's needs.

Revoking and reissuing a general permit, while possible, is very improbable. Instead, if a facility or activity has coverage under a general permit and does not comply with the permit conditions, that facility's or activity's coverage may be terminated and the discharger directed to submit an application for an individual permit.

7.2.2 Procedure for Permit Revocation and Reissuance

If the permittee, or another interested person, believes a permit should be revoked and reissued, they must submit their request to DEQ in writing. The request must provide facts supporting the rationale for the request[221]. DEQ may proceed with revoking and reissuing the permit as requested, or deny the request. If DEQ decides to revoke and reissue the permit, the permittee will be required to submit a new application.

When a permit is revoked and reissued, the entire permit is reopened as if the permit has expired and is being reissued. The permittee must comply with all conditions of the existing permit until it is replaced with a reissued permit[222].

DEQ prepares a draft permit, incorporating the proposed changes,[223] and a fact sheet documenting rationale for changes to the permit. The new draft permit and fact sheet are subject to the same public participation and approval process described previously in Sections 5 and 6. A reissued permit will have a new termination date with the permit duration limited to five years.

7.2.3 Permit Revocation and Reissuance Fees

Revoking and reissuing a permit may be assessed fees. DEQ notifies the permittee and requires submission of a new application and payment of any applicable fees, which will be assessed for reissuing the permit (Section 3.3). Individual permits do not have application fees, but the new permittee will be assessed an annual fee which is prorated based on months of permit coverage. DEQ will mail the annual fee assessment on or before July 1st of each year. The annual fee must be paid by October 1st.

7.3 Transfer of IPDES Permits

7.3.1 Applicability

Permit transfers may be accomplished in one of four ways; the method chosen to transfer the permit will depend upon multiple factors, including the new owner's or operator's past compliance with discharge permits issued in other states, or by EPA if:

- The permitted facility or activity is simple and an owner is transferring operation to a new operator, a minor modification may be warranted.
- The owner is contracting a new operator to run a more complex facility or activity, a major modification may be appropriate.
- A facility or activity is being sold to a new owner, who may or may not operate the facility or activity, the permit may need to be revoked and reissued.
- A contractual transfer between permittees called an automatic transfer.

7.3.2 Procedure for Permit Transfer

The process for minor or major permit modifications and permit revocation and reissuance are outlined in sections 7.1 and 7.2. Another kind of transfer, the automatic transfer, requires that the parties prepare a written agreement between the existing permittee and the new permittee. This agreement must contain the specific date of transfer of permit responsibility, coverage, and liability between the current and new permittee. The agreement must be provided to DEQ at least 30 days prior to the date of permit transfer. During these 30 days DEQ will investigate the new permittee; specifically looking into the new permittee's operating history, level of experience, and licensure of the associated Responsible Charge Operators (RCO) and Substitute Responsible Charge Operators (SRCO) if the facility requires RCOs and SRCOs. If DEQ does not notify the permittee that the permit will be modified, or revoked and reissued, then the transfer occurs automatically as stipulated in the agreement. An automatic transfer will be effective on the date specified in the written agreement between the original and new permittees.

Most general permits address facilities or activities that are not conducive to permit transfer. A discharging facility or activity covered under a general permit may be sold, but the general permit coverage would likely be terminated, and the new owner directed to submit the appropriate NOI. Alternatively, if an industrial facility was being sold and had both an individual permit (e.g. discharge) and coverage under a general permit (e.g. MSGP), DEQ may consider transferring the general coverage concurrently with the individual permit transfer. These permit transfer incidences will be assessed on a case-by-case basis. Additional information on permit transfers will be presented in Volume 2 of the Users' Guide.

7.3.3 Fees for Permit Transfers

Fees for permit transfers may not be applicable since individual permits are assessed on an annual basis, without an application fee. If permit transfer occurs through a minor or major modification, no fee will be assessed as long as the permit required application or annual fee payments are up to date.

If the permit transfer requires the permit be revoked and reissued, the appropriate application fee will be assessed for reissuing the permit. Individual permits do not have application fees, but the

new permittee will be assessed an annual fee and DEQ will mail the annual fee assessment on or before July 1st of each year. The annual fee must be paid by October 1st.

If the permit transfer occurs through an automatic permit transfer, and DEQ does not interfere, DEQ will not assess an application fee, and if the permit is an individual permit, DEQ will assess the fee and expect payment from the new permittee by October 1st as if the permit transfer had not occurred. DEQ will not intrude in any contractual fee transfers between the permittees involved in an automatic transfer.

7.4 Termination of Permits and Coverage under a General Permit

7.4.1 Applicability

DEQ's decision to terminate a permit may be at the request of any interested person (including the permittee) or upon DEQ's own initiative. All permit termination requests must be submitted to DEQ in writing and must clearly state the facts supporting and the rationale for the request[224]. An existing permit may only be terminated for the following reasons[225]:

- The permittee does not comply with all conditions of the permit;
- The permittee fails to fully disclose relevant information in the application or misrepresents the information;
- The discharge endangers human health or the environment and can only be controlled by permit termination; or
- A change in any condition that requires either a temporary or permanent reduction or elimination of any discharge (e.g., project completion, plant closure, termination of the surface water discharge).

DEQ's decision to terminate coverage under a general permit may also be at the request of any interested person (including the permittee) or upon DEQ's own initiative. All general permit coverage termination requests must be submitted to DEQ in writing and they must clearly state the facts or reasons supporting the request. The reasons listed above are equally valid for termination of coverage under a general permit.

Typically, an individual permit or coverage under a general permit is terminated upon request of the permittee due to the completion of a project resulting in the cessation of the discharge to surface waters. This may mean the permitted facility or activity has connected to a permitted municipal wastewater collection and treatment system, the facility or activity has obtained an alternate permit for discharge to a subsurface drainfield or injection well, or to the land surface under a reuse permit, or the facility or activity is closing or ending and the discharge will no longer be generated. If DEQ decides that the permit or coverage under a general permit should be terminated, DEQ will generate an NOT. Requests for termination of a general permit will be evaluated, and DEQ will provide a response to the party submitting the request.

7.4.2 Process and Timeline for Permit Termination

If the permit or coverage under a general permit termination is initiated by DEQ, DEQ will prepare an NOI to terminate describing DEQ's rationale. An NOI to terminate is a type of decision that follows the same procedures as any draft permit. The notice will be sent to the

permittee, EPA, and anyone else upon request. The notice will be available for public comment and, depending on the reasons for termination and public interest, a public meeting may be held. DEQ will respond to comments received and issue a final decision after the public comment period ends. If the decision is to terminate the permit, termination will be effective 28 days after publishing the final decision, unless a later date is specified in the permit decision.

If the final decision is to not terminate a permit, then DEQ will document its decision and send a copy to the permittee, EPA, anyone who commented during the public review period, and anyone else upon request. The final decision will be posted on DEQ's web page.

An expedited process for terminating a permit may be used if the discharge is permanently eliminated (e.g. facility connects to a POTW's collection system, eliminates discharge to surface water, or the facility closes or activity ends). In this case DEQ will provide termination by notice which will be effective 30 days after the termination notice is sent, unless the permittee objects within that time. If the permittee objects to the termination, then DEQ will follow the procedures for termination of a permit stated above.

Expedited permit termination procedures are not available to permittees that secure an alternative method of disposing of the facility's or activity's water borne waste, such as authorization to land apply the waste, or to discharge the wastes into an injection well or drainfield. Additionally, expedited permit termination is not available to permittees subject to pending state and/or federal enforcement actions including citizen suits brought under federal law.

7.4.3 Permit Termination Fees

There are no fees associated with permit termination.

7.4.4 Consequences of Permit Termination

There are possible consequences of either submitting a permit termination request or allowing the facility's or activity's permit to lapse. For example, if an application or NOI is submitted after a previously-issued individual permit or coverage under a general permit was terminated or allowed to lapse, the facility or activity may be subject to reclassification as a new source or new discharger.

If the facility wishes to discharge in the future and they are considered a new source, the discharge is subject to any applicable new source performance standards (NSPS). More information about NSPS can be found in Section 2.2, 5.1.2.1, 6.4.3.1, and Volume 2.

The discharge is also subject to an antidegradation review in order to determine whether the effluent can be discharged to the receiving water body, even if the facility or activity has discharged to the water body in the past. The classification of the receiving water will impact the level of protection (tier) the water body receives under the antidegradation policy[226]. The level of effort required of an applicant seeking a new permit, after a previously terminated permit, depends on whether the receiving water body is considered high quality (Tier II) or an outstanding resource water (ORW, which is Tier III). Receiving water body tiers are described in Section 5.1.2.2 and 6.4.3.2. Implementation of the antidegradation policy for a water body that receives Tier II protection includes an Alternatives Analysis (AA), a Socio-Economic Justification (SEJ), and other source control assessments in the watershed. DEQ will assess other

source controls and evaluate the efficacy of BMPs implemented in the watershed to determine whether the discharge can be allowed. Tier III protection for a water body maintains and protects water quality in an ORW. In Idaho, designation as an ORW requires legislative action. There are currently no ORWs in Idaho. Additional information regarding antidegradation implementation may be found in the WQS[227] and *Idaho Antidegradation Implementation Procedures* (2016 draft) guidance.

Additional risks associated with permit termination may include the loss of a wasteload allocation (WLA) granted to the facility or activity in the receiving water's TMDL. There are no guarantees that the WLA will be available at a future time when a permit is sought. A WLA may have been returned to the reserve for growth and still available to the proposed discharge; however, the WLA may have been re-allocated to another discharge, retired, or otherwise unavailable. There may also be the opportunity for the proposed discharge to find water quality trading credits in the watershed that are obtained by nonpoint sources upstream from the proposed discharge location.

Additionally, if a proposed discharger seeks a new permit after a permit termination, the operator for a proposed discharge will submit an individual permit application, or an NOI for coverage under a general permit, with the associated application and annual fees. Finally, since a discharge cannot commence prior to receiving an authorizing permit, the facility or activity may be significantly delayed by the required permit development and public comment process.

8 Variances, Waivers, and Intake Credits

The IPDES rules, CWA, and federal regulations provide limited mechanisms allowing DEQ to modify or waive the generally applicable effluent limitation requirements or time deadlines of the CWA for an IPDES-permitted discharger. These mechanisms are referred to as *variances* and *waivers*.

Alternatively, some dischargers might be unable to comply with TBELs or WQBELs because of pollutants in their intake water. Under certain circumstances, the IPDES regulations allow credit for pollutants in intake water, called *intake credits* (or pollutant credits for intake water).

Variances, waivers, and intake credits provide unique exceptions to a particular effluent requirement, WQS, monitoring, or reporting requirement. DEQ does not expect to routinely receive such requests. Nevertheless, this section addresses the major types of variances, waivers, and intake credits, and the basic requirements for each.

In the permit fact sheet, DEQ will explain the reasons for any decision on requested variances or alternatives to required standards.

Initial requests for variances and waivers must identify the:

- Name of the discharger;
- Permit number;
- Outfall(s);
- Applicable effluent guideline, IDAPA reference, or CFR reference allowing the variance, waiver, or intake credit; and

- The specific issue and pollutant for which the variance, waiver, or intake credit would be applied, and the reasoning that supports the request.

An IPDES permit applicant must meet very specific data and application deadline requirements before a variance, waiver, or intake credit may be granted (Table 5). The terms and conditions for the implementation of approved variances, waivers, or intake credits will be specified in each permit. There is no additional fee for a request outside of the appropriate application or annual fees (Section 3.3).

Table 5. Available variances and waivers for IPDES permits. Dischargers must submit all variance and waiver requests to DEQ.

Variance Type	Eligible	CWA	Regulation	Application Deadline[a]	Granting Authority[b]
Economic	Non-POTWs	301(c)	IDAPA 58.01.25.310 40 CFR 122.21(m)	Initial request to DEQ ≤ 270 days after promulgation of effluent limitation guideline. A completed request by close of the draft permit comment period.	EPA – DEQ may forward request to EPA with written concurrence
Nonconventional Pollutant	Non-POTWs	301(g)	IDAPA 58.01.25.310 40 CFR 122.21(m)	Initial request to DEQ ≤ 270 days after promulgation of effluent limitation guideline. A completed request by close of the draft permit comment period.	EPA – DEQ may forward request to EPA with written concurrence
Fundamentally Different Factors (FDF)	Non-POTWs	301(n)	IDAPA 58.01.25.310 40 CFR 125.30—32	A request from BPT – by the close of the public comment period. A request from BAT or BCT – by no later than 180 days after an effluent limitation guideline is published in the Federal Register.	EPA – DEQ may forward request to EPA with written concurrence
Thermal Discharge	All	316(a)	IDAPA 58.01.25.310 40 CFR 125.70—73	With a permit application if based on an effluent guideline. By close of the draft permit comment period if based on a WQBEL.	DEQ
Water Quality Standards	All	n/a	IDAPA 58.01.02.260 40 CFR 131.10(g)(1)-(6)	With a permit application (not specified in rules, necessary to ensure timely permit issuance).	DEQ
Waivers	All	n/a	IDAPA 58.01.25.105 IDAPA 58.01.25.106 IDAPA 58.01.25.302.03	With a permit application.	
Intake Credits	All	n/a	IDAPA 58.01.25.303.07	By close of the draft permit comment period	DEQ

[a] Permittees are advised to contact DEQ one year in advance if considering applying for a variance. The 180 day requirement to submit a complete application for a new permit or permit renewal may not be sufficient to also complete a variance and receive EPA approval.

[b] Any approved variance, waiver, or intake credit is effective for up to five years or the life of the IPDES permit. After five years or the permit expiration, the discharger must meet the standard or must re-apply for the variance, waiver, or intake credit. In considering a re-application, DEQ requires the discharger to demonstrate reasonable progress toward meeting the standard. DEQ's decisions may be appealed to the Board of Environmental Quality[228] (Section 11).

8.1 Variances Applicable to Non-POTWs

8.1.1 Economic—CWA Section 301(c)

CWA section 301(c), state, and federal regulations may allow dischargers an economic variance for nonconventional pollutants from BAT effluent guidelines if they can show that the modified requirement will[229]:

- Represent the maximum use of technology within the economic capability of the owner or operator; and
- Result in reasonable further progress toward the elimination of the discharge of pollutants.

This effluent limit modification based on a discharger's economic inability to comply is restricted to BAT limitations. The cost tests for evaluating this variance request are the same as given in the BPJ permitting for BAT. The applicant must pass these cost tests and, in addition, show compliance with BPT limitations and water quality standards.

Requests for a CWA 301(c) variance must be submitted by an initial request to DEQ no later than 270 days after promulgation of the applicable ELG, followed by a completed request no later than the close of the public comment period for the draft permit. DEQ will review the variance request to ensure that it complies with the requirements, and may forward the request to EPA with a written concurrence.

If a discharger wants both a 301(g) variance and a 301(c) variance, the requests must be submitted and considered together.

8.1.2 Nonconventional Pollutant—CWA Section 301(g)

CWA section 301(g), state, and federal regulations may allow dischargers a variance from new or revised BAT effluent guidelines for certain nonconventional pollutants because of local environmental factors[230]. To be eligible for this variance, the discharger must demonstrate that:

- It is meeting BPT;
- The discharge does not prevent attainment of water quality standards; and
- The discharge would not result in additional requirements on other point or nonpoint sources.

The pollutants eligible for this variance are restricted to: ammonia, chlorine, color, iron, and phenols (as measured by the colorimetric 4-aminoantipyrine [4AAP] method).

In addition to meeting the application deadline, the discharger must submit a variance application to DEQ that meets the following requirements:

- Modified limits must result in compliance with BPT and WQS of the receiving water body.
- No additional treatment will be required of other point or nonpoint source dischargers as a result of the variance approval.

- The modified requirements will not interfere with attainment or maintenance of water quality to protect public water supplies, or with protection and propagation of a balanced population of shellfish, fish, and wildfowl, and will allow recreational activities in and on the water.
- The modified requirements will not result in quantities of pollutants that can reasonably be anticipated to pose an unacceptable risk to human health or the environment, cause acute or chronic toxicity, or promote synergistic properties.

Requests for a CWA 301(g) variance must be submitted by an initial request to DEQ no later than 270 days after promulgation of the applicable ELG, followed by a completed request no later than the close of the public comment period for the draft permit. DEQ will review the variance request to ensure that it complies with the requirements, and may forward the request to EPA with a written concurrence.

This variance request can involve a great deal of water quality assessment, including aquatic toxicity, mixing zones and dilution model analysis, and possible site-specific criterion development. In addition, this variance request requires the discharger to perform water quality monitoring for toxicity, human health effects and dilution. Therefore, DEQ may need to assess many complex human health effects, including carcinogenicity, teratogenicity, mutagenicity, bioaccumulation, and synergistic propensities. Existing guidance includes EPA's *Draft Technical Guidance Manual for the Regulations Promulgated Pursuant to Section 301(g) of the Clean Water Act of 1977 40 CFR Part 125 (Subpart F)*(EPA 1984c).

If a discharger wants both a 301(g) variance and a 301(c) variance, the requests must be submitted and considered together.

8.1.3 Fundamentally Different Factors—CWA Section 301(n)

CWA section 301(n), state, and federal regulations provide for a variance from the otherwise applicable requirements in effluent guidelines, known as a *fundamentally different factors* (FDF) variance. New sources subject to NSPS are not eligible for an FDF variance.

Federal regulations authorize the EPA to establish alternative limitations and standards and criteria used to evaluate FDF variance requests for direct dischargers[231]. The conditions for approval of a request to modify applicable pretreatment standards and factors considered are the same as those for direct dischargers. Six factors are considered in determining if a facility is fundamentally different:

- Nature or quality of pollutants contained in the raw process wastewater.
- Volume of the process wastewater and effluent discharged.
- Non-water quality environmental impact of control and treatment of the raw wasteload.
- Energy requirements of the application of control and treatment technology.
- Age, size, land availability, and configuration of discharger's equipment or facilities, as well as processes employed, process changes, and engineering aspects of the application of control technology.
- Cost of compliance with required control technology.

The burden is on the applicant to show that the factors relating to the discharge controlled by the permit, which are claimed to be fundamentally different, are in fact, fundamentally different from those factors considered by the EPA in establishing the applicable effluent guidelines.

Applicants must submit all FDF variance applications to DEQ no later than 180 days from the date the limitations or standards are published in the FR[232]. DEQ will review the variance request to ensure that it complies with the requirements, and may forward the request to EPA with a written concurrence. EPA may authorize this type of variance if an individual facility is fundamentally different with respect to factors considered in establishing the limitations or standards otherwise applicable to that facility's industrial category.

DEQ must determine whether, on the basis of one or more of those six factors, the applicant is fundamentally different from the facilities and factors considered by EPA in developing the nationally applicable effluent guidelines.

There are four factors that may not provide a basis for an FDF variance:

- Infeasibility of installation within the time allowed by the CWA.
- Assertion that the national limitations cannot be achieved with the appropriate waste treatment facilities installed (if the assertion is not based on one or more of the six FDF factors above).
- A discharger's ability to pay for the required water treatment.
- The impact of a discharge on local receiving water quality.

In addition, a request for limitations less stringent than the national limitation may be approved only if compliance with the national limitations would result in either of the following:

- Removal cost wholly out of proportion to the removal cost considered during development of the national limitations; or
- Non-water quality environmental impact (including energy requirements) fundamentally more adverse than the impact considered during development of the national limitations.

8.2 Variances Applicable to POTWs and Non-POTWs

8.2.1 Thermal Discharge—CWA Section 316(a) Variance[233]

CWA section 316(a), state, and federal regulations provide for variances from thermal effluent limitations in NPDES permits (EPA 2008)[234]. Most thermal limitations are based on WQS, so thermal variances must be consistent with applicable WQS[235] and are not actually true technology-based variances.

Alternative thermal effluent limitations may be included in permits if the discharger demonstrates that effluent limitations are more stringent than necessary to assure the protection and propagation of a balanced, indigenous community of shellfish, fish and wildlife in and on the water body into which the discharge is made. This must take into account the cumulative impact of its thermal discharge together with all other significant impacts on the species affected.

Dischargers must submit, to DEQ, a request for a thermal discharge variance with its permit application if the thermal effluent limitation is based on an effluent guideline, or during the permit comment period if the thermal effluent limitation is based on a WQBEL[236].

Regulations contain specific public notice requirements for permits requesting a 316(a) thermal variance[237]. Public notice requirements for permits requesting a 316(a) thermal variance must contain the following elements:

1. A statement that the thermal component of the discharge is subject to effluent limitations under CWA sections 301 or 306 and a brief description, including a quantitative statement, of the thermal effluent limitations proposed under CWA sections 301 or 306, and
2. A statement that a CWA section 316(a) request has been filed and that alternative less stringent effluent limitations may be imposed on the thermal component of the discharge and a brief description, including a quantitative statement, of the alternative effluent limitations included in the request, if any.

EPA has only promulgated thermal limitations in effluent guidelines for two industrial sectors: Beet Sugar Processing Subcategory of the Sugar Processing Point Source Category, and the Cement Manufacturing Point Source Category. The majority of thermal variance requests are from power plants seeking relief from water-quality based effluent limitations.

8.2.2 Water Quality Standards Variances[238]

Water quality standard variances have similar substantive and procedural requirements as those required to remove a designated use. Unlike use removal, water quality variances are time-limited and do not permanently remove the current designated use of a water body. A variance might be appropriate where DEQ identifies that existing water quality standards are attainable, even if not currently met, and that retaining the standards rather than changing them, would further improve the water quality and progress toward attaining the designated uses.

Idaho's water quality variances are discharger and pollutant specific, and may be granted under specific procedures. Prior to granting a variance, the DEQ publishes notice of the tentative determination to grant a variance, including a clear description of the impacts of the variance upon the receiving water body, along with minimum 30 day written comment period (and oral comment period, if applicable).

To be eligible for a variance, the discharger must submit, to DEQ, documentation that treatment more advanced than required by TBELs have been considered and that alternative effluent control strategies have been evaluated. In order to obtain a variance, the discharger must demonstrate that meeting the standard is unattainable based on one or more of the following:

- Naturally occurring pollutant concentrations prevent the attainment of the standard;
- Natural, intermittent, or low flow conditions or water levels prevent the attainment of the standard;
- Human caused conditions or sources of pollution prevent the attainment of the standard and cannot be remedied or would cause more environmental damage to correct than to leave in place;

- Dams, diversions or other types of hydrologic modifications preclude the attainment of the standard, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in attainment of the standard;
- Physical conditions related to the natural features of the water body, unrelated to water quality, preclude attainment of the standard; or
- Controls more stringent than TBELs would result in substantial and widespread economic and social impact.

8.2.3 Economic Guidance for Water Quality Standards

EPA has developed *Interim Economic Guidance for Water Quality Standards* (EPA 1995). The guidance is presented to assist states in understanding the economic factors that may be used, and provides a framework for determining whether:

- A designated use cannot be attained;
- A variance for an individual discharger should be granted; or
- Degradation of high-quality water is warranted.

In making such evaluations, it is also important to recognize that under Idaho WQS:

- Revising a designated use or obtaining a variance from WQS requires the discharger to demonstrate that meeting the standard would result in substantial and widespread economic and social impacts[239], and

DEQ may allow significant degradation of surface water quality only if it is determined to be necessary to accommodate important economic or social development[240].

Integrated Planning

EPA has also developed guidance to address integrated planning and financial capability for municipalities to meet multiple CWA permitting obligations (Conference of Mayors et al., 2013, EPA 2011, EPA 2012a, EPA 2013, and EPA 2014a) (Section 3.2.3.1 and Table 2).

8.3 Waivers

8.3.1 Monitoring, Testing, and Reporting Waivers

DEQ may waive some monitoring, testing, and reporting requirements for industrial permits (including new sources or new dischargers), if the applicant requests a waiver with the permit application or earlier. The applicant must also demonstrate that the information can be obtained through less stringent requirements[241].

DEQ may also waive some application requirements for POTWs and TWTDS (sewage sludge) facilities if DEQ has access to substantially identical information, or if the information is not of material concern for a specific permit. DEQ must submit a waiver request, including DEQ's justification for the waiver, to EPA for approval. EPA's disapproval of a proposed waiver does not constitute final agency action, but does provide notice that EPA may object to an IPDES-permit issued that does not have the required information[242].

DEQ will not consider a permit application to be complete if DEQ has waived any application requirements but EPA disapproved DEQ's granting of the waiver[243]. However**,** if an applicant required to reapply for a permit submits a waiver request to DEQ more than 210 days before the existing permit expires, and EPA does not disapprove the waiver request at least 181 days before the permit expires, DEQ will consider the permit application to be complete[244].

Approved waivers are typically discharger and sector specific, although some waivers may be applicable to multiple dischargers covered under a general permit (e.g. low erosivity waivers and certificates of no exposure). These sector- and permit-specific waivers will be discussed in Volume 2).

8.3.2 Technology-Based Effluent Limitation Waivers[245]

DEQ may authorize a discharger in an IPDES permit, subject to TBEL guidelines and standards, to forego sampling of certain pollutants. However, the discharger must have demonstrated through sampling and other technical factors that:

- The pollutant is not present in the discharge or
- Is present only at background levels from intake water and without any increase in the pollutant due to activities of the discharger.

This waiver is good only for the term of the permit and is not available during the term of the first NPDES or IPDES permit issued to a discharger.

An applicant must submit a request for this waiver when applying for a reissued permit or modification of a reissued permit. If DEQ grants this monitoring waiver, it will be included in the permit as an express permit condition and the reasons supporting the waiver will be documented in the permit's fact sheet.

8.4 Intake Credits[246]

Some facilities might be unable to comply with effluent guidelines because of pollutants in their intake water. Under certain circumstances, the IPDES permits allow credit for pollutants in intake water.

Intake credits have a narrower applicability than variances. Determinations for intake credits will be made on a pollutant-by-pollutant and outfall-by-outfall basis. Effluent limitations 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. This can be established if:

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

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.

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

Applicants must submit a request for intake credits to DEQ by the close of the public comment period of the draft permit.

8.4.1 Intake Credits for TBELs[247]

The discharger may request that TBELs be adjusted to reflect intake pollutant credits if:

- The applicable effluent limitations and standards[248] are applied on a net basis; or
- The discharger demonstrates that the properly installed and operated control system it proposes or uses would meet the limitations and standards in the absence of pollutants in the intake waters.

The following are requirements for establishing TBELs that incorporate intake pollutant credits:

- Credits for conventional pollutants, such as BOD or TSS, are available when the permittee demonstrates that the constituents in the effluent are substantially similar to those in the intake water (unless appropriate additional limits are placed on process water pollutants at the outfall or elsewhere);
- Credit can be granted to allow the permittee to meet the applicable limitation or standard, up to a maximum value equal to the influent concentration;
- Additional monitoring may be necessary to determine eligibility for credits and compliance with permit limits;
- Credit can be granted only if the discharger demonstrates that the intake water is drawn from the same body of water into which the discharge is made. DEQ may waive this requirement if they determine that no environmental degradation will result;
- Intake pollutant credits do not apply to the discharge of raw water clarifier sludge generated from the treatment of intake water.

8.4.2 Intake Credits for WQBELs[249]

If an RPTE exists, then DEQ may establish WQBELs that reflect intake credit for pollutants as long as the discharge would not cause greater impacts than if the intake water had not been removed from the water body, and where a discharger demonstrates that the following conditions are met:

- The facility removes the intake water from the same water body that it is discharged to;
- The ambient background concentration of the pollutant does not meet the most stringent applicable water quality criterion for that pollutant;
- The facility does not alter the intake pollutant chemically or physically in a manner that would cause adverse water quality impacts to occur that would not happen if the pollutants had been left in the water body;

- The timing and location of the discharge would not cause adverse water quality impacts;
- The pollutant concentration at the point of discharge does not increase compared to the intake water concentration;
- A discharger may add mass of the pollutant to its waste stream if an equal or greater mass is removed prior to discharge, so there is no net addition of the pollutant in the discharge compared to the intake water.

Where intake water for a facility is provided by a municipal water supply system, and the supplier provides treatment of the raw water that removes an intake water pollutant, the concentration of the intake water pollutant will be determined at the point where the water enters the water supplier's distribution system.

Where a facility discharges intake pollutants from multiple sources that originate from the receiving water body and from other water bodies, DEQ may derive an effluent limit reflecting the flow-weighted amount of each pollutant source provided that conditions are met and adequate monitoring to determine compliance can be established and is included in the permit.

The permit specifies how compliance with mass and concentration-based limitations for the intake water pollutant will be assessed. This may be accomplished by setting the effluent limitation based on background concentration data. Alternatively, DEQ may determine compliance by monitoring the pollutant concentrations in the intake water and in the effluent. This monitoring may be supplemented by monitoring internal waste streams or by DEQ evaluation of implemented best management practices.

Effluent limitations developed using pollutant intake credits will be established to comply with all other applicable state and federal laws and regulations including technology-based requirements and anti-degradation policies.

When determining whether WQBELs are necessary, information from chemical-specific, whole effluent toxicity and biological assessments will be considered independently.

9 Compliance and Inspection

10 Enforcement

11 Appeals Process

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Glossary

Appendix A. 2016 NPDES Permits in Idaho

These illustrate EPA-issued NPDES permits in Idaho that are effective or administratively continued, as of January 2016. These numbers and examples presented in the appendix are subject to change.

Table A-1. 2016 NPDES permits in Idaho.

Sector	NPDES Permits	Examples	Notes
		Municipal	
POTWs[1]	116	City of Aberdeen, City of Blackfoot, City of Boise, City of Caldwell, City of Deary, City of Fairfield	This includes domestic sewage treatment works that may not be publicly owned, but essentially function as POTWs (e.g., Elk Valley Subdivision, The Meadows LLC, Jug Mountain Ranch LLC, and Avimor (2015 draft permit) (EPA 2016a).
Pretreatment	12	City of Boise, City of Coeur d'Alene, City of Nampa, City of Pocatello, City of Twin Falls	POTWs with EPA-approved pretreatment programs. These facilities treat indirect industrial, manufacturing, and commercial discharges (EPA 2016a).
Sewage Sludge	222 generators		DEQ estimates that there are approximately 222 generators of sewage sludge in Idaho (Tressa Nicholas, pers. comm., 2016). Of these sewage sludge generators, 118 facilities operate under NPDES permits to discharge to waters of the U.S. There are 80 additional facilities that operate only under active DEQ reuse permits, and do not discharge to waters of the U.S. (there are 25 facilities with both NPDES and DEQ reuse permits). There are 24 facilities that generate sewage sludge, but do not have NPDES or DEQ reuse permits (e.g., generate sewage sludge and send to landfills or other treatment and disposal options). Finally, in addition to the generators, there are 3 facilities that process, but do not generate sewage sludge.
	118 NPDES permits	NPDES permitted facilities – Worley, Kendrick, Star.	
	24 non-NPDES	Non-permitted facilities – Firth, Blaine County, Ahsahka.	
	3 process-only facilities	Process-only facilities – Selle Soils Solutions, Latah Sanitation, Inc., Alvin Allen.	
CSSs[2]	0	Sandpoint, Glens Ferry	Although some relic CSSs exist in Idaho there are no known CSOs[3].
SSOs[4]	Not permitted	8 SSO events were reported in 2015, with 3 of those events reaching surface waters.	SSOs are a prohibited discharge under the CWA, with strict associated liability.
MS4s[5]	16	Post Falls MS4, Pocatello, Chubbuck, Bannock County, and Idaho Transportation Department District #5 MS4, Middleton MS4	There is 1 NPDES-permitted Phase I MS4 and 15 Phase II MS4s in Idaho (EPA 2016a). EPA is drafting a general permit for all MS4s, statewide, anticipating spring 2016 publication in the Federal Register.
		Non-Municipal	
Industrial, Commercial, Manufacturing	40	Bennett Timber Products Inc., Clearwater Paper, Independent Meat Co., McCain Foods USA	These permits Include industrial, commercial, and manufacturing facilities discharging process and non-process wastewater (EPA 2016a).
MSGP[6]	Approx. 267	LKQ Corporation, ABM Mining Corporation, Amalgamated Sugar Company LLC, Western Stockmen	EPA estimates that 267 facilities were covered by the 2008 MSGP when it expired (effective 2008 – 2013). 180 facilities have filed NOIs for the 2015 MSGP permit, with approximately 82 active certificates of no exposure (Margaret McCauley, pers. comm., 2016).

Sector	NPDES Permits	Examples	Notes
CGP[7]	Approx. 1209	Westmark Credit Union, Bonners Ferry Islands and Strait Reach Projects, Storall Sefl Storage	EPA estimates that in 2015, approximately 1209 facilities were covered by the CGP, including approximately 26 active low erosivity waivers (EPA 2016b, Margaret McCauley, pers. comm., 2016).
Cooling Water Intake	1 or more (Potentially)	Unknown	There are potentially one or more major industrial with cooling water intake structures where CWA section 316(b) may apply, but EPA has not confirmed (Karen Burgess, pers. comm., 2016).
CAFOs[8]	0	None	There is currently one EPA-issued general permit regulating CAFOs (EPA 2012c). Currently, no CAFOs in Idaho have applied for or received coverage under this permit. One CAFO was covered until it requested permit termination.
CAAP[9]	1	Epicenter Aquaculture	There is one EPA-issued individual permit (effective 2007 – 2012) (EPA 2007b).
CAAPs (General Permits)	78	Blind Canyon AquaRanch, Henslee Hatchery, Big Bend Trout Co., Ark Fisheries Inc.	Aquaculture Facilities in Idaho Subject to WLAs under Selected TMDLs (effective 2007 – 2012) (EPA 2007c; 2016a).
	10	Idaho Department of Fish and Game, U.S. Fish and Wildlife Service	Cold Water Aquaculture Facilities in Idaho, not subject to WLAs (effective 2007 – 2012) (EPA 2007d, 2016a);
	3	Clear Springs Foods, Hagerman Valley Investments, SEAPAC of Idaho	Fish Processors Associated with Aquaculture Facilities in Idaho (effective 2007 – 2012) (EPA 2007e, 2016a).
GWRGP[10]	6	McCall Oil and Chemical Corporation, Boise State University, Idaho Falls Pole Yard, Boise Towne Square Mall, Westgate Shopping Center, North Five Mile Road	Seven facilities received an EPA administrative extension of coverage under the expired 2007 GWRGP (effective 2007 – 2012). The 2014 reissuance of this general permit replaced the 2007 permit (EPA 2014c), and five of these facilities received coverage. However, Atlanta Gold Corporation of America Inc. and Kinross Delamar Mining Company remain covered under the 2007 permit, which remains administratively extended for the mining facilities. EPA intends to issue a separate general permit covering discharges from these mines. In addition, EPA authorized coverage for BSU under the 2014 general permit.
Small Suction Dredge Mining	75 locations	Grimes Creek, Mores Creek, Elk Creek, and their tributaries	In 2013, EPA issued the small suction dredge general permit (effective 2013 – 2018). For this general permit, a single application or NOI may have 1 or more location(s) listed. Grimes Creek, Mores Creek, Elk Creek, and their tributaries are permitted annually; as a result, the yearly tallies often include repeat permittees for these select waters. All other open waters can be permitted up to 5 years (2013-2018), depending on when an applicant applies. In 2015, a total of 56 people applied for permit coverage, and EPA authorized 75 requested locations (Tracy DeGering, pers. comm., 2016).

Sector	NPDES Permits	Examples	Notes
PGP[11]	Approx. 130	Idaho Department of Fish and Game, Boundary County, Avanti, Idaho Bureau of Land Management, Clean Lakes, Inc.	There is one EPA-issued general permit regulating pesticide application, nationwide. EPA estimates that approximately 35,183 facilities have received coverage under this general permit, nationwide, and 130 facilities are covered by this permit in Idaho (effective 2011 – 2016) (EPA 2016b).
VGP[12]	6	J.E. McAmis, American Construction Company Inc.	Lewiston is the only port currently listed for coverage under the VGP. Six vessels covered under this permit anticipate visits to Idaho (EPA 2016a). However, this number can change from year to year (Karen Burgess, pers. comm., 2016). DEQ's final 401Water Quality Certification for the vessel and small vessel general permits (DEQ 2012) identifies that vessels in specific Idaho counties are prohibited from discharging graywater or sewage/graywater mixtures: *Rules Prohibiting Discharges on Certain Water Bodies* Owners and operators of vessels covered by these general permits must be aware of and comply with the Panhandle Health District Rules governing discharges from vessels. The discharge of graywater or a sewage/ graywater mixture otherwise authorized under this general permit is prohibited in certain regions of the state pursuant to IDAP A 41.01.01.200.01(c). Those areas include Boundary, Bonner, Kootenai, Benewah, and Shoshone counties in Northern Idaho (IDAPA 41.01.01.200.01 et seq.).

[1]POTW = Privately Owned Treatment Works; [2]CSS = Combined Sewer System; [3]CSO = Combined Sewer System; [4]SSO = Sanitary Sewer Overflow; [5]MS4 = Municipal Separate Storm Sewer System; [6]MSGP = Multi-Sector General Permit; [7]CGP = Construction General Permit; [8]CAFO = Concentrated Animal Feeding Operation; [9]CAAP = Concentrated Aquatic Animal Production; [10]GWRGP = Ground Water Remediation; [11]PGP = Pesticide General Permit; [12]VGP = Vessel General Permit

Appendix B. IPDES Permit Rating Work Sheet and Instructions

Print Form

Idaho Department of Environmental Quality — IPDES Program

NPDES/IPDES No.:

IPDES Permit Rating Worksheet

- ☐ Regular addition
- ☐ Discretionary addition
- ☐ Score change, but no status change
- ☐ Deletion

Facility Name: City:

Receiving Water: Assessment Unit:

Is this facility a steam electric power plant (SIC = 4911) with one or more of the following characteristics?
1. Power output 500 MW or greater (not using a cooling pond/lake)
2. A nuclear power plant
3. Cooling water discharge greater than 25% of the receiving stream's 7Q10 flow rate

○ Yes; score is 600 **(stop here)**
○ No (continue)

Is this permit for a municipal separate storm sewer serving a population greater than 100,000?

○ Yes; score is 700 **(stop here)**
○ No (continue)

Factor 1: Toxic Pollutant Potential

PCS SIC Code: Primary SIC Code:

Other SIC Codes:

Industrial Subcategory Code: (Code 000 if no subcategory)

Determine the toxicity potential from Appendix A. (Be sure to use the TOTAL toxicity potential column and **check one**.)

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
☐ No process waste streams	0	0	☐ 3	3	15	☐ 7	7	35
☐ 1	1	5	☐ 4	4	20	☐ 8	8	40
☐ 2	2	10	☐ 5	5	25	☐ 9	9	45
			☐ 6	6	30	☐ 10	10	50

Code Number Checked:

Total Points Factor 1:

Factor 2: Flow/Streamflow Volume (Complete either Section A or Section B; **check only one**.)

Section A - Wastewater Flow Only Considered

Wastewater Type (see instructions)			Code	Points
Type I:	Flow < 5 MGD	☐	11	0
	Flow 5-10 MGD	☐	12	10
	Flow >10 to 50 MGD	☐	13	20
	Flow >50 MGD	☐	14	30
Type II:	Flow < 1 MGD	☐	21	10
	Flow 1-5 MGD	☐	22	20
	Flow >5 to 10 MGD	☐	23	30
	Flow >10 MGD	☐	24	50
Type III:	Flow < 1 MGD	☐	31	0
	Flow 1-5 MGD	☐	32	10
	Flow >5 to 10 MGD	☐	33	20
	Flow >10 MGD	☐	34	30

Section B - Wastewater and Streamflow Considered

Wastewater Type (see instructions)	% of Instream Wastewater Concentration at Receiving Stream Low Flow		Code	Points
Type I/III:	<10%	☐	41	0
	≥10% to <50%	☐	42	10
	≥50%	☐	43	20
Type II:	<10%	☐	51	0
	≥10% to <50%	☐	52	20
	≥50%	☐	53	30

Code Number Checked:

Total Points Factor 2: 0

IPDES Permit Rating Worksheet — Page 1 of 3

Print Form

Idaho Department of Environmental Quality — IPDES Program

NPDES/IPDES No.:

Factor 3: Conventional Pollutants (only when limited by the permit)

A. Oxygen-Demanding Pollutants (check one) ◯ BOD ◯ COD ◯ TOC ◯ Other

Permit Limits (check one)	Code	Points
☐ <100 lb/day	1	0
☐ 100-1,000 lb/day	2	5
☐ >1,000 to 3,000 lb/day	3	15
☐ >3,000 lb/day	4	20

Code Number Checked:

Points Scored:

B. Total Suspended Solids

Permit Limits (check one)	Code	Points
☐ <100 lb/day	1	0
☐ 100-1,000 lb/day	2	5
☐ >1,000 to 5,000 lb/day	3	15
☐ >5,000 lb/day	4	20

Code Number Checked:

Points Scored:

C. Nitrogen Pollutants (check one) ◯ Ammonia ◯ Other:

Permit Limits (check one)	Code	Points
☐ <300 lb/day	1	0
☐ 300-1,000 lb/day	2	5
☐ >1,000 to 3,000 lb/day	3	15
☐ >3,000 lb/day	4	20

Code Number Checked:

Points Scored:

Total Points Factor 3:

Factor 4: Public Health Impact

Is there a public drinking water supply located within 50 miles downstream of the effluent discharge (this includes any body of water to which the receiving water is a tributary)? A public drinking water supply may include infiltration galleries, or other methods of conveyance that ultimately get water from the above referenced supply.

◯ Yes (if yes, check **toxicity potential number below**)

◯ No (if no, go to **Factor 5**)

Determine the human health toxicity potential from Appendix A. Use the same SIC Code and subcategory reference as in Factor 1. (Be sure to use the human health toxicity group column and **check one below**.)

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
☐ No process waste streams	0	0	☐ 3	3	0	☐ 7	7	15
☐ 1	1	0	☐ 4	4	0	☐ 8	8	20
☐ 2	2	0	☐ 5	5	5	☐ 9	9	25
			☐ 6	6	10	☐ 10	10	30

Code Number Checked:

Total Points Factor 4: 0

IPDES Permit Rating Worksheet — Page 2 of 3

Print Form

Idaho Department of Environmental Quality — IPDES Program

NPDES/IPDES No.:

Factor 5: Water Quality Factors

A. Is (or will) one or more of the effluent discharge limits based on water quality factors of the receiving stream (rather than technology-based federal effluent guidelines, or technology-based state effluent guidelines), or has a wasteload allocation been assigned to the discharge?

	Code	Points
☐ Yes	1	10
☐ No	2	0

B. Is the receiving water in compliance with applicable water quality standards for pollutants that are water quality limited in the permit?

	Code	Points
☐ Yes	1	0
☐ No	2	5

C. Does the effluent discharged from this facility exhibit the reasonable potential to violate water quality standards due to whole effluent toxicity?

	Code	Points
☐ Yes	1	10
☐ No	2	0

Code Numbers Checked: A. B. C.

Total Points Factor 5: A. + B. + C. =

Score Summary

Factor and Description	Total Points
1. Toxic Pollutant Potential	
2. Flow/Streamflow Volume	0
3. Conventional Pollutants	
4. Public Health Impacts	
5. Water Quality Factors	
Total (Factors 1-5)	0

S1. Is the total score equal to or greater than 80?
- ○ Yes (facility is a major)
- ○ No

S2. If the answer to the above question is no, would you like this facility to be discretionary major?
- ○ Yes (add 500 points to the above score and provide reason below)
- ○ No

Reason

New Score: Old Score 0

Permit Reviewer's Name

Phone Number

Date

IPDES Permit Rating Worksheet — Page 3 of 3

Instructions for Completing the IPDES Permit Rating Worksheet

General Information

From the permit, enter the NPDES/IPDES number, facility name, and city. Enter the receiving water name and assessment unit. The assessment unit for the receiving water body of a facility can be obtained through the IPDES online interface or DEQ's Integrated Report webpage. Contact the IPDES data management coordinator or permit lead for assistance.

Answer the next two questions regarding steam electric facilities and storm water permits. An answer of "yes" to either of these questions automatically makes this facility a major. A steam electric major will be automatically assigned a score of 600 and storm water major will be assigned a score of 700. If either of the "yes" boxes is checked, there is no need to go further.

Factor 1: Toxic Pollutant Potential

Determine what standard industrial classification (SIC) codes are assigned to the facility covered by the permit. This will usually be on Form 1 of the NPDES application or the IPDES equivalent form. The SIC codes are those published in 1987. If the facility has more than one outfall, each outfall will be identified in the NPDES application Forms 2C, 2D, 2E, or the IPDES equivalent forms. When multiple SIC codes are assigned, select the one that appears to represent the primary activity at the facility and enter it in the primary SIC code box. Then enter up to four other SIC codes in the indicated boxes, selecting those that appear most significant if more than four have been reported (this will be rare).

Use the primary SIC code to search Appendix A of these instructions to determine if there are industrial subcategories for that SIC code. If no subcategory exists, there will be a single entry in Appendix A for that SIC code or no entry at all. If there are subcategories (indicated by multiple entries for one SIC code), select the subcategory that best corresponds to this facility. Use the CFR part and subpart number to help identify the appropriate subcategory. Continue this procedure for each of the other SIC codes recorded. Select the industrial subcategory for the SIC code that has the highest toxicity group. Enter the industrial subcategory code on the rating sheet (use 000 if there is no subcategory) and check the appropriate **total toxicity potential number**. Note that regardless of the facility's SIC code, if the facility discharges no process waste stream to a receiving water, the points scored are 0.

Select the appropriate code number from the drop-down box and verify the points scored for Factor 1 in the shaded area.

Factor 2: Flow/Streamflow Volume

This factor consists of two methods: A (wastewater flow only) and B (wastewater and streamflow). Section A or Section B should be completed, but not both. Section A takes into account only the quantity and type of wastewater discharge from the facility. Section B scores

the facility for not only the quantity and type of wastewater discharged, but also its relationship to the receiving stream (water body) low flow conditions.

Determine the wastewater type (I, II, or III) based on the relative volumes of noncontact cooling waters (as defined in 40 CFR 401.11(n)), process wastewaters, and other wastewaters in the total combined discharge from the facility.

- Type I: Noncontact cooling waters are once-through cooling only and do not include blowdown from cooling towers and recirculating cooling systems.
- Type II: Process wastewaters include wastewaters resulting from most manufacturing processes, contact cooling water, and contaminated surface runoff.
- Type III: Other wastewaters include boiler blowdown, blowdown from cooling towers and recirculating cooling systems, sanitary wastewater, and uncontaminated surface runoff.

The relative volumes of different wastewaters discharged can usually be determined from the permit application. Use Figure 1 to determine the wastewater type. If the entire discharge is noncontact cooling water, it is Type I. If it is all process wastewater, it is Type II. If it is neither noncontact cooling water nor process wastewater, it is Type III. If the flow contains more than 1 MGD of process wastewater or more than 10% process wastewater, it is Type II. If the flow is predominantly noncontact cooling water (more than 90%) and contains less than 1 MGD of process wastewaters, it is Type I.

Once the wastewater type has been determined, compute the total volume of wastewater discharged for all outfalls. This is the sum of the daily average discharges for each outfall shown in the permit application.

Section A

On the worksheet under the type of wastewater selected, check the appropriate flow range. Although a facility may discharge some or all of the three types of wastewater, only one flow range and type should be checked representing the composite of all flows. Choose the two-digit flow code checked from the drop-down box on the right and confirm the associated total points for Factor 2.

Section B

For a few selected facilities, the volume of wastewater discharged may be large relative to the low flow of the receiving water. Section B of the rating worksheet allows the reviewer to calculate rating points based on the relative amounts and types of wastewater and receiving streamflows. The reviewer should identify the type of wastewater discharged from the facility based on the procedure described above and in Figure B-1. The other piece of information that will be necessary to complete Section B is the receiving stream's low flow (i.e., the 7Q10 flow or the state standard). Check the box that most closely describes the circumstances at this facility. Choose the appropriate code from the drop-down box and confirm the associated total points for Factor 2.

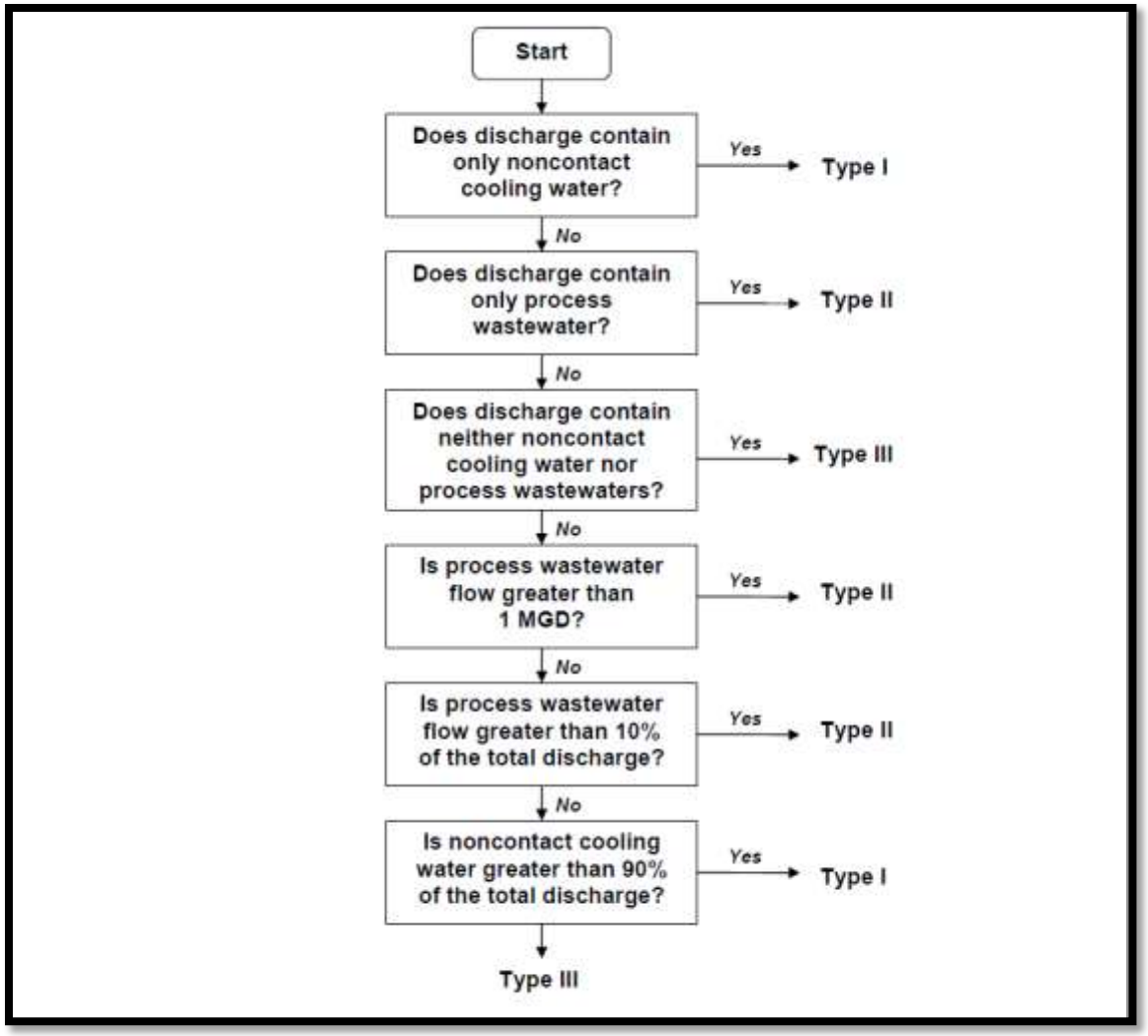

Figure B-1. Wastewater type selection flow diagram.

Factor 3: Conventional Pollutants

Data on conventional pollutants are obtained from the NPDES/IPDES permit and/or compliance files. Review the permit to see what traditional pollutants (i.e., oxygen demanding, TSS, and ammonia) are limited. Conventional pollutant loads are to be computed only when they are limited by the permit. Use the *current permit limits* if the permit contains two or more sets of limits for each outfall.

Add the daily average load for the oxygen-demanding pollutant and identify that parameter on the worksheet (e.g., BOD, COD, TOC, etc.). If the permit is limited for more than one oxygen-demanding pollutant, use the one that provides the highest load. Most effluent limits specify loads in kilograms or pounds per day. However, they may sometimes be given in concentration units (usually mg/L) or in loads per production unit, such as kg BOD/1,000 kg of product. In such cases, the discharge must be converted to loads in terms of pounds per day using standard conversion factors and flow and/or production data from the application or the discharge monitoring reports (DMRs).

Once the load has been determined, check the appropriate box, choose the code number from the drop-down box, and verify the points scored. Continue this for TSS and ammonia if these pollutants are limited.

Factor 4: Public Health Impact

Determine if there is a public drinking water supply within 50 miles downstream of the facility. A drinking water intake may include infiltration galleries or other methods of conveyance that ultimately get its water from the receiving stream of the NPDES/IPDES facility. If this is true, answer "yes" to the question on the rating worksheet. Determine the **human health toxicity potential** from Appendix A in a similar manner as outlined in Factor 1 of this instruction sheet. Once the human health toxicity number has been identified, choose the code number from the drop-down box and confirm the total points for Factor 4.

If there are no drinking water utilities within 50 miles downstream of this facility, answer "no" to this question and continue to Factor 5.

Factor 5: Water Quality Factors

Determine if the discharge is subject to water quality limiting factors. This will be true if the discharge is to a stream designated as water quality limiting by DEQ or for which wasteload allocations have been established. This will also be true if some of the effluent limits in the permit are based on water quality conditions in the receiving stream rather than on effluent guidelines (i.e., typically TBELs). Making this determination may be somewhat difficult. Sources to review for the necessary information are the Fact Sheet (the rationale on which permit limits were based), water quality inventory reports prepared by DEQ and submitted to EPA biennially as required by §305 of the Clean Water Act (CWA), and area-wide Waste Treatment Management planning reports prepared for some urban areas by local planning agencies under §208 of the CWA.

Some facilities may have had whole effluent toxicity (WET) studies performed within the last 2 years. If this is true and the results of those tests indicated that the effluent from this facility shows toxicity, answer "yes" to the question in Section C of this factor.

After answering questions A, B, and C, enter the appropriate code for each section and verify the total points.

Score Summary

Confirm the total points scored under each of the five factors considered in this rating worksheet and the sum. If the sum is greater than or equal to 80, the facility is considered a major. If a facility has scored less than 80 points and the reviewer feels that the facility should still be considered a major, the reviewer may make the facility a discretionary major by adding 500 points to the total score of each of the factors. Should the reviewer wish to make this facility a discretionary major, it is strongly urged that the reasoning for this decision be provided on the rating worksheet.

Appendix A. SIC Code Cross Reference and Total and Human Health Toxicity Number

APPENDIX A
SIC Code Cross Reference
and Total and Human Health Toxicity Number

1972/ 1977 SIC Code	1987 SIC Code	1987 Title	CFR Part	CFR Sub Part	Sub-part title	Human Health Toxicity Number	Total Toxicity Number	Industry Subcat Number
211	211	BEEF CATTLE FEEDLOTS	412	A	All Feedlots Except Ducks	1	1	0
212	212	BEEF CATTLE, EXCEPT FEEDLOTS		NR	Beef Cattle not in Feedlots	1	1	99
213	213	HOGS	412	A	All Feedlots Except Ducks	1	1	0
213	213	HOGS		NR	Hogs not in Feedlots	1	1	99
214	214	SHEEP AND GOATS	412	A	All Feedlots Except Ducks	1	1	0
214	214	SHEEP AND GOATS		NR	Sheep and Goats not in Feedlots	1	1	99
219	219	GENERAL LIVESTOCK, NEC		NR	*General Livestock Farms*	1	1	99
241	241	DAIRY FARMS	412	A	All Feedlots Except Ducks	1	1	0
241	241	DAIRY FARMS		NR	DAIRY CATTLE NOT CONFINED	1	1	99
251	251	BROILER, FRIER, AND ROASTER CHICKENS	412	A	All Feedlots Except Ducks	1	1	0
252	252	CHICKEN EGGS	412	A	All Feedlots Except Ducks	1	1	0
253	253	TURKEY AND TURKEY EGGS	412	A	All Feedlots Except Ducks	1	1	0
254	254	POULTRY HATCHERIES		NR	Hatcheries Without Poultry Feeding	1	1	99
259	259	POULTRY AND EGGS, NEC	412	B	Ducks	1	1	0
259	259	POULTRY AND EGGS, NEC		NR	Other Poultry Farms	1	1	99
271	271	FUR-BEARING ANIMALS AND RABBITS		NR		1	1	99
272	272	HORSES AND OTHER EQUINES		NR		1	1	99
279	273	ANIMAL SPECIALTIES, NEC		NR		1	1	99
279	279	ANIMAL SPECIALTIES, NEC		NR		1	1	99
291	291	GENERAL FARMS, PRIMARILY LIVESTOCK		NR		1	1	99
291	291	GENERAL FARMS, PRIMARILY LIVESTOCK		NR		1	1	99
721	721	CROP PLANTING & PROTECTION		NR	Crop Dusting & Spraying	6	6	99
721	721	CROP PLANTING & PROTECTION		NR	Crop Planting/Cultivation	1	1	99
921	921	FISH HATCHERIES AND PRESERVES		NR		1	1	99
1011	1011	IRON ORES	440	A	Iron Ore	7	7	0
1021	1021	COPPER ORES	440	J	Cu, Pb, Zn, Ag, Au, No, Ores	8	10	0
1031	1031	LEAD AND ZINC ORES	440	J	Cu, Pb, Zn, Ag, Au, No, Ores	8	10	0
1041	1041	GOLD ORES	440	J	Cu, Pb, Zn, Ag, Au, No, Ores	8	10	1
1041	1041	GOLD ORES	440	M	Gold Placer Mines	8	9	2
1044	1044	SILVER ORES	440	J	Cu, Pb, Zn, Ag, Au, No, Ores	8	10	0
1051	1099	BAUXITE & OTHER ALUMINUM ORES	440	B	Aluminum Ore	5	10	0
1061	1061	FERROALLOY ORES, EXCEPT VANADIUM	440	F	Tungsten Ore	1	6	1
1061	1061	FERROALLOY ORES, EXCEPT VANADIUM	440	G	Nickel Ores	8	8	2
1061	1061	FERROALLOY ORES, EXCEPT VANADIUM	440	J	Cu, Pb, Zn, Ag, Au, No, Ores	7	7	3
1061	1061	FERROALLOY ORES, EXCEPT VANADIUM		NR	Ferroalloy Ores, NEC	8	8	99
1081	1081	METAL MINING SERVICES		NR	Exploration/Develpment	8	8	99
1092	1099	MERCURY ORES	440	D	Mercury Ores	8	8	0
1094	1094	URANIUM-RADIUM-VANADIUM ORES	440	C	Uranium-Radium-Vanadium Ores	8	9	1
1094	1094	URANIUM-RADIUM-VANADIUM ORES	440	H	Vanadium Ore	8	8	2
1099	1099	METAL ORES, NEC	440	E	Titanium Ores	1	4	1
1099	1099	METAL ORES, NEC	440	I	Antimony Ore	8	8	2
1099	1099	METAL ORES, NEC	440	K	Platinum Ores	8	8	3
1099	1099	METAL ORES, NEC		NR	Metal Ore, NEC	8	8	99
1111	1231	ANTHRACITE MINING	434	B	Coal Preparation Plants	6	6	4
1111	1231	ANTHRACITE MINING	434	C	Acid or Ferruginous Mine Drainage	5	5	1
1111	1231	ANTHRACITE MINING	434	D	Alkaline Mine Drainage	5	5	2
1111	1231	ANTHRACITE MINING	434	E	Post Mining Areas	5	5	5
1112	1241	ANTHRACITE MINING SERVICES		NR		5	5	99
1211	1221	BITUMINOUS COAL AND LIGNITE	434	B	Coal Preparation Plants	6	5	3
1211	1221	BITUMINOUS COAL AND LIGNITE	434	C	Acid or Ferruginous Mine Drainage	5	5	1
1211	1221	BITUMINOUS COAL AND LIGNITE	434	D	Alkaline Mine Drainage	5	5	2
1211	1221	BITUMINOUS COAL AND LIGNITE	434	E	Post Mining Areas	5	5	4
1211	1222	BITUMINOUS COAL AND LIGNITE	434	B	Coal Preparation Plants	6	6	5
1211	1222	BITUMINOUS COAL AND LIGNITE	434	C	Acid or Ferruginous Mine Drainage	5	5	6

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1211	1222	BITUMINOUS COAL AND LIGNITE	434	D	ALKALINE MINE DRAINAGE	5	5	7
1211	1222	BITUMINOUS COAL AND LIGNITE	434	E	POST MINING AREAS	5	5	8
1213	1241	BITUMINOUS COAL & LIGNITE MINING SERVI		NR		5	5	99
1311	1311	CRUDE PETROLEUM AND NATURAL GAS	435	A	Offshore	1	1	1
1311	1311	CRUDE PETROLEUM AND NATURAL GAS	435	C	Onshore	1	1	2
1311	1311	CRUDE PETROLEUM AND NATURAL GAS	435	D	Coastal	1	1	3
1311	1311	CRUDE PETROLEUM AND NATURAL GAS	435	E	Agricultural & Wildlife Water Use	1	1	4
1311	1311	CRUDE PETROLEUM AND NATURAL GAS	435	F	Stripper	5	5	5
1321	1321	NATURAL GAS LIQUIDS		NR		1	1	99
1381	1381	DRILLING OIL AND GAS WELLS	435	C	Onshore	1	1	0
1382	1382	OIL & GAS FIELD EXPLORATION SERVICES		NR		1	1	99
1389	1389	OIL & GAS FIELD SERVICES, NEC		NR		1	1	99
1411	1411	DIMENSION STONE	436	A	Dimension Stone	1	1	0
1422	1422	CRUSHED AND BROKEN LIMESTONE	436	B	Crushed Stone	1	1	0
1423	1423	CRUSHED AND BROKEN GRANITE	436	B	Crushed Stone	1	1	0
1429	1429	CRUSHED AND BROKEN STONE, NEC	436	B	Crushed Stone	1	1	0
1442	1442	CONSTRUCTION SAND AND GRAVEL	436	C	CONSTRUCTION SAND & GRAVEL	1	1	0
1446	1446	INDUSTRIAL SAND	436	D	Industrial Sand	1	1	0
1452	1459	BENTONITE	436	V	Bentonite	1	1	0
1453	1459	FIRE CLAY	436	AA	Fire Clay	1	1	0
1454	1459	FULLER'S EARTH		NR		1	1	99
1455	1455	KAOLIN AND BALL CLAY	436	AG	Kaolin	1	1	1
1455	1455	KAOLIN AND BALL CLAY	436	AH	Ball Clay	1	1	2
1459	1459	CLAY, CERAMIC & REFRACTORY MATERIALS,	436	AI	FELDSPAR	1	1	5
1459	1459	CLAY, CERAMIC & REFRACTORY MATERIALS,	436	AC	KYANITE	1	1	2
1459	1459	CLAY, CERAMIC & REFRACTORY MATERIALS,	436	AD	SHALE AND COMMON CLAY	1	1	3
1459	1459	CLAY, CERAMIC & REFRACTORY MATERIALS,	436	AE	APLITE	1	1	4
1459	1459	CLAY, CERAMIC & REFRACTORY MATERIALS,	436	W	MAGNESITE	1	1	1
1459	1459	CLAY, CERAMIC & REFRACTORY MATERIALS,		NR	Other Clay, Ceramic &Refr Minerals NR	1	1	99
1472	1479	BARITE	436	J	BARITE	1	1	0
1473	1479	FLUORSPAR	436	K	FLUORSPAR	1	1	0
1474	1474	POTASH, SODA AND BORATE MINERALS	436	L	SALINES FROM BRINE LAKES	1	1	1
1474	1474	POTASH, SODA AND BORATE MINERALS	436	N	POTASH	1	1	3
1474	1474	POTASH, SODA AND BORATE MINERALS	436	M	BORAX	1	1	2
1474	1474	POTASH, SODA AND BORATE MINERALS	436	O	SODIUM SULFATE	1	1	4
1474	1474	POTASH, SODA AND BORATE MINERALS		NR	Other Potash,Soda &Borate Minerals NR	1	1	99
1474	1474	POTASH, SODA AND BORATE MINERALS	436	P	TRONA	1	1	5
1475	1475	PHOSPHATE ROCK	436	R	Phosphate Rock	6	6	0
1476	1479	ROCK SALT	436	Q	ROCK SALT	1	1	0
1477	1479	SULFUR	436	S	FRASCH SULFER	1	1	0
1479	1479	CHEMICAL & FERTILIZER MINERAL MINING,	436	T	MINERAL PIGMENTS	1	1	1
1479	1479	CHEMICAL & FERTILIZER MINERAL MINING,	436	U	LITHIUM	1	1	2
1479	1479	CHEMICAL & FERTILIZER MINERAL MINING,		NR	Other Chemical/Fertilizer Minerals NR	1	1	99
1481	1481	NONMETALLIC MINERALS (except fuels) SERV		NR		1	1	99
1492	1499	GYPSUM	436	E	GYPSUM	1	1	0
1496	1499	TALC, SOAPSTONE AND PYROPHYLLITE	436	AJ	Talc, Steatite, Soapstone &Pyrophyllite	1	1	0
1499	1499	Miscellaneous NONMETALLIC MINERALS, NEC	436	G	ASBESTOS AND WOLLASTONITE	1	1	2
1499	1499	Miscellaneous NONMETALLIC MINERALS, NEC	436	F	ASPHALTIC MINERAL	1	1	1
1499	1499	Miscellaneous NONMETALLIC MINERALS, NEC	436	J	MICA AND SERACITE	1	1	3
1499	1499	Miscellaneous NONMETALLIC MINERALS, NEC	436	X	DIATOMITE	1	1	4
1499	1499	Miscellaneous NONMETALLIC MINERALS, NEC	436	Y	JADE	1	1	5
1499	1499	Miscellaneous NONMETALLIC MINERALS, NEC	436	AF	TRIPOLI	1	1	6
1499	1499	Miscellaneous NONMETALLIC MINERALS, NEC	436	AK	GARNET	1	1	7
1499	1499	Miscellaneous NONMETALLIC MINERALS, NEC	436	AL	GRAPHITE	1	1	8

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1499	1499	Miscellaneous, NONMETALLIC MINERALS, NEC		NR	Other Misc Nonmetallic Minerals NR	1	1	99
2011	2011	MEAT PACKING PLANTS	432	A	SIMPLE SLAUGHTERHOUSE	1	1	1
2011	2011	MEAT PACKING PLANTS	432	B	COMPLEX SLAUGHTERHOUSE	1	1	2
2011	2011	MEAT PACKING PLANTS	432	C	LOW-PROCESSING Packing House	1	1	3
2011	2011	MEAT PACKING PLANTS	432	D	HIGH-PROCESSING Packing House	1	1	4
2013	2013	SAUSAGES & other PREPARED MEAT PRODUCT	432	E	SMALL PROCESSOR	1	1	1
2013	2013	SAUSAGES & other PREPARED MEAT PRODUCT	432	F	MEAT CUTTER	1	1	2
2013	2013	SAUSAGES & other PREPARED MEAT PRODUCT	432	G	Sausage & Luncheon Meats Processor	1	1	3
2013	2013	SAUSAGES & other PREPARED MEAT PRODUCT	432	H	HAM PROCESSOR	1	1	4
2013	2013	SAUSAGES & other PREPARED MEAT PRODUCT	432	I	CANNED MEATS PROCESSOR	1	1	5
2016	2015	POULTRY DRESSING PLANTS	432	B	COMPLEX SLAUGHTERHOUSE	1	1	2
2016	2015	POULTRY DRESSING PLANTS	432	A	SIMPLE SLAUGHTERHOUSE	1	1	1
2016	2015	POULTRY DRESSING PLANTS	432	C	LOW-PROCESSING Packing House	1	1	3
2016	2015	POULTRY DRESSING PLANTS	432	D	HIGH-PROCESSING Packing House	1	1	4
2017	2015	POULTRY AND EGG PROCESSING	432	E	SMALL PROCESSOR	1	1	1
2017	2015	POULTRY AND EGG PROCESSING	432	F	MEAT CUTTER	1	1	2
2017	2015	POULTRY AND EGG PROCESSING	432	G	Sausage & Luncheon Meats Processor	1	1	3
2017	2015	POULTRY AND EGG PROCESSING	432	H	HAM PROCESSOR	1	1	4
2017	2015	POULTRY AND EGG PROCESSING	432	I	CANNED MEATS PROCESSOR	1	1	5
2021	2021	CREAMERY BUTTER	405	D	BUTTER	1	1	0
2022	2022	CHEESE, NATURAL AND PROCESSED	405	F	NATURAL & PROCESSED CHEESE	1	1	0
2023	2023	CONDENSED AND EVAPORATED MILK	405	I	CONDENSED MILK	1	1	1
2023	2023	CONDENSED AND EVAPORATED MILK	405	J	DRY MILK	1	1	2
2023	2023	CONDENSED AND EVAPORATED MILK	405	K	CONDENSED WHEY	1	1	3
2023	2023	CONDENSED AND EVAPORATED MILK	405	L	DRY WHEY	1	1	4
2024	2024	ICE CREAM AND FROZEN DESSERTS	405	H	Ice Cream, Frozen Desserts, Novelties	1	1	0
2026	2026	FLUID MILK	405	B	FLUID PRODUCTS	1	1	1
2026	2026	FLUID MILK	405	C	CULTURED PRODUCTS	1	1	2
2026	2026	FLUID MILK	405	E	Cottage Cheese &Cultured CreamCheese	1	1	3
2026	2026	FLUID MILK	405	G	Fluid Milk for Ice Cream, Other Desserts	1	1	4
2032	2091	CANNED SPECIALTIES				1	1	0
2032	2032	CANNED SPECIALTIES	407	H	CANNED AND MISC. SPECIALTIES	1	1	0
2033	2033	CANNED FRUITS, VEGETABLES, Preserves, JA	407	A	APPLE JUICE	1	1	1
2033	2033	CANNED FRUITS, VEGETABLES, Preserves, JA	407	B	APPLE PRODUCTS	1	1	2
2033	2033	CANNED FRUITS, VEGETABLES, Preserves, JA	407	C	CITRUS PRODUCTS	1	1	3
2033	2033	CANNED FRUITS, VEGETABLES, Preserves, JA	407	F	CANNED & Preserved FRUITS	1	1	4
2033	2033	CANNED FRUITS, VEGETABLES, Preserves, JA	407	G	CANNED & Preserved VEGETABLES	1	1	5
2033	2033	CANNED FRUITS, VEGETABLES, Preserves, JA	407	H	CANNED & Preserved SPECIALTIES	1	1	6
2034	2068	DRIED & DEHYDRATED FRUITS, Vegetables &		NR		1	1	99
2034	2034	DRIED & DEHYDRATED FRUITS, Vegetables &	407	E	DEHYDRATED POTATOE Products	1	1	1
2034	2034	DRIED & DEHYDRATED FRUITS, Vegetables &	407	F	CANNED & Preserved FRUITS	1	1	2
2034	2034	DRIED & DEHYDRATED FRUITS, Vegetables &	407	G	CANNED & Preserved VEGETABLES	1	1	3
2035	2035	PICKLED FRUITS & VEG., VEG. SAUCES & SEA	407	F	CANNED & Preserved FRUITS	1	1	1
2035	2035	PICKLED FRUITS & VEG., VEG. SAUCES & SEA	407	G	CANNED & Preserved VEGETABLES	1	1	2
2035	2035	PICKLED FRUITS & VEG., VEG. SAUCES & SEA	407	H	CANNED AND MISC SPECIALTIES	1	1	3
2037	2037	FROZEN FRUITS, FRUIT JUICES & VEGETABLES	407	A	APPLE JUICES	1	1	1
2037	2037	FROZEN FRUITS, FRUIT JUICES & VEGETABLES	407	G	CANNED & Preserved VEGETABLES	1	1	6
2037	2037	FROZEN FRUITS, FRUIT JUICES & VEGETABLES	407	C	CITRUS PRODUCTS	1	1	3
2037	2037	FROZEN FRUITS, FRUIT JUICES & VEGETABLES	407	D	FROZEN POTATOE PRODUCTS	1	1	4
2037	2037	FROZEN FRUITS, FRUIT JUICES & VEGETABLES	407	F	CANNED & Preserved FRUITS	1	1	5
2037	2037	FROZEN FRUITS, FRUIT JUICES & VEGETABLES	407	B	APPLE PRODUCTS	1	1	2
2038	2038	FROZEN SPECIALTIES	407	H	CANNED & MISC SPECIALTIES	1	1	1
2038	2053	FROZEN SPECIALTIES	407	H	CANNED & MISC SPECIALTIES	1	1	2
2041	2041	FLOUR AND OTHER GRAIN MILL PRODUCTS	406	B	CORN DRY MILLING	1	1	1

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2041	2041	FLOUR AND OTHER GRAIN MILL PRODUCTS	406	C	NORMAL WHEAT FLOUR MILLING	1	1	2
2041	2041	FLOUR AND OTHER GRAIN MILL PRODUCTS	406	D	BULGUR WHEAT FLOUR MILLING	1	1	3
2043	2043	CEREAL BREAKFAST FOODS	406	H	HOT CEREAL	1	1	1
2043	2043	CEREAL BREAKFAST FOODS	406	I	READY-TO-EAT CEREAL	1	1	2
2044	2044	RICE MILLING	406	E	NORMAL RICE MILLING	1	1	1
2044	2044	RICE MILLING	406	F	PARBOILED RICE PROCESSING	1	1	2
2045	2045	BLENDED AND PREPARED FLOUR		NR		1	1	99
2046	2046	WET CORN MILLING	406	A	CORN WET MILLING	1	1	1
2046	2046	WET CORN MILLING	406	J	WHEAT STARCH AND GLUTEN	1	1	2
2047	2047	DOG, CAT, AND OTHER PET FOOD	406	G	ANIMAL FEED	1	1	1
2047	2048	DOG, CAT, AND OTHER PET FOOD	406	G	ANIMAL FEED	1	1	2
2048	2048	PREPARED FEEDS & FEED INGREDIENTS FOR AN	406	G	ANIMAL FEED	1	1	0
2051	2051	BREAD & other BAKERY PRODUCTS, Except CO		NR		1	1	99
2052	2052	COOKIES AND CRACKERS		NR		1	1	99
2061	2061	CANE SUGAR, EXCEPT REFINING ONLY	409	D	Louisiana Raw Cane Sugar Processing	1	1	1
2061	2061	CANE SUGAR, EXCEPT REFINING ONLY	409	E	FL & Texas Raw Cane Sugar Processing	1	1	2
2061	2061	CANE SUGAR, EXCEPT REFINING ONLY	409	F	Hilo-Hamakua/HawaiiCaneSugarProcessing	1	1	3
2061	2061	CANE SUGAR, EXCEPT REFINING ONLY	409	G	Hawaiian Raw Cane Sugar Processing	1	1	4
2061	2061	CANE SUGAR, EXCEPT REFINING ONLY	409	H	Puerto Rican Raw Cane Sugar Processing	1	1	5
2062	2062	CANE SUGAR REFINING	409	B	CRYSTALLINE Cane Sugar REFINING	1	1	1
2062	2062	CANE SUGAR REFINING	409	C	LIQUID CANE SUGAR REFINING	1	1	2
2063	2063	BEET SUGAR	409	A	BEET SUGAR PROCESSING	1	1	0
2065	2068	CANDY & OTHER CONFECTIONARY PRODUCTS		NR		1	1	99
2065	2064	CANDY & OTHER CONFECTIONARY PRODUCTS		NR		1	1	99
2066	2066	CHOCOLATE AND COCOA PRODUCTS		NR		1	1	99
2067	2067	CHEWING GUM		NR		1	1	99
2074	2074	COTTONSEED OIL MILLS		NR		1	1	99
2075	2075	SOYBEAN OIL MILLS		NR		1	1	99
2076	2076	VEG. OIL MILLS, EXCEPT CORN, COTTONSEED		NR		1	1	99
2077	2077	ANIMAL AND MARINE FATS AND OILS	408	O	FISH MEAL PROCESSING	1	1	0
2077	2077	ANIMAL AND MARINE FATS AND OILS		NR		1	1	99
2079	2079	SHORTENING, TABLE OILS, MARGARINE & OTHI		NR		1	1	99
2082	2082	MALT BEVERAGES		NR		1	1	99
2083	2083	MALT		NR		1	1	99
2084	2084	WINES, BRANDY AND BRANDY SPIRITS		NR		1	1	99
2085	2085	DISTILLED, RECTIFIED AND BLENDED LIQUORS		NR		1	1	99
2086	2086	BOTTLED & CANNED SOFT DRINKS & Carbonate		NR		1	1	99
2087	2087	FLAVORING EXTRACTS & FLAVORING SYRUPS,		NR		1	1	99
2091	2091	CANNED AND CURED FISH AND SEAFOODS	408	N	Breaded Shrimp Proc/Contiguous States	1	1	12
2091	2091	CANNED AND CURED FISH AND SEAFOODS	408	R	WCoast Hand-Butchered SalmonProcessing	1	1	16
2091	2091	CANNED AND CURED FISH AND SEAFOODS	408	B	Conventional Blue Crab Processing	1	1	1
2091	2091	CANNED AND CURED FISH AND SEAFOODS	408	C	Mechanized Blue Crab Processing	1	1	2
2091	2091	CANNED AND CURED FISH AND SEAFOODS	408	D	Non-Remote Alaskan CrabMeat Processing	1	1	3
2091	2091	CANNED AND CURED FISH AND SEAFOODS	408	E	Remote Alaskan Crab Meat Processing	1	1	4
2091	2091	CANNED AND CURED FISH AND SEAFOODS	408	F	Non-Remote Alaskan Crab/Section Processi	1	1	5
2091	2091	CANNED AND CURED FISH AND SEAFOODS	408	G	Remote Alaskan Crab/Section Processing	1	1	6
2091	2091	CANNED AND CURED FISH AND SEAFOODS	408	H	Dung & Tanner Crab Process/Contig States	1	1	7
2091	2091	CANNED AND CURED FISH AND SEAFOODS	408	I	Non-Remote Alaskan Shrimp Processing	1	1	8
2091	2091	CANNED AND CURED FISH AND SEAFOODS	408	W	Hand-Shucked Clam Processing	1	1	21
2091	2091	CANNED AND CURED FISH AND SEAFOODS	408	X	Mechanized Clam Processing	1	1	22
2091	2091	CANNED AND CURED FISH AND SEAFOODS	408	K	Northern Shrimp Processing/Contig States	1	1	10
2091	2091	CANNED AND CURED FISH AND SEAFOODS	408	Y	PACCoast Hand-Shucked OysterProcessing	1	1	23
2091	2091	CANNED AND CURED FISH AND SEAFOODS	408	N	TUNA PROCESSING	1	1	13
2091	2091	CANNED AND CURED FISH AND SEAFOODS	408	Z	AT/GLFCoast Hand-ShuckedOysterProcess	1	1	24

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2091	2091	CANNED AND CURED FISH AND SEAFOODS	408	O	Alaskan Mechanized Salmon Processing	1	1	15
2091	2091	CANNED AND CURED FISH AND SEAFOODS	408	AA	Steamed and Canned Oyster Processing	1	1	25
2091	2091	CANNED AND CURED FISH AND SEAFOODS	408	T	Alaskan Bottom Fish Processing	1	1	18
2091	2091	CANNED AND CURED FISH AND SEAFOODS	408	AB	Sardine Processing	1	1	26
2091	2091	CANNED AND CURED FISH AND SEAFOODS	408	V	Non-Alaskan Mech Bottom Fish Processing	1	1	20
2091	2091	CANNED AND CURED FISH AND SEAFOODS	408	AC	Alaskan Scallop Processing	1	1	27
2091	2091	CANNED AND CURED FISH AND SEAFOODS	408	L	SONon-Breaded Shrimp Process/CNTG ST	1	1	11
2091	2091	CANNED AND CURED FISH AND SEAFOODS	408	S	West Coast Mechanized Salmon Processing	1	1	17
2091	2091	CANNED AND CURED FISH AND SEAFOODS	408	U	Non-AlaskanCONV BottomFish Processing	1	1	19
2091	2091	CANNED AND CURED FISH AND SEAFOODS	408	J	Remote Alaskan Shrimp Processing	1	1	9
2091	2091	CANNED AND CURED FISH AND SEAFOODS	408	P	AlaskanHand-Butchered SalmonProcessing	1	1	14
2091	2091	CANNED AND CURED FISH AND SEAFOODS	408	AD	Non-Alaskan Scallop Processing	1	1	28
2091	2091	CANNED AND CURED FISH AND SEAFOODS	408	AE	Alaskan Herring Fillet Processing	1	1	29
2091	2091	CANNED AND CURED FISH AND SEAFOODS	408	AF	Non-Alaskan Herring Fillet Processing	1	1	30
2091	2091	CANNED AND CURED FISH AND SEAFOODS	408	AG	ABALONE PROCESSING	1	1	31
2092	2092	FRESH OR FROZEN PACKAGED FISH & SEAFOOD	408	A	FARM RAISED CATFISH PROCESSING	1	1	1
2092	2092	FRESH OR FROZEN PACKAGED FISH & SEAFOOD	408	Y	PACCoast Hand-ShuckedOysterProcessing	1	1	24
2092	2092	FRESH OR FROZEN PACKAGED FISH & SEAFOOD	408	Z	ATGLFCSTHND-ShuckedOysterProcessing	1	1	25
2092	2092	FRESH OR FROZEN PACKAGED FISH & SEAFOOD	408	C	Mechanized Blue Crab Processing	1	1	3
2092	2092	FRESH OR FROZEN PACKAGED FISH & SEAFOOD	408	AB	Sardine Processing	1	1	26
2092	2092	FRESH OR FROZEN PACKAGED FISH & SEAFOOD	408	E	Remote Alaskan Crab Meat Processing	1	1	5
2092	2092	FRESH OR FROZEN PACKAGED FISH & SEAFOOD	408	AC	Alaskan Scallop Processing	1	1	27
2092	2092	FRESH OR FROZEN PACKAGED FISH & SEAFOOD	408	G	RemoteALAWholeCrab/SectionProcessing	1	1	7
2092	2092	FRESH OR FROZEN PACKAGED FISH & SEAFOOD	408	AD	Non-Alaskan Scallop Processing	1	1	28
2092	2092	FRESH OR FROZEN PACKAGED FISH & SEAFOOD	408	I	Non-Remote Alaskan Shrimp Processing	1	1	9
2092	2092	FRESH OR FROZEN PACKAGED FISH & SEAFOOD	408	AE	Alaskan Herring Fillet Processing	1	1	29
2092	2092	FRESH OR FROZEN PACKAGED FISH & SEAFOOD	408	K	Northern Shrimp Processing/Contig States	1	1	11
2092	2092	FRESH OR FROZEN PACKAGED FISH & SEAFOOD	408	AF	Non-Alaskan Herring Fillet Processing	1	1	30
2092	2092	FRESH OR FROZEN PACKAGED FISH & SEAFOOD	408	M	Breaded Shrimp Processing/Contig States	1	1	13
2092	2092	FRESH OR FROZEN PACKAGED FISH & SEAFOOD	408	AG	ABALONE PROCESSING	1	1	31
2092	2092	FRESH OR FROZEN PACKAGED FISH & SEAFOOD	408	Q	Alaskan Mechanized Salmon Processing	1	1	16
2092	2092	FRESH OR FROZEN PACKAGED FISH & SEAFOOD	408	P	AlaskanHand-ButcheredSalmonProcessing	1	1	15
2092	2092	FRESH OR FROZEN PACKAGED FISH & SEAFOOD	408	S	West Coast Mechanized Salmon Processing	1	1	18
2092	2092	FRESH OR FROZEN PACKAGED FISH & SEAFOOD	408	U	Non-Alaskan Conv Bottom Fish Processing	1	1	20
2092	2092	FRESH OR FROZEN PACKAGED FISH & SEAFOOD	408	X	Dung & Tanner Crab Process/Contig States	1	1	8
2092	2092	FRESH OR FROZEN PACKAGED FISH & SEAFOOD	408	J	Remote Alaskan Shrimp Processing	1	1	10
2092	2092	FRESH OR FROZEN PACKAGED FISH & SEAFOOD	408	X	MECHANIZED CLAM PROCESSING	1	1	23
2092	2092	FRESH OR FROZEN PACKAGED FISH & SEAFOOD	408	D	Non-Remote Alaskan Crab Meat Processing	1	1	4
2092	2092	FRESH OR FROZEN PACKAGED FISH & SEAFOOD	408	F	Non-Remote WholeCrab/SectionProcessing	1	1	6
2092	2092	FRESH OR FROZEN PACKAGED FISH & SEAFOOD	408	W	Hand-Shucked Clam Processing	1	1	22
2092	2092	FRESH OR FROZEN PACKAGED FISH & SEAFOOD	408	B	CONVENTIONAL Blue Crab Processing	1	1	2
2092	2092	FRESH OR FROZEN PACKAGED FISH & SEAFOOD	408	L	S Non-Bread Shrimp Process/Contig States	1	1	12
2092	2092	FRESH OR FROZEN PACKAGED FISH & SEAFOOD	408	N	TUNA PROCESSING	1	1	14
2092	2092	FRESH OR FROZEN PACKAGED FISH & SEAFOOD	408	R	WCoast Hand-ButcheredSalmonProcessing	1	1	17
2092	2092	FRESH OR FROZEN PACKAGED FISH & SEAFOOD	408	T	Alaskan Bottom Fish Processing	1	1	19
2092	2092	FRESH OR FROZEN PACKAGED FISH & SEAFOOD	408	V	Non-Alaskan Mech Bottom Fish Processing	1	1	21
2095	2095	ROASTED COFFEE		NR		1	1	99
2097	2097	MANUFACTURED ICE		NR		1	1	99
2098	2098	MACARONI, SPAGHETTI, VERMICELLI & WOOD		NR		1	1	99
2099	2099	FOOD PREPARATIONS, NEC		NR		1	1	99
2099	2096	FOOD PREPARATIONS, NEC		NR		1	1	99
2099	2068	FOOD PREPARATIONS, NEC		NR		1	1	99
2099	2066	FOOD PREPARATIONS, NEC		NR		1	1	99
2111	2111	CIGARETTES		NR		1	1	99

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2121	2121	CIGARS		NR		1	1	99
2131	2131	TOBACCO (CHEWING AND SMOKING) & SNUFF		NR		1	1	99
2141	2141	TOBACCO STEMMING AND REDRYING		NR		1	1	99
2211	2211	BROAD WOVEN FABRIC MILLS, COTTON	410	C	LOW WATER USE PROCESSING	2	9	1
2211	2211	BROAD WOVEN FABRIC MILLS, COTTON	410	C	LOW WATER USE PROCESSING	2	9	2
2211	2211	BROAD WOVEN FABRIC MILLS, COTTON	410	D	WOVEN FABRIC FINISHING	9	10	3
2211	2221	BROAD WOVEN FABRIC MILLS, SYNTHETICS	410	D	WOVEN FABRIC FINISHING	9	10	3
2211	2221	BROAD WOVEN FABRIC MILLS, SYNTHETICS	410	C	LOW WATER USE PROCESSING	2	9	2
2211	2221	BROAD WOVEN FABRIC MILLS, SYNTHETICS	410	C	LOW WATER USE PROCESSING	2	9	1
2211	2231	BROAD WOVEN FABRIC MILLS, WOOL	410	B	WOOL FINISHING	9	10	2
2211	2231	BROAD WOVEN FABRIC MILLS, WOOL	410	C	LOW WATER USE PROCESSING	2	9	1
2241	2241	NARROW FABRICS & Other SMALLWARES MILL	410	C	LOW WATER USE PROCESSING	2	9	1
2241	2241	NARROW FABRICS & Other SMALLWARES MILL	410	C	LOW WATER USE PROCESSING	2	9	2
2251	2251	WOMEN'S FULL Length & KNEE Length HOSIERY	410	E	KNIT FABRIC FINISHING	9	10	0
2251	2251	WOMEN'S FULL Length & KNEE Length HOSIERY		NR	NO FINISHING	1	1	99
2252	2252	HOSIERY, EXC WOMEN'S FULL Length & Knee	410	E	KNIT FABRIC FINISHING	9	10	0
2252	2252	HOSIERY, EXC WOMEN'S FULL Length & Knee		NR	NO FINISHING	1	1	99
2253	2253	KNIT OUTERWEAR MILLS	410	E	KNIT FABRIC FINISHING	9	10	0
2253	2253	KNIT OUTERWEAR MILLS		NR	NO FINISHING	1	1	99
2254	2254	KNIT UNDERWEAR MILLS	410	E	KNIT FABRIC FINISHING	9	10	0
2254	2254	KNIT UNDERWEAR MILLS		NR	NO FINISHING	1	1	99
2257	2257	CIRCULAR KNIT FABRIC MILLS	410	E	KNIT FABRIC FINISHING	9	10	0
2257	2257	CIRCULAR KNIT FABRIC MILLS		NR	NO FINISHING	1	1	99
2258	2258	WARP KNIT FABRIC MILLS	410	E	KNIT FABRIC FINISHING	9	10	0
2258	2258	WARP KNIT FABRIC MILLS		NR	NO FINISHING	1	1	99
2259	2259	KNITTING MILLS, NEC	410	E	KNIT FABRIC FINISHING	9	10	0
2259	2259	KNITTING MILLS, NEC		NR	NO FINISHING	1	1	99
2261	2261	FINISHERS of BROAD WOVEN Fabrics of COTTON	410	D	WOVEN FABRIC FINISHING	9	10	0
2262	2262	FINISHERS of BROAD WOVEN Fabrics/Man-Made	410	D	WOVEN FABRIC FINISHING	9	10	0
2269	2269	FINISHERS OF TEXTILES, NEC	410	D	WOVEN FABRIC FINISHING	9	10	1
2269	2269	FINISHERS OF TEXTILES, NEC	410	G	STOCK & YARN FINISHING	7	9	2
2271	2273	WOVEN CARPETS AND RUGS	410	C	LOW WATER USE PROCESSING	2	9	2
2271	2273	WOVEN CARPETS AND RUGS	410	F	CARPET FINISHING	1	8	1
2272	2273	TUFTED CARPETS AND RUGS	410	C	LOW WATER USE PROCESSING	2	9	1
2272	2273	TUFTED CARPETS AND RUGS	410	F	CARPET FINISHING	1	8	2
2279	2273	CARPETS AND RUGS, NEC	410	F	CARPET FINISHING	1	8	1
2279	2273	CARPETS AND RUGS, NEC	410	C	LOW WATER USE PROCESSING	2	9	2
2281	2281	YARN SPINNING MILLS:Cotton, Man-Made Fibers	410	C	LOW WATER USE PROCESSING	2	9	2
2281	2281	YARN SPINNING MILLS:Cotton, Man-Made Fibers	410	C	LOW WATER USE PROCESSING	2	9	1
2282	2282	YARN TEXTURIZING, THROWING, TWISTING & V	410	C	LOW WATER USE PROCESSING	2	9	1
2282	2282	YARN TEXTURIZING, THROWING, TWISTING & V	410	C	LOW WATER USE PROCESSING	2	9	2
2283	2284	YARN MILLS, WOOL, Including CARPET & RUG	410	C	LOW WATER USE PROCESSING	2	9	1
2283	2281	YARN MILLS, WOOL, Including CARPET & RUG	410	C	LOW WATER USE PROCESSING	2	9	2
2283	2282	YARN MILLS, WOOL, Including CARPET & RUG	410	C	LOW WATER USE PROCESSING	2	9	3
2283	2284	YARN MILLS, WOOL, Including CARPET & RUG	410	G	STOCK AND YARN FINISHING	7	9	4
2284	2284	THREAD MILLS	410	C	LOW WATER USE PROCESSING	2	9	1
2284	2284	THREAD MILLS	410	G	FELTED FABRIC PROCESSING	7	9	2
2291	2299	FELT GOODS, EXC WOVEN FELTS AND HATS	410	I	FELTED FABRIC PROCESSING	1	5	0
2292	2258	LACE GOODS	410	C	LOW WATER USE PROCESSING	2	9	1
2292	2258	LACE GOODS	410	E	KNIT FABRIC FINISHING	9	10	2
2293	2299	PADDINGS AND UPHOLSTERY FILLING		NR	PADDING & UPHOLSTERY FILLING	1	1	99
2294	2299	PROCESSED WASTE AND RECOVERED FIBERS &	410	C	LOW WATER USE PROCESSING	2	9	0
2295	2295	COATED FABRICS, NOT RUBBERIZED	410	C	LOW WATER USE PROCESSING	2	9	0
2296	2296	TIRE CORD AND FABRIC	410	C	LOW WATER USE PROCESSING	2	9	0

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2297	2297	NONWOVEN FABRICS	410	N	NONWOVEN MANUFACTURING	1	8	0
2298	2298	CORDAGE AND TWINE	410	C	LOW WATER USE PROCESSING	2	9	0
2299	2299	TEXTILE GOODS NEC	410	A	WOOL SCOURING	10	10	1
2299	2299	TEXTILE GOODS NEC	410	C	LOW WATER USE PROCESSING	2	9	2
2311	2311	MEN'S, YOUTH'S, BOY'S SHIRTS (EXCEPT WOR		NR		1	1	99
2321	2321	MEN'S, YOUTH'S, BOY'S SHIRTS (EXCEPT WOR		NR		1	1	99
2321	2322	MEN'S, YOUTH'S, BOY'S SHIRTS (EXCEPT WOR		NR		1	1	99
2322	2322	MEN'S, YOUTH'S, & BOY'S UNDERWEAR		NR		1	1	99
2323	2323	MEN'S, YOUTH'S, & BOY'S NECKWEAR		NR		1	1	99
2327	2325	MEN'S, YOUTH'S, & BOY'S SEPARATE TROUSERS		NR		1	1	99
2328	2325	MEN'S, YOUTH'S, & BOY'S WORK CLOTHING		NR		1	1	99
2328	2326	MEN'S, YOUTH'S, & BOY'S WORK CLOTHING		NR		1	1	99
2329	2329	MEN'S, YOUTH'S, & BOY'S CLOTHING, NEC		NR		1	1	99
2331	2331	WOMEN'S, MISSES & JUNIORS' BLOUSES, WAIS		NR		1	1	99
2335	2335	WOMEN'S, MISSES & JUNIORS' DRESSES		NR		1	1	99
2337	2337	WOMEN'S, MISSES & JUNIORS' SUITS, SHIRT		NR		1	1	99
2339	2339	WOMEN'S, MISSES & JUNIORS' OUTERWEAR, H		NR		1	1	99
2341	2341	WOMEN'S, MISSES, CHILDREN'S & INFANTS'		NR		1	1	99
2342	2342	BRASSIERS, GIRDLES & ALLIED GARMENTS		NR		1	1	99
2351	2353	MILLINERY		NR		1	1	99
2352	2353	HATS & COATS, EXCEPT MILLINERY		NR		1	1	99
2361	2361	GIRL'S, CHILDREN'S AND INFANT'S DRESSES, B		NR		1	1	99
2363	2369	GIRL'S, CHILDREN'S AND INFANT'S COATS & SU		NR		1	1	99
2369	2369	GIRL'S, CHILDREN'S & INFANT'S OUTERWEAR		NR		1	1	99
2371	2371	FUR GOODS		NR		1	1	99
2381	2381	DRESS & WORK GLOVES, EXCEPT KNIT & ALL-L		NR		1	1	99
2384	2384	ROBES & DRESSING GOWNS		NR		1	1	99
2385	2385	RAINCOATS & Other WATERPROOF OUTER GARM		NR		1	1	99
2386	2386	LEATHER & SHEEP-LINED CLOTHING		NR		1	1	99
2387	2387	APPAREL BELTS		NR		1	1	99
2389	2389	APPAREL & ACCESSORIES, NEC		NR		1	1	99
2391	2391	CURTAINS & DRAPERIES		NR		1	1	99
2392	2392	HOUSEFURNISHINGS, Except CURTAINS & DRAP		NR		1	1	99
2393	2393	TEXTILE BAGS		NR		1	1	99
2394	2394	CANVAS & RELATED PRODUCTS		NR		1	1	99
2395	2395	PLEATING, DECORATIVE & NOVELTY STICHING		NR		1	1	99
2396	2396	AUTOMOTIVE TRIMMINGS, APPAREL FINDINGS		NR		1	1	99
2397	2397	SCHIFFLI MACHINE EMBROIDERIES		NR		1	1	99
2399	2399	FABRICATED TEXTILE PRODUCTS, NEC		NR		1	1	99
2411	2411	LOGGING CAMPS AND LOGGING CONTRACTORS	429	I	WET STORAGE	1	1	1
2411	2411	LOGGING CAMPS AND LOGGING CONTRACTORS	429	U	LOG WASHING	1	1	2
2411	2411	LOGGING CAMPS AND LOGGING CONTRACTORS		NR		1	1	99
2421	2411	SAWMILLS & PLANING MILLS, GENERAL				3	3	1
2421	2421	SAWMILLS & PLANING MILLS, GENERAL,	429	A	BARKING	1	1	2
2421	2421	SAWMILLS & PLANING MILLS, GENERAL	429	K	SAWMILLS AND PLANING MILLS	1	1	3
2421	2421	SAWMILLS & PLANING MILLS, GENERAL	429	L	FINISHING	1	1	4
2426	2426	HARDWOOD DIMENSION & FLOORING MILLS	429	A	BARKING	1	1	1
2426	2426	HARDWOOD DIMENSION & FLOORING MILLS	429	I	WET STORAGE	1	1	2
2426	2426	HARDWOOD DIMENSION & FLOORING MILLS	429	J	LOG WASHING	1	1	3
2426	2426	HARDWOOD DIMENSION & FLOORING MILLS	429	K	SAWMILLS AND PLANING MILLS	1	1	4
2426	2426	HARDWOOD DIMENSION & FLOORING MILLS	429	L	FINISHING	1	1	5
2429	2429	SPECIAL PRODUCT SAWMILLS NEC	429	I	WET STORAGE	1	1	1
2429	2429	SPECIAL PRODUCT SAWMILLS NEC	429	J	LOG WASHING	1	1	2
2429	2429	SPECIAL PRODUCT SAWMILLS NEC	429	K	SAWMILLS AND PLANING MILLS	1	1	3

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2429	2429	SPECIAL PRODUCT SAWMILLS NEC	429	L	MILLWORK	1	1	4
2431	2431	MILLWORK	429	K	SAWMILLS AND PLANING MILLS	1	1	1
2431	2431	MILLWORK	429	L	MILLWORK	1	1	2
2434	2434	WOOD KITCHEN CABINETS	429	O	WOOD FURN & Fixture Prod w/o Water	1	1	1
2434	2434	WOOD KITCHEN CABINETS	429	P	WOOD FURN & Fixture Prod w/ Water	1	1	2
2435	2435	HARDWOOD VENEER AND PLYWOOD	429	A	BARKING	1	1	1
2435	2435	HARDWOOD VENEER AND PLYWOOD	429	B	VENEER	1	1	3
2435	2435	HARDWOOD VENEER AND PLYWOOD	429	C	PLYWOOD	1	1	2
2435	2435	HARDWOOD VENEER AND PLYWOOD	429	I	WET STORAGE	1	1	4
2435	2435	HARDWOOD VENEER AND PLYWOOD	429	J	LOG WASHING	1	1	5
2436	2436	SOFTWOOD VENEER AND PLYWOOD	429	A	BARKING	1	1	1
2436	2436	SOFTWOOD VENEER AND PLYWOOD	429	B	VENEER	1	1	3
2436	2436	SOFTWOOD VENEER AND PLYWOOD	429	C	PLYWOOD	1	1	2
2436	2436	SOFTWOOD VENEER AND PLYWOOD	429	I	WET STORAGE	1	1	4
2436	2436	SOFTWOOD VENEER AND PLYWOOD	429	J	LOG WASHING	1	1	5
2439	2439	STRUCTURAL WOOD MEMBERS, NEC		NR		1	1	99
2441	2441	NAILED & LOCK CORNER WOOD Boxes & Shook		NR		1	1	99
2448	2448	WOOD PALLETS AND SKIDS		NR		1	1	99
2449	2449	WOOD CONTAINERS NEC	429	K	SAWMILLS	1	1	0
2451	2451	MOBILE HOMES		NR		1	1	99
2452	2452	Prefabricated WOOD BUILDINGS & COMPONENTS		NR		1	1	99
2491	2491	WOOD PRESERVING	429	A	BARKING	10	10	4
2491	2491	WOOD PRESERVING	429	J	LOG WASHING	10	10	6
2491	2491	WOOD PRESERVING	429	G	WOOD PRESERVING-STEAM	10	10	1
2491	2491	WOOD PRESERVING	429	H	WOOD PRESERVING-BOULTONIZING	10	10	2
2491	2491	WOOD PRESERVING	429	I	WET STORAGE	10	10	5
2491	2491	WOOD PRESERVING	429	F	WOOD PRESERVING	10	10	3
2491	2491	WOOD PRESERVING	429	M	PARTICLEBOARD	3	3	0
2492	2493	PARTICLEBOARD		NR		3	3	99
2499	2493	WOOD PRODUCTS, NEC	429	M	PARTICLEBOARD	1	1	1
2499	2499	WOOD PRODUCTS, NEC	429	A	BARKING	1	1	2
2499	2499	WOOD PRODUCTS, NEC	429	D	HARDBOARD – DRY PROCESS	1	1	3
2499	2499	WOOD PRODUCTS, NEC	429	E	HARDBOARD – WET PROCESS	1	7	4
2499	2499	WOOD PRODUCTS, NEC	429	I	WET STORAGE	1	1	5
2499	2499	WOOD PRODUCTS, NEC	429	J	LOG WASHING	1	1	6
2499	2499	WOOD PRODUCTS, NEC	429	L	FINISHING	1	1	7
2511	2511	WOOD HOUSEHOLD FURNITURE, Except UPHOLS	429	O	WOOD FURN & Fixture Prod w/o Water	1	1	1
2511	2511	WOOD HOUSEHOLD FURNITURE, Except UPHOLS	429	P	WOOD FURN & Fixture Prod w/ Water	1	1	2
2512	2512	WOOD HOUSEHOLD FURNITURE, UPHOLSTERED	429	O	WOOD FURN & Fixture Prod w/o Water	1	1	1
2512	2512	WOOD HOUSEHOLD FURNITURE, UPHOLSTERED	429	P	WOOD FURN & Fixture Prod w/ Water	1	1	2
2514	2514	METAL HOUSEHOLD FURNITURE	433	A	METAL FINISHING	1	9	1
2514	2514	METAL HOUSEHOLD FURNITURE		NR		1	1	99
2515	2515	MATTRESSES & BEDSPRINGS		NR		1	1	99
2517	2517	WOOD TV, RADIO, Phonograph & SEWING MACHI?	429	O	WOOD FURN & Fixture Prod w/o Water	1	1	1
2517	2517	WOOD TV, RADIO, Phonograph & SEWING MACHI?	429	P	WOOD FURN & Fixture Prod w/ Water	1	1	2
2519	2519	HOUSEHOLD FURNITURE, NEC	429	P	WOOD FURN & Fixture Prod w/ Water	1	1	2
2519	2519	HOUSEHOLD FURNITURE, NEC	429	O	WOOD FURN & Fixture Prod w/o Water	1	1	1
2521	2521	WOOD OFFICE FURNITURE	429	O	WOOD FURN & Fixture Prod w/o Water	1	1	1
2521	2521	WOOD OFFICE FURNITURE	429	P	WOOD FURN & Fixture Prod w/ Water	1	1	2
2522	2522	METAL OFFICE FURNITURE	433	A	METAL FINISHING	1	9	0
2522	2522	METAL OFFICE FURNITURE		NR		1	1	99
2531	2531	PUBLIC BUILDING & RELATED FURNITURE	429	O	WOOD FURN & Fixture Prod w/o Water	1	1	1
2531	2531	PUBLIC BUILDING & RELATED FURNITURE	429	P	WOOD FURN & Fixture Prod w/ Water	1	1	2
2541	2541	WOOD PARTITIONS, SHELVING, LOCKERS & OFF	429	O	WOOD FURN & Fixture Prod w/o Water	1	1	1

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2541	2541	WOOD PARTITIONS, SHELVING, LOCKERS & OFF	429	P	WOOD FURN & Fixture Prod w/o Water	1	1	2
2542	2542	METAL PARTITIONS, SHELVING, LOCKERS & OFI	433	A	METAL FINISHING	1	9	0
2542	2542	METAL PARTITIONS, SHELVING, LOCKERS & OFI		NR	NO ELECTROPLATING	1	1	99
2591	2591	DRAPERY HARDWARE & WINDOW Blinds & Shade		NR		1	1	99
2599	2522	FURNITURE AND FIXTURES, NEC	433	A	METAL FINISHING	1	9	1
2599	2522	FURNITURE AND FIXTURES, NEC		NR	NO ELECTROPLATING	1	1	99
2599	2542	FURNITURE AND FIXTURES, NEC	433	A	METAL FINSHING	1	9	2
2599	2542	FURNITURE AND FIXTURES, NEC			NO ELECTROPLATING	1	1	3
2599	2599	FURNITURE AND FIXTURES, NEC	429	O	WOOD FURN & Fixture Prod. w/o Water	1	1	4
2599	2599	FURNITURE AND FIXTURES, NEC	429	P	WOOD FURN & Fixture Prod. with Water	1	1	5
2611	2611	PULP MILLS	430	A	UNBLEACHED KRAFT	10	10	1
2611	2611	PULP MILLS	430	B	SEMI-CHEMICAL	1	5	2
2611	2611	PULP MILLS	430	J	PAPER GRADE SULFITE (blow pit wash)	10	10	8
2611	2611	PULP MILLS	430	D	UNBL KRAFT-NTRL Sulfite-Semi-Chem	10	10	3
2611	2611	PULP MILLS	430	G	MARKET BLEACHED KRAFT	10	10	5
2611	2611	PULP MILLS	430	H	Board, Course & Kraft BLEACHED Kraft	10	10	6
2611	2611	PULP MILLS	430	I	FINE BLEACHED KRAFT	10	10	7
2611	2611	PULP MILLS	430	F	DISSOLVING KRAFT	10	10	4
2611	2611	PULP MILLS	430	K	DISSOLVING SULFITE PULP	10	10	9
2611	2611	PULP MILLS	430	L	Groundwood CHEMI-MECHANICAL	2	4	10
2611	2611	PULP MILLS	430	M	Groundwood THERMO-MECHANICAL	2	4	11
2611	2611	PULP MILLS	430	N	Groundwood Coarse,Molded &NewsPapers	2	4	12
2611	2611	PULP MILLS	430	O	GROUNDWOOD FINE PAPERS	2	4	13
2611	2611	PULP MILLS	430	P	SODA	4	5	14
2611	2611	PULP MILLS	430	U	PAPER GRADE SULFITE (drum wash)	8	8	15
2611	2611	PULP MILLS	430	V	UNBLEACHED Kraft & Semi-Chemical	10	10	16
2621	2611	PAPER MILLS EXCEPT BUILDING PAPER	430	A	UNBLEACHED KRAFT	10	10	1
2621	2611	PAPER MILLS EXCEPT BUILDING PAPER	430	B	SEMI-CHEMICAL	1	5	2
2621	2611	PAPER MILLS EXCEPT BUILDING PAPER	430	D	UNBL Kraft-NTRL Sulfite Semi-Chemical	10	10	3
2621	2611	PAPER MILLS EXCEPT BUILDING PAPER	430	F	DISSOLVING KRAFT	10	10	4
2621	2611	PAPER MILLS EXCEPT BUILDING PAPER	430	G	MARKET BLEACHED KRAFT	10	10	5
2621	2611	PAPER MILLS EXCEPT BUILDING PAPER	430	H	Board, Course & Kraft BLEACHED Kraft	10	10	6
2621	2611	PAPER MILLS EXCEPT BUILDING PAPER	430	I	FINE BLEACHED KRAFT	10	10	7
2621	2611	PAPER MILLS EXCEPT BUILDING PAPER	430	J	PAPER GRADE SULFITE (blow pit wash)	10	10	8
2621	2611	PAPER MILLS EXCEPT BUILDING PAPER	430	O	GROUNDWOOD FINE PAPERS	2	4	13
2621	2611	PAPER MILLS EXCEPT BUILDING PAPER	430	L	Groundwood Chemi-Mechanical	2	4	10
2621	2611	PAPER MILLS EXCEPT BUILDING PAPER	430	M	Groundwood Thermo-Mechanical	2	4	11
2621	2611	PAPER MILLS EXCEPT BUILDING PAPER	430	N	Groundwood Coarse,Molded &Newspapers	2	4	12
2621	2611	PAPER MILLS EXCEPT BUILDING PAPER	430	K	DISSOLVING SULFITE PULP	10	10	9
2621	2611	PAPER MILLS EXCEPT BUILDING PAPER	430	P	SODA	4	5	14
2621	2611	PAPER MILLS EXCEPT BUILDING PAPER	430	U	PAPER GRADE SULFITE (drum wash)	8	8	15
2621	2611	PAPER MILLS EXCEPT BUILDING PAPER	430	V	UNBLEACHED Kraft & Semi-Chemical	10	10	16
2621	2621	PAPER MILLS EXCEPT BUILDING PAPER	430	A	UNBLEACHED KRAFT	10	10	17
2621	2621	PAPER MILLS EXCEPT BUILDING PAPER	430	B	SEMI-CHEMICAL	1	5	18
2621	2621	PAPER MILLS EXCEPT BUILDING PAPER	430	D	UnbleachedKraft-Ntrl Sulfite-Semi-Chemic	10	10	19
2621	2621	PAPER MILLS EXCEPT BUILDING PAPER	430	U	PAPERGRADE SULFITE (drum wash)	8	8	30
2621	2621	PAPER MILLS EXCEPT BUILDING PAPER	430	V	UNBLEACHED Kraft & Semi-Chemical	10	10	31
2621	2621	PAPER MILLS EXCEPT BUILDING PAPER	430	I	FINE BLEACHED KRAFT	10	10	21
2621	2621	PAPER MILLS EXCEPT BUILDING PAPER	430	X	NONINTEGRATED Lightweight PAPERS	1	2	32
2621	2621	PAPER MILLS EXCEPT BUILDING PAPER	430	L	Groundwood Chemi-Mechanical	2	4	23
2621	2621	PAPER MILLS EXCEPT BUILDING PAPER	430	Y	NonIntegrated Filter & NonWooven Papers	1	5	33
2621	2621	PAPER MILLS EXCEPT BUILDING PAPER	430	N	Groundwood Coarse,Molded &Newspapers	2	4	25
2621	2621	PAPER MILLS EXCEPT BUILDING PAPER	430	P	SODA	4	5	27
2621	2621	PAPER MILLS EXCEPT BUILDING PAPER	430	R	NONINTEGRATED FINE PAPERS	1	5	29

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2621	2621	PAPER MILLS EXCEPT BUILDING PAPER	430	H	Board, Coarse & Tissue Bleached Kraft	10	10	20
2621	2621	PAPER MILLS EXCEPT BUILDING PAPER	430	J	PAPER GRADE SULFITE (blow pit wash)	10	10	22
2621	2621	PAPER MILLS EXCEPT BUILDING PAPER	430	M	GROUNDWOOD Thermo-Chemical	2	4	24
2621	2621	PAPER MILLS EXCEPT BUILDING PAPER	430	O	GROUNDWOOD FINE PAPERS	2	4	26
2621	2621	PAPER MILLS EXCEPT BUILDING PAPER	430	Q	DEINK	4	7	28
2631	2611	PAPERBOARD MILLS	430	A	UNBLEACHED KRAFT	10	10	1
2631	2611	PAPERBOARD MILLS	430	B	SEMI-CHEMICAL	1	5	2
2631	2611	PAPERBOARD MILLS	430	D	UNBL Kraft-NTRL Sulfite Semi-Chemical	10	10	3
2631	2611	PAPERBOARD MILLS	430	H	Board, Coarse & Tissue Bleached Kraft	10	10	4
2631	2611	PAPERBOARD MILLS	430	I	FINE BLEACHED KRAFT	10	10	5
2631	2611	PAPERBOARD MILLS	430	J	PAPER GRADE SULFITE (blow pit wash)	5	8	6
2631	2611	PAPERBOARD MILLS	430	L	GROUNDWOOD Chemi-Mechanical	2	4	7
2631	2611	PAPERBOARD MILLS	430	M	GROUNDWOOD Thermo-Mechanical	2	4	8
2631	2631	PAPERBOARD MILLS	430	A	SEMI-CHEMICAL	1	5	19
2631	2611	PAPERBOARD MILLS	430	N	Groundwood Coarse,Molded &Newspapers	2	4	9
2631	2631	PAPERBOARD MILLS	430	D	UNBL Kraft NTRL Sulfite Semi-Chemical	10	10	20
2631	2611	PAPERBOARD MILLS	430	P	SODA	4	5	11
2631	2631	PAPERBOARD MILLS	430	E	PAPERBOARD FROM WASTE PAPER	2	6	21
2631	2611	PAPERBOARD MILLS	430	R	NONINTEGRATED FINE PAPERS	1	5	13
2631	2631	PAPERBOARD MILLS	430	H	Board, Coarse Tissue Bleached Kraft	10	10	22
2631	2611	PAPERBOARD MILLS	430	V	UNBLEACHED Kraft & Semi-Chemical	10	10	15
2631	2631	PAPERBOARD MILLS	430	S	NONINTEGRATED TISSUE PAPERS	1	4	23
2631	2611	PAPERBOARD MILLS	430	Y	NonIntegrated Filter & Wooven Papers	1	5	17
2631	2631	PAPERBOARD MILLS	430	V	UNBLEACHED Kraft & Semi-Chemical	10	10	24
2631	2611	PAPERBOARD MILLS	430	O	GROUNDWOOD FINE PAPERS	2	4	10
2631	2611	PAPERBOARD MILLS	430	U	PAPERGRADE SULFITE (drum wash)	1	8	14
2631	2611	PAPERBOARD MILLS	430	X	NonIntegrated Lightweight Papers	1	2	16
2631	2631	PAPERBOARD MILLS	430	A	UNBLEACHED KRAFT	10	10	18
2631	2611	PAPERBOARD MILLS	430	Q	DEINK	4	7	12
2631	2631	PAPERBOARD MILLS	430	Z	NONINTEGRATED PAPERBOARD	1	4	25
2641	2671	PAPER COATING AND GLAZING		NR	CONVERTED PAPER	1	1	99
2641	2672	PAPER COATING AND GLAZING		NR	CONVERTED PAPER	1	1	99
2642	2677	ENVELOPES		NR	CONVERTED PAPER	1	1	99
2643	2674	BAGS, EXCEPT TEXTILE BAGS		NR	CONVERTED PAPER	1	1	99
2643	2673	BAGS, EXCEPT TEXTILE BAGS		NR	CONVERTED PAPER	1	1	99
2645	2675	DIE-CUT PAPER, PAPERBOARD & CARDBOARD		NR	CONVERTED PAPER	1	1	99
2646	2679	PRESSED AND MOLDED PULP GOODS		NR	CONVERTED PAPER	1	1	99
2647	2676	SANITARY PAPER PRODUCTS		NR	CONVERTED PAPER	1	1	99
2648	2678	STATIONARY, TABLETS & RELATED PRODUCTS		NR	CONVERTED PAPER	1	1	99
2649	2679	CONVERTED PAPER & PAPERBOARD PRODUCTS		NR	CONVERTED PAPER	1	1	99
2651	2657	FOLDING PAPERBOARD BOXES		NR	CONVERTED PAPER	1	1	99
2652	2652	SET-UP PAPERBOARD BOXES		NR	CONVERTED PAPER	1	1	99
2653	2653	CORRUGATED AND SOLID FIBER BOXES		NR	CONVERTED PAPER	1	1	99
2654	2657	SANITARY FOOD CONTAINERS		NR	CONVERTED PAPER	1	1	99
2654	2656	SANITARY FOOD CONTAINERS		NR	CONVERTED PAPER	1	1	99
2655	2655	FIBER CANS, TUBES, DRUMS & SIMILAR PRODU(		NR	CONVERTED PAPER	1	1	99
2661	2493	BUILDING PAPER & BUILDINGBOARD MILLS	429	NR	PARTICLEBOARD	1	1	1
2661	2621	BUILDING PAPER & BUILDINGBOARD MILLS	431	A	BUILDER'S PAPER & ROOFING FELT	1	8	2
2711	2711	NEWSPAPERS: PUBLISHING, PUBLISHING & PRIN		NR		3	3	99
2721	2721	PERIODICALS: PUBLISHING, PUBLISHING & PRIN		NR		3	3	99
2731	2731	BOOKS: PUBLISHING, PUBLISHING & PRINTING		NR		3	3	99
2732	2732	BOOK PRINTING		NR		3	3	99
2741	2741	MISCELLANEOUS PUBLISHING		NR		3	3	99
2751	2759	COMMERCIAL PRINTING, LETTERPRESS & SCREI		NR		3	3	99

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2752	2752	COMMERCIAL PRINTING, LITHOGRAPHIC		NR		3	3	99
2753	2796	ENGRAVING & PLATE PRINTING		NR		3	3	99
2753	2759	ENGRAVING & PLATE PRINTING		NR		3	3	99
2754	2796	COMMERCIAL PRINTING, GRAVURE		NR		3	3	99
2754	2754	COMMERCIAL PRINTING, GRAVURE		NR		3	3	99
2761	2761	MANIFOLD BUSINESS FORMS		NR		3	3	99
2771	2771	GREETING CARD PUBLISHING		NR		3	3	99
2782	2782	BLANKBOOKS, LOOSELEAF BINDERS & DEVICES		NR		3	3	99
2789	2789	BOOKBINDING & RELATED WORK		NR		3	3	99
2791	2719	TYPESETTING		NR		3	3	99
2793	2796	PHOTOENGRAVING		NR		3	3	99
2794	2796	ELECTROTYPING & STEREOTYPING		NR		3	3	99
2795	2796	LITHOGRAPHIC PLATEMAKING & Related Services		NR		3	3	99
2812	2812	ALKALIES AND CHLORINE	415	F	CHLORINE & Sodium or Potassium Hydr.	10	10	1
2812	2812	ALKALIES AND CHLORINE	415	F	Chlorine & Sod/Pot Hydr. (mercury cell)	10	10	3
2812	2812	ALKALIES AND CHLORINE	415	F	Chlorine & Sod/Pot Hydr. (diaphragm cell)	10	10	2
2812	2812	ALKALIES AND CHLORINE	415	N	SODIUM BICARBONATE	3	3	5
2812	2812	ALKALIES AND CHLORINE	415	O	SODIUM CARBONATE	6	6	4
2812	2812	ALKALIES AND CHLORINE		NR	POTASSIUM CARBONATE	3	3	99
2812	2812	ALKALIES AND CHLORINE		NR	NON-CONTACT COOLING Water ONLY	1	1	99
2813	2813	INDUSTRIAL GASES	415	AF	CARBON DIOXIDE	3	3	1
2813	2813	INDUSTRIAL GASES	415	AO	HYDROGEN	3	3	2
2813	2813	INDUSTRIAL GASES	415	AW	OXYGEN & NITROGEN	3	3	3
2813	2813	INDUSTRIAL GASES		NR	Gases, IND Compressed Liquid/Solid, NEC	3	3	99
2813	2813	INDUSTRIAL GASES		NR	NITROUS OXIDE	3	3	99
2813	2813	INDUSTRIAL GASES		NR	NON-CONTACT COOLING Water ONLY	1	1	99
2816	2816	INORGANIC PIGMENTS	415	V	TITANIUM DIOXIDE (sulfate process)	8	9	1
2816	2816	INORGANIC PIGMENTS	415	V	TITANIUM DIOXIDE (chloride process)	1	2	2
2816	2816	INORGANIC PIGMENTS	415	AH	CHROME PIGMENTS	1	8	3
2816	2816	INORGANIC PIGMENTS		NR	BARYTES PIGMENTS	6	6	99
2816	2816	INORGANIC PIGMENTS	415	BJ	ZINC OXIDE	6	6	4
2816	2816	INORGANIC PIGMENTS		NR	LEAD DIOXIDE, BROWN (Pb02)	6	6	99
2816	2816	INORGANIC PIGMENTS		NR	LEAD OXIDE, RED (Pb304)	6	6	99
2816	2816	INORGANIC PIGMENTS		NR	BARIUM SULFATE	6	6	99
2816	2816	INORGANIC PIGMENTS		NR	White Lead Pigment (Pb(ON)2+PbCO)3	6	6	99
2816	2816	INORGANIC PIGMENTS		NR	IRON COLORS	6	6	99
2816	2816	INORGANIC PIGMENTS		NR	IRON OXIDE, BLACK	6	6	99
2816	2816	INORGANIC PIGMENTS		NR	IRON OXIDE, MAGNETIC	6	6	99
2816	2816	INORGANIC PIGMENTS		NR	IRON OXIDE, YELLOW	6	6	99
2816	2816	INORGANIC PIGMENTS		NR	OCHERS	6	6	99
2816	2816	INORGANIC PIGMENTS		NR	SATIN WHITE PIGMENT	6	6	99
2816	2816	INORGANIC PIGMENTS		NR	NON-CONTACT COOLING Water ONLY	1	1	99
2816	2816	INORGANIC PIGMENTS		NR	ULTRAMARINE PIGMENT	6	6	99
2816	2816	INORGANIC PIGMENTS		NR	UMBERS	6	6	99
2816	2816	INORGANIC PIGMENTS		NR	WHITING	6	6	99
2816	2816	INORGANIC PIGMENTS		NR	SIENNAS	6	6	99
2816	2816	INORGANIC PIGMENTS		BL	CADMIUM PIGMENTS	10	10	5
2819	2819	INORGANIC CHEMICALS NEC	415	A	ALUMINUM CHLORIDE	6	6	1
2819	2819	INORGANIC CHEMICALS NEC	415	B	ALUMINUM SULFATE	3	3	6
2819	2819	INORGANIC CHEMICALS NEC	415	C	CALCIUM CARBIDE	3	3	26
2819	2819	INORGANIC CHEMICALS NEC	415	D	CALCIUM CHLORIDE	6	6	28
2819	2819	INORGANIC CHEMICALS NEC	415	J	NITRIC ACID	3	3	81
2819	2819	INORGANIC CHEMICALS NEC	415	G	HYDROCHLORIC ACID	3	3	51
2819	2819	INORGANIC CHEMICALS NEC	415	H	HYDROFLUORIC ACID	8	9	52

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2819	2819	INORGANIC CHEMICALS NEC	415	I	HYDROGEN PEROXIDE	3	3	55
2819	2819	INORGANIC CHEMICALS NEC	415	E	CALCIUM OXIDE	6	6	31
2819	2819	INORGANIC CHEMICALS NEC	415	K	POTASSIUM METAL	3	3	166
2819	2819	INORGANIC CHEMICALS NEC	415	L	POTASSIUM DICHROMATE	3	3	96
2819	2819	INORGANIC CHEMICALS NEC	415	M	POTASSIUM SULFATE	6	6	102
2819	2819	INORGANIC CHEMICALS NEC	415	P	SODIUM CHLORIDE	6	6	121
2819	2819	INORGANIC CHEMICALS NEC	415	Q	SODIUM Dichromate/SODIUM Sulfate	3	3	126
2819	2819	INORGANIC CHEMICALS NEC	415	R	SODIUM METAL	3	3	128
2819	2819	INORGANIC CHEMICALS NEC	415	AD	CALCIUM CARBONATE	3	3	27
2819	2819	INORGANIC CHEMICALS NEC	415	AE	CALCIUM HYDROXIDE	6	6	165
2819	2819	INORGANIC CHEMICALS NEC	415	T	SODIUM SULFITE	6	6	131
2819	2819	INORGANIC CHEMICALS NEC	415	AG	Calcium Monoxide & By-Product Hydroger	3	3	32
2819	2819	INORGANIC CHEMICALS NEC	415	W	ALUMINUM FLUORIDE	7	8	3
2819	2819	INORGANIC CHEMICALS NEC	415	AI	CHROMIC ACID	3	3	35
2819	2819	INORGANIC CHEMICALS NEC	415	Y	AMMONIUM HYDROXIDE	3	3	11
2819	2819	INORGANIC CHEMICALS NEC	415	AJ	COPPER SULFATE	10	10	43
2819	2819	INORGANIC CHEMICALS NEC	415	AA	BORAX	3	3	19
2819	2819	INORGANIC CHEMICALS NEC	415	AK	CUPROUS OXIDE	10	10	44
2819	2819	INORGANIC CHEMICALS NEC	415	AC	BROMINE	3	3	24
2819	2819	INORGANIC CHEMICALS NEC	415	AL	FERRIC CHLORIDE	3	3	45
2819	2819	INORGANIC CHEMICALS NEC	415	U	SULFURIC ACID	3	3	144
2819	2819	INORGANIC CHEMICALS NEC	415	Z	BARIUM CARBONATE	3	3	15
2819	2819	INORGANIC CHEMICALS NEC	415	AB	BORIC ACID	6	6	20
2819	2819	INORGANIC CHEMICALS NEC	415	S	SDIUM SILICATE	3	3	129
2819	2819	INORGANIC CHEMICALS NEC	415	X	AMMONIUM CHLORIDE	3	3	9
2819	2819	INORGANIC CHEMICALS NEC	415	AN	FERROUS SULFATE	3	3	46
2819	2819	INORGANIC CHEMICALS NEC	415	AN	FLUORINE	3	3	48
2819	2819	INORGANIC CHEMICALS NEC	415	AO	HYDROGEN	3	3	53
2819	2819	INORGANIC CHEMICALS NEC	415	AP	HYDROGEN CYANIDE	1	7	54
2819	2819	INORGANIC CHEMICALS NEC	415	AQ	IODINE	3	3	61
2819	2819	INORGANIC CHEMICALS NEC		NR	SILVER OXIDE	6	6	99
2819	2819	INORGANIC CHEMICALS NEC	415	AR	LEAD MONOXIDE	3	3	64
2819	2819	INORGANIC CHEMICALS NEC		NR	SODA ALLUM	6	6	99
2819	2819	INORGANIC CHEMICALS NEC	415	AT	MANGANESE SULFATE	3	3	71
2819	2819	INORGANIC CHEMICALS NEC		NR	SODIUM ANTIMONIATE	6	6	99
2819	2819	INORGANIC CHEMICALS NEC	415	AV	NITRIC ACID (STRONG)	3	3	80
2819	2819	INORGANIC CHEMICALS NEC	415	BN	SODIUM CHLORATE	10	10	120
2819	2819	INORGANIC CHEMICALS NEC	415	AY	POTASSIUM IODIDE	3	3	98
2819	2819	INORGANIC CHEMICALS NEC		NR	SODIUM COMPOUNDS, INORGANIC	6	6	99
2819	2819	INORGANIC CHEMICALS NEC	415	BA	SILVER NITRATE	6	6	115
2819	2819	INORGANIC CHEMICALS NEC		NR	SODIUM CYANIDE	6	6	99
2819	2819	INORGANIC CHEMICALS NEC	415	BC	SODIUM FLUORIDE	3	3	125
2819	2819	INORGANIC CHEMICALS NEC		NR	STANNIC & STAMMOUS CHLORIDE	6	6	99
2819	2819	INORGANIC CHEMICALS NEC	415	BE	SODIUM HYDROSULFITE	3	3	126
2819	2819	INORGANIC CHEMICALS NEC		NR	Strontium Carbonate (Presipitated/oxide)	6	6	99
2819	2819	INORGANIC CHEMICALS NEC	415	BG	SODIUM THIOSULFATE	3	3	132
2819	2819	INORGANIC CHEMICALS NEC		NR	STRONTIUM NITRATE	6	6	99
2819	2819	INORGANIC CHEMICALS NEC	415	BI	SULFUR DIOXIDE	3	3	141
2819	2819	INORGANIC CHEMICALS NEC		NR	SULFIDES AND SULFITES	6	6	99
2819	2819	INORGANIC CHEMICALS NEC	415	BK	ZINC SULFATE	3	3	149
2819	2819	INORGANIC CHEMICALS NEC		NR	SULFOCYANIDES	6	6	99
2819	2819	INORGANIC CHEMICALS NEC		NR	ALUMINUM HYDROXIDE	6	6	99
2819	2819	INORGANIC CHEMICALS NEC		NR	SULFUR	6	6	99
2819	2819	INORGANIC CHEMICALS NEC		NR	ALUMS	6	6	99

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2819	2819	INORGANIC CHEMICALS NEC		NR	SULFUR HEXAFLUORIDE	6	6	99
2819	2819	INORGANIC CHEMICALS NEC		NR	AMMONIUM COMPOUNDS	6	6	99
2819	2819	INORGANIC CHEMICALS NEC		NR	THIOCYANATES, INORGANIC	6	6	99
2819	2819	INORGANIC CHEMICALS NEC		NR	AMMONIUM PERCHLORATE	6	6	99
2819	2819	INORGANIC CHEMICALS NEC		NR	TIN COMPOUNDS, INORGANIC	6	6	99
2819	2819	INORGANIC CHEMICALS NEC		NR	Barium Compounds (not produced at mines	6	6	99
2819	2819	INORGANIC CHEMICALS NEC		NR	URANIUM SLAG, RADIOACTIVE	6	6	99
2819	2819	INORGANIC CHEMICALS NEC		NR	Boron Compounds (not produced at mines)	6	6	99
2819	2819	INORGANIC CHEMICALS NEC	415	BO	ZINC CHLORIDE	10	10	147
2819	2819	INORGANIC CHEMICALS NEC		NR	BRINE CHEMICALS	6	6	99
2819	2819	INORGANIC CHEMICALS NEC		NR	ZINC SULFIDE	6	6	99
2819	2819	INORGANIC CHEMICALS NEC		NR	CALCIUM HYPOCHLORITE	6	6	99
2819	2819	INORGANIC CHEMICALS NEC		NR	CALCIUM	3	3	99
2819	2819	INORGANIC CHEMICALS NEC		NR	CHLOROSULFONIC ACID	6	6	99
2819	2819	INORGANIC CHEMICALS NEC		NR	NON-CONTACT COOLING WATER	1	1	99
2819	2819	INORGANIC CHEMICALS NEC		NR	CHRONIUM SULFATE	6	6	99
2819	2819	INORGANIC CHEMICALS NEC	419	E	Integrated Refineries (SULFUR Recovery)	6	6	139
2819	2819	INORGANIC CHEMICALS NEC	415	BM	COBALT SALTS (COBALT SULFATE)	1	8	39
2819	2819	INORGANIC CHEMICALS NEC	421	A	BAUXITE REFINING	5	10	164
2819	2819	INORGANIC CHEMICALS NEC		NR	COPPER CHLORIDE	6	6	99
2819	2819	INORGANIC CHEMICALS NEC	421	A	BAUXITE REFINING (ALUMINA)	5	10	168
2819	2819	INORGANIC CHEMICALS NEC		NR	FISSIONABLE MATERIALS Production	6	6	99
2819	2819	INORGANIC CHEMICALS NEC	421	O	BERYLIUM OXIDE	5	10	17
2819	2819	INORGANIC CHEMICALS NEC		NR	HYDRATED ALUMINUM SILICATE	6	6	99
2819	2819	INORGANIC CHEMICALS NEC	422	A	PHOSPHORUS PRODUCTION	6	6	160
2819	2819	INORGANIC CHEMICALS NEC		NR	HYDROPHOSPHITES	6	6	99
2819	2819	INORGANIC CHEMICALS NEC	422	B	PHOSPHORUS CONSUMING	6	6	161
2819	2819	INORGANIC CHEMICALS NEC		NR	Inorganic Acids (exc HNO2 OR H2PO4)	6	6	99
2819	2819	INORGANIC CHEMICALS NEC	422	C	PHOSPHATE	6	6	162
2819	2819	INORGANIC CHEMICALS NEC		NR	ISOTOPES, RADIOACTIVE	6	6	99
2819	2819	INORGANIC CHEMICALS NEC	422	D	DEFLUORINATED PHOSPHATE ROCK	6	6	158
2819	2819	INORGANIC CHEMICALS NEC		NR	LEAD SILICATE	6	6	99
2819	2819	INORGANIC CHEMICALS NEC	422	E	DEFLUORINATED PHOSPHORIC ACID	6	6	159
2819	2819	INORGANIC CHEMICALS NEC		NR	LUMINOUS COMPOUNDS (RADIUM)	6	6	99
2819	2819	INORGANIC CHEMICALS NEC	422	F	SODIUM PHOSPHATES	6	6	163
2819	2819	INORGANIC CHEMICALS NEC		NR	Manganese Oxide (Powder Synthetic)	6	6	99
2819	2819	INORGANIC CHEMICALS NEC	415	AU	NICKEL SALTS (NICKEL CHLORIDE)	8	9	169
2819	2819	INORGANIC CHEMICALS NEC		NR	MERCURY OXIDE	6	6	99
2819	2819	INORGANIC CHEMICALS NEC	415	AU	NICKEL SALTS (NICKEL NITRATE)	8	9	170
2819	2819	INORGANIC CHEMICALS NEC		NR	Nuclear Fuel Reactor Cases, Inorganic	6	6	99
2819	2819	INORGANIC CHEMICALS NEC	415	AU	NICKEL SALTS (NICKEL Fluoborate)	8	9	171
2819	2819	INORGANIC CHEMICALS NEC		NR	OLEUM (FUMING SULFURIC ACID)	6	6	99
2819	2819	INORGANIC CHEMICALS NEC	415	AU	NICKEL SALTS (NICKEL Carbonate)	8	9	172
2819	2819	INORGANIC CHEMICALS NEC		NR	PERCHLORIC ACID	6	6	99
2819	2819	INORGANIC CHEMICALS NEC	415	AJ	COPPER SALTS (COPPER CHLORIDE)	10	10	173
2819	2819	INORGANIC CHEMICALS NEC		NR	POTASH ALUM	6	6	99
2819	2819	INORGANIC CHEMICALS NEC	415	AJ	COPPER SALTS (COPPER IODIDE)	10	10	174
2819	2819	INORGANIC CHEMICALS NEC		NR	POTASSIUM ALUMINUM SULFATE	6	6	99
2819	2819	INORGANIC CHEMICALS NEC	415	AJ	COPPER SALTS (COPPER NITRATE)	10	10	175
2819	2819	INORGANIC CHEMICALS NEC		NR	POTASSIUM CYANIDE	6	6	99
2819	2819	INORGANIC CHEMICALS NEC	415	AJ	COPPER SALTS (COPPER Carbonate)	10	10	176
2819	2819	INORGANIC CHEMICALS NEC		NR	POTASSIUM COMPOUNDS, Inorganic	6	6	99
2819	2819	INORGANIC CHEMICALS NEC	415	BL	CADIUM SALTS (Cadium CHLRORIDE)	10	10	177
2819	2819	INORGANIC CHEMICALS NEC		NR	POTASSIUM NITRATE & SULFATE	6	6	99

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2819	2819	INORGANIC CHEMICALS NEC	415	BL	CADIUM SALTS (CADIUM NITRATE)	10	10	178
2819	2819	INORGANIC CHEMICALS NEC		NR	RADIUM LUMINOUS COMPOUNDS	6	6	99
2819	2819	INORGANIC CHEMICALS NEC	415	BL	CADIUM SALTS (CADIUM SULFATE)	10	10	179
2819	2819	INORGANIC CHEMICALS NEC		NR	Reagent Grade Chem (inorg ref from tech)	6	6	99
2819	2819	INORGANIC CHEMICALS NEC	415	BM	COBALT SALTS (COBALT NITRATE)	8	8	180
2819	2819	INORGANIC CHEMICALS NEC		NR	SILICA AMORPHOUS	6	6	99
2819	2819	INORGANIC CHEMICALS NEC		NR	SILVER BROMIDE	6	6	99
2819	2819	INORGANIC CHEMICALS NEC	415	BM	COBALT SALTS (COBALT CHLORIDE)	1	8	38
2819	2819	INORGANIC CHEMICALS NEC		NR	COBALT 60 (RADIOACTIVE)	6	6	99
2819	2819	INORGANIC CHEMICALS NEC		NR	SILVER CYANIDE	6	6	99
2819	2819	INORGANIC CHEMICALS NEC		NR	COPPER IODIDE	6	6	99
2819	2819	INORGANIC CHEMICALS NEC	415	AS	LITHIUM CARBONATE	3	3	66
2819	2819	INORGANIC CHEMICALS NEC		NR	HEAVY WATER (DEUTERIUM OXIDE)	6	6	99
2819	2819	INORGANIC CHEMICALS NEC	415	AX	POTASSIUM CHLORIDE	3	3	92
2819	2819	INORGANIC CHEMICALS NEC		NR	HYDROGEN SULFIDE	6	6	99
2819	2819	INORGANIC CHEMICALS NEC	415	BB	SODIUM BISULFITE	3	3	119
2819	2819	INORGANIC CHEMICALS NEC		NR	INDIUM CHLORIDE	6	6	99
2819	2819	INORGANIC CHEMICALS NEC	415	BF	SODIUM SILICOFLUORIDE	6	6	130
2819	2819	INORGANIC CHEMICALS NEC		NR	IODIDES	6	6	99
2819	2819	INORGANIC CHEMICALS NEC	415	BJ	ZINC OXIDE	3	3	148
2819	2819	INORGANIC CHEMICALS NEC		NR	LEAD ARSENATE	6	6	99
2819	2819	INORGANIC CHEMICALS NEC		NR	ALUMINUM OXIDE	6	6	99
2819	2819	INORGANIC CHEMICALS NEC		NR	LITHIUM COMPOUNDS	6	6	99
2819	2819	INORGANIC CHEMICALS NEC		NR	AMMONIUM MOLYBDATE	6	6	99
2819	2819	INORGANIC CHEMICALS NEC		NR	MAGNESIUM COMPOUNDS (inorganic)	6	6	99
2819	2819	INORGANIC CHEMICALS NEC		NR	BLEACHING POWDER	6	6	99
2819	2819	INORGANIC CHEMICALS NEC		NR	MERCURY CHLORIDE	6	6	99
2819	2819	INORGANIC CHEMICALS NEC		NR	CALCIUM COMPOUNDS (INORGANIC)	6	6	99
2819	2819	INORGANIC CHEMICALS NEC		NR	NICKEL AMMONIUM SULFATE	6	6	99
2819	2819	INORGANIC CHEMICALS NEC		NR	CHROMIUM OXIDE	6	6	99
2819	2819	INORGANIC CHEMICALS NEC		NR	Nuclear Fuel Scrap Re-Processing	6	6	99
2819	2819	INORGANIC CHEMICALS NEC		NR	SILVER IODIDE	6	6	99
2819	2819	INORGANIC CHEMICALS NEC		NR	OXIDATION CATALYST from Porcelain	6	6	99
2819	2819	INORGANIC CHEMICALS NEC	415	AZ	POTASSIUM PERMAGRANATE	3	3	101
2819	2819	INORGANIC CHEMICALS NEC		NR	PEROXIDES, INORGANIC	6	6	99
2819	2819	INORGANIC CHEMICALS NEC	415	BN	STANNIC OXIDE	3	3	134
2819	2819	INORGANIC CHEMICALS NEC		NR	POTASH MAGNESIA	6	6	99
2819	2819	INORGANIC CHEMICALS NEC		NR	AMMONIA ALUM	6	6	99
2819	2819	INORGANIC CHEMICALS NEC		NR	POTASSIUM BROMIDE	6	6	99
2819	2819	INORGANIC CHEMICALS NEC		NR	BOROSILICATE	6	6	99
2819	2819	INORGANIC CHEMICALS NEC		NR	POTASSIUM CHLORATE	6	6	99
2819	2819	INORGANIC CHEMICALS NEC		NR	SILVER CHLORIDE	6	6	99
2819	2819	INORGANIC CHEMICALS NEC		NR	POTASSIUM HYPOCHLORITE	6	6	99
2819	2819	INORGANIC CHEMICALS NEC	415	BO	SODIUM HYDROSULFIDE	3	3	127
2819	2819	INORGANIC CHEMICALS NEC		NR	AMMONIUM THIOSULFATE	6	6	99
2819	2819	INORGANIC CHEMICALS NEC		NR	CERIUM SALTS	6	6	99
2819	2819	INORGANIC CHEMICALS NEC	415	AU	NICKEL SULFATE	8	10	79
2819	2819	INORGANIC CHEMICALS NEC		NR	ALUMINUM COMPOUNDS	6	6	99
2819	2819	INORGANIC CHEMICALS NEC		NR	RADIUM CHLORIDE	6	6	99
2819	2819	INORGANIC CHEMICALS NEC		NR	RARE EARTH METAL SALTS	6	6	99
2819	2819	INORGANIC CHEMICALS NEC		NR	SALTS OF RARE EARTH METALS	6	6	99
2819	2819	INORGANIC CHEMICALS NEC		NR	SILICA GEL	6	6	99
2819	2819	INORGANIC CHEMICALS NEC		NR	SILVER CARBONATE	6	6	99
2821	2821	PLASTIC MATERIALS, SYN RESINS & NONVUL E	414/ 416	F	RAYON FIBERS	8	9	5

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2821	2821	PLASTIC MATERIALS, SYN RESINS & NONVUL E	414/ 416	D	THERMOPLASTIC RESINS	8	9	2
2821	2821	PLASTIC MATERIALS, SYN RESINS & NONVUL E	414/ 416	E	THERMOSETTING RESINS	8	9	3
2821	2821	PLASTIC MATERIALS, SYN RESINS & NONVUL E		NR	NON-CONTACT COOLING Water ONLY	1	1	99
2821	2821	PLASTIC MATERIALS, SYN RESINS & NONVUL E	414/ 416	C	OTHER FIBERS	8	9	16
2822	2822	SYNTHETIC RUBBER (Vulcanizable Elastomer)	414/ 416	D	THERMOPLASTIC RESINS (silicones)	8	9	4
2822	2822	SYNTHETIC RUBBER (Vulcanizable Elastomer)	428	B	EMULSION CRUMB RUBBER	8	8	1
2822	2822	SYNTHETIC RUBBER (Vulcanizable Elastomer)	428	C	SOLUTION CRUMB RUBBER	8	8	2
2822	2822	SYNTHETIC RUBBER (Vulcanizable Elastomer)	428	D	LATEX RUBBER	8	8	3
2822	2822	SYNTHETIC RUBBER (Vulcanizable Elastomer)		NR	NON-CONTACT COOLING Water ONLY	1	1	99
2823	2823	CELLULOSIC MAN-MADE FIBERS		NR	NON-CONTACT COOLING Water ONLY	1	1	99
2823	2823	CELLULOSIC MAN-MADE FIBERS	416	B	RAYON FIBERS	8	9	1
2823	2823	CELLULOSIC MAN-MADE FIBERS	416	C	OTHER FIBERS	8	9	2
2824	2824	SYNTHETIC ORGANIC FIBERS, EXCEPT CELLULC	416	C	OTHER FIBERS	8	9	0
2824	2824	SYNTHETIC ORGANIC FIBERS, EXCEPT CELLULC		NR	NON-CONTACT COOLING Water ONLY	1	1	99
2831	2835	BIOLOGICAL PRODUCTS	439	A	FERMENTATION PRODUCTS	6	8	1
2831	2835	BIOLOGICAL PRODUCTS	439	B	EXTRACTION PRODUCTS	6	8	2
2831	2836	BIOLOGICAL PRODUCTS	439	A	FERMENTATION PRODUCTS	6	8	3
2831	2836	BIOLOGICAL PRODUCTS	439	B	EXTRACTION PRODUCTS	6	8	4
2833	2833	MEDICINAL CHEMICALS & BOTANICAL Products	439	A	FERMENTATION PRODUCTS	6	8	3
2833	2833	MEDICINAL CHEMICALS & BOTANICAL Products	439	B	EXTRACTION PRODUCTS	6	8	2
2833	2833	MEDICINAL CHEMICALS & BOTANICAL Products	439	C	CHEMICAL SYNTHESIS PRODUCTS	6	8	1
2833	2833	MEDICINAL CHEMICALS & BOTANICAL Products		NR	NON-CONTACT COOLING Water ONLY	1	1	99
2834	2834	PHARMACEUTICAL PERPARATIONS	439	D	MIXING/COMPOUNDING Formulation	6	8	0
2834	2834	PHARMACEUTICAL PERPARATIONS		NR	NON-CONTACT COOLING Water ONLY	1	1	99
2841	2841	SOAP & OTHER DETERGENTS, EXC SPECIALTY C	417	A	SOAP Manufacturing by Batch Kettle	5	5	12
2841	2841	SOAP & OTHER DETERGENTS, EXC SPECIALTY C	417	B	FATTY Acid Manufacturing by Fatsplitting	5	5	1
2841	2841	SOAP & OTHER DETERGENTS, EXC SPECIALTY C	417	C	SOAP Manufac by Fattyacid Neutralization	5	5	13
2841	2841	SOAP & OTHER DETERGENTS, EXC SPECIALTY C	417	D	GLYCERINE CONCENTRATION	5	5	2
2841	2841	SOAP & OTHER DETERGENTS, EXC SPECIALTY C	417	P	Manufacturing of LIQUID DETERGENTS	5	5	9
2841	2841	SOAP & OTHER DETERGENTS, EXC SPECIALTY C	417	E	GLYCERINE DYSTILLATION	5	5	3
2841	2841	SOAP & OTHER DETERGENTS, EXC SPECIALTY C	417	G	Manufacturing of BAR SOAPS	5	5	4
2841	2841	SOAP & OTHER DETERGENTS, EXC SPECIALTY C	417	H	Manufacturing of LIQUID SOAPS	5	5	8
2841	2841	SOAP & OTHER DETERGENTS, EXC SPECIALTY C	417	O	Manufacturing of Spray Dried Detergents	5	5	11
2841	2841	SOAP & OTHER DETERGENTS, EXC SPECIALTY C	417	F	Manufacturing of Soap Flakes & Powders	5	5	10
2841	2841	SOAP & OTHER DETERGENTS, EXC SPECIALTY C	417	Q	Manufacturing of Detergents by Dry Blend	5	5	6
2841	2841	SOAP & OTHER DETERGENTS, EXC SPECIALTY C	417	R	Manufacturing of Drum Dried Detergents	5	5	7
2841	2841	SOAP & OTHER DETERGENTS, EXC SPECIALTY C	417	S	Manufacturing of Detergent Bars & Cakes	5	5	5
2841	2841	SOAP & OTHER DETERGENTS, EXC SPECIALTY C		NR	NON-CONTACT COOLING Water ONLY	1	1	99
2842	2842	SPECIALTY CLEANING, POLISHING & SANITARY	417	H	Manufacturing of LIQUID SOAPS	5	5	1
2842	2842	SPECIALTY CLEANING, POLISHING & SANITARY	417	P	Manufacturing of LIQUID DETERGENTS	5	5	2
2842	2842	SPECIALTY CLEANING, POLISHING & SANITARY		NR	OTHER PREPARATIONS, NEC	5	5	99
2842	2842	SPECIALTY CLEANING, POLISHING & SANITARY		NR	NON-CONTACT COOLING Water ONLY	1	1	99
2843	2843	SURFACE ACTIVE AGENTS, FINISHING AGENTS,		NR	NON-CONTACT COOLING Water ONLY	1	1	99
2843	2843	SURFACE ACTIVE AGENTS, FINISHING AGENTS,	417	I	OLEUM SULFONATION & SULFATION	5	5	3
2843	2843	SURFACE ACTIVE AGENTS, FINISHING AGENTS,	417	J	AIR-SO3 SULFONATION & SULFATION	5	5	1
2843	2843	SURFACE ACTIVE AGENTS, FINISHING AGENTS,	417	K	SO3 SOLVENT & VACUUM Sulfonation	5	5	6
2843	2843	SURFACE ACTIVE AGENTS, FINISHING AGENTS,	417	L	SULFANIC ACID SULFATION	5	5	7
2843	2843	SURFACE ACTIVE AGENTS, FINISHING AGENTS,	417	M	CHLOROSULFONIC ACID SULFATION	5	5	2
2843	2843	SURFACE ACTIVE AGENTS, FINISHING AGENTS,	417	N	NEUTRAL Sulfuric Acid Esters & Sulfonic	5	5	4
2844	2844	PERFUMES, COMETICS & OTHER TOILET PREPAI	417	H	Manufacturing of LIQUID SOAPS	5	5	1
2844	2844	PERFUMES, COMETICS & OTHER TOILET PREPAI		NR	OTHER PREPARATIONS, NEC	5	5	99
2851	2851	PAINTS/VARNISHES/LAQUERS/ENAMELS & ALLI		NR	OTHER PAINTS	8	8	99
2851	2851	PAINTS/VARNISHES/LAQUERS/ENAMELS & ALLI	446	A	OIL-BASE SOLVENT WASH PAINT	3	3	0
2861	2861	GUM AND WOOD CHEMICALS	454	A	CHAR & CHARCOAL BRIQUETTES	3	3	1

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2861	2861	GUM AND WOOD CHEMICALS	454	B	GUM ROSIN & TURPENTINE	3	3	3
2861	2861	GUM AND WOOD CHEMICALS		NR	NON-CONTACT COOLING Water ONLY	1	1	99
2861	2861	GUM AND WOOD CHEMICALS	454	D	TALL OIL, ROSIN, PITCH, FATTY Acids	6	6	6
2861	2861	GUM AND WOOD CHEMICALS	454	E	ESSENTIAL OILS	3	3	2
2861	2861	GUM AND WOOD CHEMICALS	454	F	ROSIN BASED DERIVATIVES	6	6	4
2861	2861	GUM AND WOOD CHEMICALS	454	C	WOOD ROSIN, TURPENTINE & Pine Oil	6	6	7
2865	2865	CYCLIC CRUDES INTERM., DYES & ORGANIC PL	414/ 416	F	COMMODITY	8	9	1
2865	2865	CYCLIC CRUDES INTERM., DYES & ORGANIC PL		NR	NON-CONTACT COOLING Water ONLY	1	1	99
2865	2865	CYCLIC CRUDES INTERM., DYES & ORGANIC PL	414/ 416	G	BULK	8	9	2
2865	2865	CYCLIC CRUDES INTERM., DYES & ORGANIC PL	414/ 416	H	SPECIALTY	8	9	3
2869	2869	INDUSTRIAL ORGANIC CHEMICALS, NEC	414/ 416	H	SPECIALTY	8	9	3
2869	2869	INORGANIC CHEMICALS NEC	455	A	ORGANIC PESTICIDE Chemicals MFG	8	10	152
2869	2819	INDUSTRIAL ORGANIC CHEMICALS, NEC		NR		10	10	99
2869	2869	INDUSTRIAL ORGANIC CHEMICALS, NEC	414/ 416	F	COMMODITY	8	9	1
2869	2869	INDUSTRIAL ORGANIC CHEMICALS, NEC	414/ 416	G	BULK	8	9	2
2869	2869	INORGANIC CHEMICALS NEC	455	B	METALLO-ORGANIC PESTICIDES	8	10	154
2873	2873	NITROGEN FERTILIZERS	418	B	AMMONIA	1	1	1
2873	2873	NITROGEN FERTILIZERS	418	C	UREA	1	1	2
2873	2873	NITROGEN FERTILIZERS	418	D	AMMONIUM NITRATE	1	1	3
2873	2873	NITROGEN FERTILIZERS	418	E	NITRIC ACID	1	1	4
2873	2873	NITROGEN FERTILIZERS	418	F	AMMONIUM SULFATE PRODUCTION	1	1	5
2874	2874	PHOSPHATIC FERTILIZERS	418	A	PHOSPHATE	1	1	0
2874	2874	PHOSPHATIC FERTILIZERS		NR	NON-CONTACT COOLING Water ONLY	1	1	99
2875	2875	FERTILIZERS, MIXING ONLY	418	G	Mixed & Blend FERTILIZER Production	1	1	0
2879	2879	PESTICIDES & AGRICULTURAL CHEMICALS NEC	455	C	PESTICIDE CHEMICALS Formulating	10	10	0
2891	2891	ADHESIVES AND SEALANTS		NR	ADHESIVES & SEALANTS	8	8	99
2892	2892	EXPLOSIVES	457	A	MANUFACTURE OF EXPLOSIVES	6	6	1
2892	2892	EXPLOSIVES	457	C	Explosives Load, Assemble & Pack Plants	6	6	3
2892	2892	EXPLOSIVES		NR	NON-CONTACT COOLING Water ONLY	1	1	99
2893	2893	PRINTING INK	447	A	OIL-BASED SOLVENT WASH INK	3	3	0
2893	2893	PRINTING INK		NR	OTHER INKS	8	8	99
2895	2895	CARBON BLACK	458	A	CARBON BLACK FURNACE PROCESS	5	5	2
2895	2895	CARBON BLACK	458	C	CARBON BLACK CHANNEL PROCESS	3	3	1
2895	2895	CARBON BLACK	458	D	CARBON BLACK LAMP PROCESS	3	3	3
2895	2895	CARBON BLACK		NR	NON-CONTACT COOLING Water ONLY	1	1	99
2899	2899	CHEMICALS & CHEMICAL PREPARATIONS, NEC	417	B	FATTY ACID NFG. by FAT SPLITTING	5	5	1
2899	2899	CHEMICALS & CHEMICAL PREPARATIONS, NEC	424	F	ROSIN-BASED DERIVATIVES	6	6	4
2899	2899	CHEMICALS & CHEMICAL PREPARATIONS, NEC	454	D	TALL OIL, ROSIN, PITCH, FATTY Acids	6	6	2
2899	2899	CHEMICALS & CHEMICAL PREPARATIONS, NEC	457	C	Explosives Load, Assemble & Pack Plants	6	6	5
2899	2899	CHEMICALS & CHEMICAL PREPARATIONS, NEC		NR	OTHER CHEMICAL Preparations NEC	6	6	99
2899	2899	CHEMICALS & CHEMICAL PREPARATIONS, NEC		NR	NON-CONTACT COOLING Water ONLY	1	1	99
2899	2899	CHEMICALS & CHEMICAL PREPARATIONS, NEC	454	E	ESSENTIAL OILS	3	3	3
2911	2911	PETROLEUM REFINING	419	A	TOPPING	3	8	1
2911	2911	PETROLEUM REFINING	419	B	CRACKING	3	8	2
2911	2911	PETROLEUM REFINING	419	C	PETROCHEMICAL	3	8	3
2911	2911	PETROLEUM REFINING	419	D	LUBE	3	8	4
2911	2911	PETROLEUM REFINING	419	E	INTEGRATED	3	8	5
2911	2911	PETROLEUM REFINING		NR	NON-CONTACT COOLING Water ONLY	1	1	99
2911	2911	PETROLEUM REFINING	443	A	ASPHALT EMULSION	8	8	6
2951	2951	PAVING MIXTURES AND BLOCKS	443	A	ASPHALT EMULSION	8	8	1
2951	2951	PAVING MIXTURES AND BLOCKS	443	B	ASPHALT CONCRETE	8	8	2
2951	2951	PAVING MIXTURES AND BLOCKS		NR	NON-CONTACT COOLING Water ONLY	1	1	99
2952	2952	ASPHALT FELT AND COATINGS	443	C	ASPHALT ROOFING	8	8	1
2952	2952	ASPHALT FELT AND COATINGS	443	D	LINOLEUM & Printed ASPHALT FELT	8	8	2

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2952	2952	ASPHALT FELT AND COATINGS		NR	NON-CONTACT COOLING Water ONLY	1	1	99
2992	2992	LUBRICATING OILS AND GREASES		NR	LUBE OIL RE-REFINING	8	8	99
2992	2992	LUBRICATING OILS AND GREASES		NR	WASTE OIL RECYCLING	10	10	99
2992	2992	LUBRICATING OILS AND GREASES		NR	OTHER OILS & GREASES NEC	5	5	99
2992	2992	LUBRICATING OILS AND GREASES		NR	NON-CONTACT COOLING Water ONLY	1	1	99
2999	2999	PRODUCTS OF PETROLUEM AND COAL, NEC		NR		5	5	99
3011	3011	TIRES AND INNER TUBES	428	A	TIRE & INNER TUBE PLANTS	6	6	0
3011	3011	TIRES AND INNER TUBES		NR	NON-CONTACT COOLING Water ONLY	1	1	99
3021	3021	BUBBER AND PLASTICS FOOTWEAR	428	E	sm-sizedGenMolded,extra&fabrRubberPlnt	5	5	4
3021	3021	BUBBER AND PLASTICS FOOTWEAR	428	F	md-sizedGenMolded,extra&fabrRubberPlnt	6	6	3
3021	3021	BUBBER AND PLASTICS FOOTWEAR	428	G	lg-sizedGenMolded,extra&fabrRubberPlnt	6	6	1
3021	3021	BUBBER AND PLASTICS FOOTWEAR	428	J	LATEX Dipped, Molded, Extruded Goods	5	5	2
3021	3021	BUBBER AND PLASTICS FOOTWEAR		NR	NON-CONTACT COOLING Water ONLY	1	1	99
3021	3021	BUBBER AND PLASTICS FOOTWEAR	463	A	Contact Cooling & Heating Water (Plastics)	4	6	5
3021	3021	BUBBER AND PLASTICS FOOTWEAR	463	B	CLEANING (PLASTICS)	5	6	6
3031	3069	RECLAIMED RUBBER	428	H	WET DIGESTION RECLAIM	8	8	2
3031	3069	RECLAIMED RUBBER	428	I	Pan, Dry Digestion, & Mechanical Reclaim	8	8	1
3031	3069	RECLAIMED RUBBER		NR	NON-CONTACT COOLING Water ONLY	1	1	99
3041	3052	RUBBER AND PLASTICS HOSE AND BELTING	428	E	sm-sizedGenMolded,extra&fabrRubberPlnt	5	5	3
3041	3052	RUBBER AND PLASTICS HOSE AND BELTING	428	F	md-sizedGenMolded,extra&fabrRubberPlnt	6	6	2
3041	3052	RUBBER AND PLASTICS HOSE AND BELTING	428	G	lg-sizedGenMolded,extra&fabrRubberPlnt	6	6	1
3041	3052	RUBBER AND PLASTICS HOSE AND BELTING		NR	NON-CONTACT COOLING Water ONLY	1	1	99
3041	3052	RUBBER AND PLASTICS HOSE AND BELTING	463	A	Contact Cooling & Heating Water	4	6	4
3041	3052	RUBBER AND PLASTICS HOSE AND BELTING	463	B	CLEANING WATER	5	6	5
3069	3061	FABRICATED RUBBER PRODUCTS, NEC	428	E	sm-sizedGenMolded,extra&fabrRubberPlnt	5	5	1
3069	3061	FABRICATED RUBBER PRODUCTS, NEC	428	F	md-sizedGenMolded,extra&fabrRubberPlnt	6	6	2
3069	3061	FABRICATED RUBBER PRODUCTS, NEC	428	G	lg-sizedGenMolded,extra&fabrRubberPlnt	6	6	3
3069	3069	FABRICATED RUBBER PRODUCTS, NEC	428	G	lg-sizedGenMolded,extra&fabrRubberPlnt	6	6	4
3069	3069	FABRICATED RUBBER PRODUCTS, NEC	428	F	md-sizedGenMolded,extra&fabrRubberPlnt	6	6	5
3069	3069	FABRICATED RUBBER PRODUCTS, NEC	428	E	sm-sizedGenMolded,extra&fabrRubberPlnt	5	5	6
3079	3081	MISCELLANEOUS PLASTICS PRODUCTS	463	A	Contact Cooling & Heating Water	4	6	1
3079	3081	MISCELLANEOUS PLASTICS PRODUCTS	463	B	CLEANING WATER	5	6	2
3079	3083	MISCELLANEOUS PLASTICS PRODUCTS		NR	NON-CONTACT COOLING Water ONLY	1	1	99
3079	3081	MISCELLANEOUS PLASTICS PRODUCTS	463	C	FINISHING WATER	6	8	3
3079	3083	MISCELLANEOUS PLASTICS PRODUCTS	463	A	Contact Cooling & Heating Water	4	6	4
3079	3083	MISCELLANEOUS PLASTICS PRODUCTS	463	B	CLEANING WATER	5	6	5
3079	3083	MISCELLANEOUS PLASTICS PRODUCTS	463	C	FINISHING WATER	6	8	6
3079	3081	MISCELLANEOUS PLASTICS PRODUCTS		NR	NON-CONTACT COOLING Water ONLY	1	1	99
3079	3084	MISCELLANEOUS PLASTICS PRODUCTS	463	A	Contact Cooling & Heating Water	4	6	7
3079	3084	MISCELLANEOUS PLASTICS PRODUCTS	463	B	CLEANING WATER	5	6	8
3079	3084	MISCELLANEOUS PLASTICS PRODUCTS	463	C	FINISHING WATER	6	8	9
3079	3084	MISCELLANEOUS PLASTICS PRODUCTS		NR	NON-CONTACT COOLING Water ONLY	1	1	99
3079	3085	MISCELLANEOUS PLASTICS PRODUCTS	463	A	Contact Cooling & Heating Water	4	6	10
3079	3085	MISCELLANEOUS PLASTICS PRODUCTS	463	B	CLEANING WATER	5	6	12
3079	3089	MISCELLANEOUS PLASTICS PRODUCTS		NR	NON-CONTACT COOLING Water ONLY	1	1	99
3079	3432	MISCELLANEOUS PLASTICS PRODUCTS	463	A	Contact Cooling & Heating Water	4	6	29
3079	3085	MISCELLANEOUS PLASTICS PRODUCTS		NR	NON-CONTACT COOLING Water ONLY	1	1	99
3079	3432	MISCELLANEOUS PLASTICS PRODUCTS	463	B	CLEANING WATER	5	6	30
3079	3082	MISCELLANEOUS PLASTICS PRODUCTS	463	B	CLEANING WATER	5	6	15
3079	3432	MISCELLANEOUS PLASTICS PRODUCTS	463	C	FINISHING WATER	6	8	31
3079	3082	MISCELLANEOUS PLASTICS PRODUCTS		NR	NON-CONTACT COOLING Water ONLY	1	1	99
3079	3432	MISCELLANEOUS PLASTICS PRODUCTS		NR	NON-CONTACT COOLING Water ONLY	1	1	99
3079	3086	MISCELLANEOUS PLASTICS PRODUCTS	463	B	CLEANING WATER	5	6	18
3079	3086	MISCELLANEOUS PLASTICS PRODUCTS		NR	NON-CONTACT COOLING Water ONLY	1	1	99

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3079	3089	MISCELLANEOUS PLASTICS PRODUCTS	463	A	CONTACT COOLING & Heating Water	4	6	26
3079	3089	MISCELLANEOUS PLASTICS PRODUCTS	463	B	CLEANING WATER	5	6	27
3079	3087	MISCELLANEOUS PLASTICS PRODUCTS	463	C	FINISHING WATER	6	8	22
3079	3089	MISCELLANEOUS PLASTICS PRODUCTS	463	C	FINISHING WATER	6	8	28
3079	3088	MISCELLANEOUS PLASTICS PRODUCTS	463	A	CONTACT COOLING & Heating Water	4	6	23
3079	3085	MISCELLANEOUS PLASTICS PRODUCTS	463	C	FINISHING WATER	6	8	13
3079	3088	MISCELLANEOUS PLASTICS PRODUCTS	463	C	FINISHING WATER	6	8	25
3079	3087	MISCELLANEOUS PLASTICS PRODUCTS	463	B	CLEANING WATER	5	6	21
3079	3087	MISCELLANEOUS PLASTICS PRODUCTS		NR	NON-CONTACT COOLING Water ONLY	1	1	99
3079	3088	MISCELLANEOUS PLASTICS PRODUCTS	463	B	CLEANING WATER	5	6	24
3079	3088	MISCELLANEOUS PLASTICS PRODUCTS		NR	NON-CONTACT COOLING Water ONLY	1	1	99
3079	3082	MISCELLANEOUS PLASTICS PRODUCTS	463	A	CONTACT COOLING & Heating Water	4	6	14
3079	3082	MISCELLANEOUS PLASTICS PRODUCTS	463	C	FINISHING WATER	6	8	16
3079	3086	MISCELLANEOUS PLASTICS PRODUCTS	463	A	CONTACT COOLING & Heating Water	4	6	17
3079	3086	MISCELLANEOUS PLASTICS PRODUCTS	463	C	FINISHING WATER	6	8	19
3079	3087	MISCELLANEOUS PLASTICS PRODUCTS	463	A	CONTACT COOLING & Heating Water	4	6	20
3111	3111	LEATHER TANNING AND FINISHING	425	A	Hair Pulp, Chrome Tan, Retan-Wet Finish	7	8	1
3111	3111	LEATHER TANNING AND FINISHING	425	I	RETAIN-WET FINISH - SPLITS	1	6	9
3111	3111	LEATHER TANNING AND FINISHING		NR	NON-CONTACT COOLING Water ONLY	1	1	99
3111	3111	LEATHER TANNING AND FINISHING	425	C	HairSave,Non-ChromeTan,Retan-WetFinisl	5	9	3
3111	3111	LEATHER TANNING AND FINISHING	425	E	NO BEAMHOUSE	4	10	4
3111	3111	LEATHER TANNING AND FINISHING	425	G	SHEARLING	4	7	6
3111	3111	LEATHER TANNING AND FINISHING	425	H	PIGSKIN	4	10	8
3111	3111	LEATHER TANNING AND FINISHING	425	B	Hair Save, Chrome Tan, Retan-Wet Finish	3	7	2
3111	3111	LEATHER TANNING AND FINISHING	425	D	RETAN-WET FINISH SIDES	1	6	5
3111	3111	LEATHER TANNING AND FINISHING	425	F	THROUGH-THE-BLUE	1	10	7
3131	3131	BOOT & SHOE CUT STOCK & FINDINGS		NR		1	1	99
3142	3142	HOUSE SLIPPERS		NR		1	1	99
3143	3143	MEN'S FOOTWEAR, EXCEPT ATHLETIC		NR		1	1	99
3144	3144	WOMEN'S FOOTWEAR, EXCEPT ATHLETIC		NR		1	1	99
3149	3149	FOOTWEAR, EXCEPT RUBBER NEC		NR		1	1	99
3151	3151	LEATHER GLOVES AND MITTENS		NR		1	1	99
3161	3161	LUGGAGE		NR		1	1	99
3171	3171	WOMEN'S HANDBAGS AND PURSES		NR		1	1	99
3172	3172	PERSONAL LEATHER GOODS, Except WOMEN'S H		NR		1	1	99
3199	3199	LEATHER GOODS NEC		NR		1	1	99
3211	3211	FLAT GLASS	426	B	SHEET GLASS NFG	1	1	1
3211	3211	FLAT GLASS	426	C	ROLLED GLASS NFG	1	1	2
3211	3211	FLAT GLASS	426	D	PLATE GLASS NFG	1	1	3
3211	3211	FLAT GLASS	426	E	FLOAT GLASS NFG	1	1	4
3211	3211	FLAT GLASS	426	F	AUTOMOTIVE GLASS TEMPERING	1	1	5
3211	3211	FLAT GLASS	426	G	AUTOMOTIVE GLASS LAMINATING	1	1	6
3221	3221	GLASS CONTAINERS	426	H	GLASS CONTAINER NFG	1	1	0
3229	3229	PRESSED & BLOWN GLASS & GLASSWARE NFC	426	I	MACHINE Pressed & Blown GLASS NFG	1	1	1
3229	3229	PRESSED & BLOWN GLASS & GLASSWARE NFC	426	J	GLASS TUBING (DANNER) NFG	1	1	2
3229	3229	PRESSED & BLOWN GLASS & GLASSWARE NFC	426	K	TELEVISION Picture Tube Envelope NFG	1	1	3
3229	3229	PRESSED & BLOWN GLASS & GLASSWARE NFC	426	L	INCANDESCENT LAMP Envelope NFG	1	1	4
3229	3229	PRESSED & BLOWN GLASS & GLASSWARE NFC	426	M	HAND Pressed & Blown GLASS NFG	1	1	5
3231	3231	GLASS PRODUCTS MADE OF PURCHASED GLASS	426	F	AUTOMOTIVE GLASS TEMPERING	1	1	1
3231	3231	GLASS PRODUCTS MADE OF PURCHASED GLASS	426	G	AUTOMOTIVE GLASS LAMINATING	1	1	2
3241	3241	CEMENT, HYDRAULIC	411	A	NONLEACHING	1	1	1
3241	3241	CEMENT, HYDRAULIC	411	B	LEACHING	1	1	2
3241	3241	CEMENT, HYDRAULIC	411	C	MATERIALS STORAGE PILES RUNOFF	1	1	3
3251	3251	BRICK AND STRUCTURAL CLAY TILE		NR		1	1	99

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3253	3253	CERAMIC WALL AND FLOOR TILE		NR		1	1	99
3255	3255	CLAY REFRACTORIES		NR		1	1	99
3259	3259	STRUCTURAL CLAY PRODUCTS NEC		NR		1	1	99
3261	3261	VITREOUS CHINA PLUMBING FIXTURES, ETC.		NR		1	1	99
3262	3262	VITREOUS CHINA TABLE & KITCHEN ARTICLES		NR		1	1	99
3263	3263	FINE EARTHENWARE		NR		1	1	99
3264	3264	PORCELAIN ELECTRICAL SUPPLIES		NR		1	1	99
3269	3269	POTTERY PRODUCTS, NEC		NR		1	1	99
3271	3271	CONCRETE BLOCK & BRICK		NR		1	1	99
3272	3272	CONCRETE PRODUCTS EXCEPT BLOCK & BRICK		NR		1	1	99
3273	3273	READY-MIXED CONCRETE		NR		1	1	99
3274	3274	LIME	415	E	CALCIUM OXIDE PRODUCTION	1	1	0
3274	3274	LIME		NR	OTHER LINE PRODUCTION	1	1	99
3275	3275	GYPSUM PRODUCTS		NR		1	1	99
3281	3281	CUT STONE & STONE PRODUCTS	436	A	DIMENSION STONE	1	1	0
3291	3291	ABRASIVE PRODUCTS		NR		1	1	99
3292	3292	ASBESTOS PRODUCTS	427	A	ASBESTOS-CEMENT PIPE	1	1	1
3292	3292	ASBESTOS PRODUCTS	427	B	ASBESTOS-CEMET SHEET	1	1	2
3292	3292	ASBESTOS PRODUCTS	427	I	SOLVENT RECOVERY	1	1	7
3292	3292	ASBESTOS PRODUCTS	427	F	ASBESTOS ROOFING	1	1	4
3292	3292	ASBESTOS PRODUCTS	427	G	ASBESTOS FLOOR TILE	1	1	5
3292	3292	ASBESTOS PRODUCTS	427	H	Coating or Finishing ASBESTOS Textiles	1	1	6
3292	3292	ASBESTOS PRODUCTS	427	E	ASBESTOS MILLBOARD	1	1	3
3292	3292	ASBESTOS PRODUCTS	427	J	VAPOR ABSORPTION	1	1	8
3292	3292	ASBESTOS PRODUCTS	427	K	WET DUST COLLECTION	1	1	9
3293	3053	GASKETS, PACKING & SEALING DEVICES	427	K	WET DUST COLLECTION (ASBESTOS)	1	1	4
3293	3053	GASKETS, PACKING & SEALING DEVICES	428	E	sm-sizedGenMolded,extra&fabrRubberPlnt	5	5	3
3293	3053	GASKETS, PACKING & SEALING DEVICES	428	F	md-sizedGenMolded,extra&fabrRubberPlnt	6	6	2
3293	3053	GASKETS, PACKING & SEALING DEVICES	428	G	lg-sizedGenMolded,extra&fabrRubberPlnt	6	6	1
3293	3053	GASKETS, PACKING & SEALING DEVICES		NR	NON-RUBBER PRODUCTS	1	1	99
3295	3295	MINERALS & EARTHS,GROUND or OTHERWISE T	436	J	BARITE	1	1	1
3295	3295	MINERALS & EARTHS,GROUND or OTHERWISE T	436	W	MAGNESITE	1	1	2
3295	3295	MINERALS & EARTHS,GROUND or OTHERWISE T	436	X	DIATONITE	1	1	3
3295	3295	MINERALS & EARTHS,GROUND or OTHERWISE T	436	AG	KAOLIN	1	1	4
3295	3295	MINERALS & EARTHS,GROUND or OTHERWISE T	436	AJ	Talc, Steatite, Soapstone & Pyrophyllite	1	1	5
3295	3295	MINERALS & EARTHS,GROUND or OTHERWISE T	436	AL	GRAPHITE	1	1	6
3295	3295	MINERALS & EARTHS,GROUND or OTHERWISE T		NR	OTHER MINERALS & EARTHS	1	1	99
3296	3296	MINERAL WOOL	426	A	INSULATION FIBERGLASS	1	1	1
3296	3296	MINERAL WOOL		NR	OTHER MINERAL WOOLS	1	1	99
3299	3299	NONMETALLIC MINERAL PRODUCTS, NEC		NR		1	1	99
3312	3312	BLAST FURNACES, STEEL WORKS & ROLLING M	420	A	COKEMAKING	10	10	6
3312	3312	BLAST FURNACES, STEEL WORKS & ROLLING M	420	B	SINTERING	9	9	23
3312	3312	BLAST FURNACES, STEEL WORKS & ROLLING M	420	C	IRONMAKING	10	10	5
3312	3312	BLAST FURNACES, STEEL WORKS & ROLLING M	420	D	STEELMAKING	10	10	1
3312	3312	BLAST FURNACES, STEEL WORKS & ROLLING M	420	E	VACUUM DEGASSING	3	9	24
3312	3312	BLAST FURNACES, STEEL WORKS & ROLLING M	420	F	CONTINUOUS CASTING	1	7	10
3312	3312	BLAST FURNACES, STEEL WORKS & ROLLING M	420	G	HOT FORMING	1	3	16
3312	3312	BLAST FURNACES, STEEL WORKS & ROLLING M		NR	NON-CONTACT COOLING Water ONLY	1	1	99
3312	3312	BLAST FURNACES, STEEL WORKS & ROLLING M	420	X	SALT BATH DESCALING	9	10	22
3312	3312	BLAST FURNACES, STEEL WORKS & ROLLING M	420	J	COLD FORMING	10	10	7
3312	3312	BLAST FURNACES, STEEL WORKS & ROLLING M	420	K	ALKALINE CLEANING	8	8	9
3312	3312	BLAST FURNACES, STEEL WORKS & ROLLING M	420	L	HOT COATING	10	10	13
3312	3312	BLAST FURNACES, STEEL WORKS & ROLLING M	420	I	ACID PICKLING	10	10	20
3313	3313	ELECTROMETALLURGICAL PRODUCTS	420	D	STEELMAKING	10	10	2

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3313	3313	ELECTROMETALLURGICAL PRODUCTS	420	F	CONTINUOUS CASTING	1	7	3
3313	3313	ELECTROMETALLURGICAL PRODUCTS		NR	NON-CONTACT COOLING Water ONLY	1	1	99
3313	3313	ELECTROMETALLURGICAL PRODUCTS	424	A	OPEN Electric Furnaces w/Wet APC	5	5	4
3313	3313	ELECTROMETALLURGICAL PRODUCTS	424	B	COVERED Electric Furnaces w/Wet APC	5	5	5
3313	3313	ELECTROMETALLURGICAL PRODUCTS	424	G	ELECTROLYTIC CHROMIUM	5	5	10
3313	3313	ELECTROMETALLURGICAL PRODUCTS	424	D	Covered Calcium Carbide Furnaces w/APC	5	5	7
3313	3313	ELECTROMETALLURGICAL PRODUCTS	424	E	Other CALCIUM CARBIDE FURNACES	5	5	8
3313	3313	ELECTROMETALLURGICAL PRODUCTS	424	F	ELECTROLYTIC MANGANESE Products	5	5	9
3313	3313	ELECTROMETALLURGICAL PRODUCTS	424	C	SLAG PROCESSING	5	5	6
3315	3315	STEEL WIRE DRAWING & STEEL NAILS & SPIKE	420	H	SALT BATH DESCALING	9	10	1
3315	3315	STEEL WIRE DRAWING & STEEL NAILS & SPIKE	420	J	COLD FORMING	10	10	3
3315	3315	STEEL WIRE DRAWING & STEEL NAILS & SPIKE	420	K	ALKALINE CLEANING	8	8	4
3315	3315	STEEL WIRE DRAWING & STEEL NAILS & SPIKE	420	I	ACID PICKLING	10	10	2
3316	3316	COLD ROLLED STEEL SHEET, STRIP & BARS	420	J	COLD FORMING	10	10	2
3316	3316	COLD ROLLED STEEL SHEET, STRIP & BARS	420	I	ACID PICKLING	10	10	1
3317	3317	STEEL PIPE AND TUBES	420	H	SALT BATH DESCALING	9	10	2
3317	3317	STEEL PIPE AND TUBES	420	G	HOT FORMING	1	3	1
3317	3317	STEEL PIPE AND TUBES	420	I	ACID PICKLIING	10	10	3
3317	3317	STEEL PIPE AND TUBES	420	J	COLD FORMING	10	10	4
3317	3317	STEEL PIPE AND TUBES	420	K	ALKALINE CLEANING	8	8	5
3321	3321	GRAY IRON FOUNDRIES	464	C	FERROUS CASTING	1	9	0
3322	3322	MALLEABLE IRON FOUNDRIES	464	C	FERROUS CASTING	1	9	0
3324	3324	STEEL INVESTMENT FOUNDRIES	464	C	FERROUS CASTING	1	9	0
3325	3325	STEEL FOUNDRIES, NEC	464	C	FERROUS CASTING	1	9	0
3331	3331	PRIMARY SMELTING AND REFINING OF COPPER	421	D	PRIMARY COPPER SMELTING	1	8	1
3331	3331	PRIMARY SMELTING AND REFINING OF COPPER	421	E	Primary Electrolytic Copper Refining	1	8	2
3331	3331	PRIMARY SMELTING AND REFINING OF COPPER	421	I	METALLURGICAL ACID PLANTS	10	10	3
3332	3339	PRIMARY SMELTING AND REFINING OF LEAD	421	G	PRIMARY LEAD	1	6	1
3332	3339	PRIMARY SMELTING AND REFINING OF LEAD	421	I	METALLURGICAL ACID PLANTS	10	10	2
3333	3339	PRIMARY SMELTING AND REFINING OF ZINC	421	H	PRIMARY ZINC	10	10	1
3333	3339	PRIMARY SMELTING AND REFINING OF ZINC	421	I	METALLURGICAL ACID PLANTS	10	10	2
3334	3334	PRIMARY PRODUCTION OF ALUMINUM	421	A	BAUXITE REFINING	10	10	2
3334	3334	PRIMARY PRODUCTION OF ALUMINUM	421	B	PRIMARY ALUMINUM SMELTING	10	10	1
3339	3339	Primary Smelt & Refin of NONFERROUS METALS	421	I	Metallurgical Acid Plants (Holybdenum)	10	10	36
3339	3339	Primary Smelt & Refin of NONFERROUS METALS	421	J	PRIMARY TUNGSTEN	10	10	33
3339	3339	Primary Smelt & Refin of NONFERROUS METALS	421	K	PRIMARY COLUMBIUM-TANTALUM	10	10	13
3339	3339	Primary Smelt & Refin of NONFERROUS METALS	421	N	PRIMARY ANTIMONY	10	10	3
3339	3339	Primary Smelt & Refin of NONFERROUS METALS	421	O	PRIMARY BERYLLIUM	10	10	6
3339	3339	Primary Smelt & Refin of NONFERROUS METALS	421	P	PRIMARY BORON	10	10	8
3339	3339	Primary Smelt & Refin of NONFERROUS METALS	421	Q	PRIMARY CALCIUM & RUBIDIUM	10	10	11
3339	3339	Primary Smelt & Refin of NONFERROUS METALS	421	R	Primary&Secondary Germanium &Gallium	10	10	15
3339	3339	Primary Smelt & Refin of NONFERROUS METALS	424	G	ELECTROLYTIC CHROMIUM	8	8	37
3339	3339	Primary Smelt & Refin of NONFERROUS METALS	421	W	PRIMARY NICKEL & COBALT	1	9	22
3339	3339	Primary Smelt & Refin of NONFERROUS METALS		NR	PRIMARY ARSENIC	5	5	99
3339	3339	Primary Smelt & Refin of NONFERROUS METALS		NR	PRIMARY BARIUM	5	5	99
3339	3339	Primary Smelt & Refin of NONFERROUS METALS	421	AC	PRIMARY & SECONDARY TIN	10	10	31
3339	3339	Primary Smelt & Refin of NONFERROUS METALS		NR	PRIMARY BISMUTH	5	5	99
3339	3339	Primary Smelt & Refin of NONFERROUS METALS		NR	PRIMARY URANIUM	8	8	99
3339	3339	Primary Smelt & Refin of NONFERROUS METALS		NR	PRIMARY CALCIUM	5	5	99
3339	3339	Primary Smelt & Refin of NONFERROUS METALS		NR	PRIMARY PATINUM GROUP	8	8	99
3339	3339	Primary Smelt & Refin of NONFERROUS METALS		NR	PRIMARY & SECONDARY INDIUM	8	8	99
3339	3339	Primary Smelt & Refin of NONFERROUS METALS		NR	PRIMARY SELENIUM	10	10	99
3339	3339	Primary Smelt & Refin of NONFERROUS METALS		NR	PRIMARY LITHIUM	8	8	99
3339	3339	Primary Smelt & Refin of NONFERROUS METALS	421	AA	PRIMARY RARE EARTH METALS	10	10	24

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3339	3339	Primary Smelt & Refin of NONFERROUS METALS	421	AG	PRIMARY ZIRCONIUM & HAFNIUM	7	10	35
3339	3339	Primary Smelt & Refin of NONFERROUS METALS		NR	PRIMARY CADMIUM	10	10	99
3339	3339	Primary Smelt & Refin of NONFERROUS METALS		NR	PRIMARY TELLURIUM	10	10	99
3339	3339	Primary Smelt & Refin of NONFERROUS METALS	421	AD	PRIMARY & SECONDARY TITANIUM	9	10	32
3339	3339	Primary Smelt & Refin of NONFERROUS METALS		NR	PRIMARY MAGNESIUM	5	5	99
3339	3339	Primary Smelt & Refin of NONFERROUS METALS		NR	NON-CONTACT COOLING Water ONLY	1	1	99
3339	3339	Primary Smelt & Refin of NONFERROUS METALS	424	F	Electrolytic MANGANESE PRODUCTS	8	8	36
3339	3339	Primary Smelt & Refin of NONFERROUS METALS	421	U	PRIMARY HOLYBDENIUM&RHENIUM	10	10	21
3339	3339	Primary Smelt & Refin of NONFERROUS METALS	421	Y	Primary PRECIOUS Metals & MERCURY	1	10	16
3341	3341	Secondary Smelt & Refin of NONFERROUS METALS	421	C	SECONDARY ALUMINUM SMELTING	1	8	1
3341	3341	Secondary Smelt & Refin of NONFERROUS METALS	421	AB	SECONDARY TANTALUM	10	10	16
3341	3341	Secondary Smelt & Refin of NONFERROUS METALS	421	AE	SECONDARY TUNGSTEN & COBALT	10	10	19
3341	3341	Secondary Smelt & Refin of NONFERROUS METALS	421	L	SECONDARY SILVER-PHOTOGRAPHIC	7	8	15
3341	3341	Secondary Smelt & Refin of NONFERROUS METALS	421	AF	SECONDARY URANIUM	10	10	20
3341	3341	Secondary Smelt & Refin of NONFERROUS METALS	421	M	SECONDARY LEAD	10	10	8
3341	3341	Secondary Smelt & Refin of NONFERROUS METALS		NR	SECONDARY BERYLLIUM	5	5	99
3341	3341	Secondary Smelt & Refin of NONFERROUS METALS	421	T	SECONDARY MERCURY	8	8	10
3341	3341	Secondary Smelt & Refin of NONFERROUS METALS		NR	SECONDARY BABBITT	5	5	99
3341	3341	Secondary Smelt & Refin of NONFERROUS METALS	421	X	SECONDARY NICKEL	8	8	11
3341	3341	Secondary Smelt & Refin of NONFERROUS METALS		NR	SECONDARY BORON	8	8	99
3341	3341	Secondary Smelt & Refin of NONFERROUS METALS	421	F	SECONDARY COPPER	1	8	7
3341	3341	Secondary Smelt & Refin of NONFERROUS METALS	421	S	SECONDARY INDIUM	5	5	23
3341	3341	Secondary Smelt & Refin of NONFERROUS METALS	421	V	Secondary Holybdenum & Vanadium	10	10	24
3341	3341	Secondary Smelt & Refin of NONFERROUS METALS	421	Z	SECONDARY PRECIOUS METALS	10	10	13
3341	3341	Secondary Smelt & Refin of NONFERROUS METALS	421	L	Secondary Silver-Non-Photographic	7	8	22
3341	3341	Secondary Smelt & Refin of NONFERROUS METALS		NR	SECONDARY COLUMBIUM	8	8	99
3341	3341	Secondary Smelt & Refin of NONFERROUS METALS		NR	SECONDARY MAGNESIUM	8	8	99
3341	3341	Secondary Smelt & Refin of NONFERROUS METALS		NR	SECONDARY PLUTONIUM	8	8	99
3341	3341	Secondary Smelt & Refin of NONFERROUS METALS		NR	SECONDARY TIN	8	8	99
3341	3341	Secondary Smelt & Refin of NONFERROUS METALS		NR	SECONDARY TITANIUM	8	8	99
3341	3341	Secondary Smelt & Refin of NONFERROUS METALS		NR	SECONDARY ZINC	8	8	99
3341	3341	Secondary Smelt & Refin of NONFERROUS METALS		NR	NON-CONTACT COOLING Water ONLY	1	1	99
3341	3341	Secondary Smelt & Refin of NONFERROUS METALS		NR	SECONDARY CADMIUM	5	5	99
3351	3351	ROLLING, DRAWING & EXTRUDING OF COPPER	468	A	COPPER FORMING	1	9	1
3351	3351	ROLLING, DRAWING & EXTRUDING OF COPPER	468	B	BERYLLIUM COPPER ALLOY Forming	1	9	2
3351	3351	ROLLING, DRAWING & EXTRUDING OF COPPER		NR	NON-CONTACT COOLING Water ONLY	1	1	99
3353	3353	ALUMINUM SHEET, PLATE AND FOIL	464	A	ALUMINUM CASTING	1	8	1
3353	3353	ALUMINUM SHEET, PLATE AND FOIL	467	A	ROLLING WITH HEAT OILS	5	8	2
3353	3353	ALUMINUM SHEET, PLATE AND FOIL	467	B	ROLLING WITH EMULSIONS	4	8	3
3353	3353	ALUMINUM SHEET, PLATE AND FOIL		NR	NON-CONTACT COOLING Water ONLY	1	1	99
3354	3354	ALUMINUM EXTRUDED PRODUCTS	467	C	EXTRUSION	1	8	2
3354	3354	ALUMINUM EXTRUDED PRODUCTS	467	E	DRAWING WITH HEAT OILS	1	9	3
3354	3354	ALUMINUM EXTRUDED PRODUCTS	467	F	DRAWING with EMULSIONS or SOAPS	4	8	1
3354	3354	ALUMINUM EXTRUDED PRODUCTS		NR	NON-CONTACT COOLING Water ONLY	1	1	99
3355	3355	ALUMINUM ROLLING & DRAWING NEC	464	A	ALUMINUM CASTING	1	8	1
3355	3355	ALUMINUM ROLLING & DRAWING NEC	467	A	ROLLING WITH HEAT OILS	5	8	2
3355	3355	ALUMINUM ROLLING & DRAWING NEC	467	B	ROLLING WITH EMULSIONS	4	8	3
3355	3355	ALUMINUM ROLLING & DRAWING NEC	467	E	DRAWING WITH HEAT OILS	1	9	4
3355	3355	ALUMINUM ROLLING & DRAWING NEC	467	F	DRAWING with EMULSIONS or SOAPS	4	8	5
3355	3355	ALUMINUM ROLLING & DRAWING NEC		NR	NON-CONTACT COOLING Water ONLY	1	1	99
3356	3356	Rolling, Drawing & Extruding NONFERROUS METAL	471	A	BERYLLIUM FORMING	5	5	1
3356	3356	Rolling, Drawing & Extruding NONFERROUS METAL	471	B	LEAD/TIN/BISMUTH FORMING	9	10	2
3356	3356	Rolling, Drawing & Extruding NONFERROUS METAL	471	D	NICKEL-COBALT FORMING	8	9	4
3356	3356	Rolling, Drawing & Extruding NONFERROUS METAL	471	E	PRECIOUS METALS FORMING	1	10	5

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3356	3356	Rolling, Drawing & Extruding NONFERROUS METAL	471	F	REFRACTORY METALS FORMING	1	8	6
3356	3356	Rolling, Drawing & Extruding NONFERROUS METAL	471	G	TITANIUM FORMING	3	8	7
3356	3356	Rolling, Drawing & Extruding NONFERROUS METAL	471	H	URANIUM FORMING	1	8	8
3356	3356	Rolling, Drawing & Extruding NONFERROUS METAL	471	I	ZINC FORMING	1	8	9
3356	3356	Rolling, Drawing & Extruding NONFERROUS METAL	471	J	ZIRCONIUM/HAFNIUM FORMING	7	9	10
3356	3356	Rolling, Drawing & Extruding NONFERROUS METAL		NR	NON-CONTACT COOLING Water ONLY	1	1	99
3357	3357	Drawing & Insulating of NONFERROUS WIRE	433	A	METAL FINISHING	1	9	1
3357	3357	Drawing & Insulating of NONFERROUS WIRE	463	A	Contact Cooling & Heating Water (Plastics)	4	6	2
3357	3357	Drawing & Insulating of NONFERROUS WIRE	463	B	Cleaning & Finishing Water (Plastics)	5	6	3
3357	3357	Drawing & Insulating of NONFERROUS WIRE	467	E	DRAWING w/ HEAT OILS (Aluminum)	1	9	4
3357	3357	Drawing & Insulating of NONFERROUS WIRE	467	F	Drawing w/Emulsions orSoaps (Aluminum)	4	8	1
3357	3357	Drawing & Insulating of NONFERROUS WIRE	468	A	COPPER FORMING	1	9	6
3357	3357	Drawing & Insulating of NONFERROUS WIRE		NR	NON-CONTACT COOLING Water ONLY	1	1	99
3361	3363	ALUMINUM FOUNDRIES (CASTING)	464	A	ALUMINUM CASTING	1	8	1
3361	3365	ALUMINUM FOUNDRIES (CASTING)	464	A	ALUMINUM CASTING	1	8	2
3362	3364	BRASS, BRONZE, COPPER, COPPER BASE ALLOY	464	B	COPPER CASTING	5	8	1
3362	3366	BRASS, BRONZE, COPPER, COPPER BASE ALLOY	464	B	COPPER CASTING	5	8	2
3369	3364	NONFERROUS FOUNDRIES (CASTING) NEC	464	B	COPPER CASTING	5	8	1
3369	3369	NONFERROUS FOUNDRIES, NEC	464	D	ZINC CASTING	10	10	2
3398	3398	METAL HEAT TREATING	433	A	METAL FINISHING	1	9	0
3399	3399	PRIMARY METAL PRODUCTS, NEC	433	A	METAL FINISHING	1	9	1
3399	3399	PRIMARY METAL PRODUCTS, NEC	471	K	METAL POWDERS	7	9	2
3399	3399	PRIMARY METAL PRODUCTS, NEC		NR	OTHER PRODUCTS	1	1	99
3411	3411	METAL CANS	465	D	CAN MAKING	1	7	0
3412	3412	METAL BARRELS, DRUMS AND PAILS	433	A	METAL FINISHING	1	9	0
3412	3412	METAL BARRELS, DRUMS AND PAILS		NR	DRUM RECYCLING	8	8	99
3412	3412	METAL BARRELS, DRUMS AND PAILS		NR	NO ELECTROPLATING	1	1	99
3421	3421	CUTLERY	433	A	METAL FINISHING	1	9	0
3421	3421	CUTLERY		NR	NO ELECTROPLATING	1	1	99
3423	3423	HAND AND EDGE TOOLS, NEC	433	A	METAL FINISHING	1	9	0
3423	3423	HAND AND EDGE TOOLS, NEC		NR	NO ELECTROPLATING	1	1	99
3425	3425	HAND SAWS AND SAW BLADES	433	A	METAL FINISHING	1	9	1
3429	3429	HARDWARE, NEC	433	A	METAL FINISHING	1	9	0
3429	3429	HARDWARE, NEC		NR	NO ELECTROPLATING	1	1	99
3431	3431	METAL SANITARY WARE	466	B	CAST IRON BASIS MATERIAL	10	10	0
3432	3432	PLUMBING FITTINGS AND BRASS GOODS		NR	NO ELECTROPLATING	1	1	99
3432	3432	PLUMBING FITTINGS AND BRASS GOODS	433	A	METAL FINISHING	1	9	1
3432	3432	PLUMBING FITTINGS AND BRASS GOODS	468	A	COPPER FORMING	1	9	2
3433	3567	HEATING EQUIPMENT, EXCEPT ELECTRIC	433	A	METAL FINISHING	1	9	1
3433	3567	HEATING EQUIPMENT, EXCEPT ELECTRIC		NR	NO ELECTROPLATING	1	1	99
3433	3433	HEATING EQUIPMENT, EXCEPT ELECTRIC	433	A	METAL FINISHING	1	9	2
3433	3433	HEATING EQUIPMENT, EXCEPT ELECTRIC		NR	NO ELECTROPLATING	1	1	99
3441	3441	FABRICATED STRUCTURAL METAL		NR		1	1	99
3442	2431	METAL DOORS, SASH AND TRIM				1	1	1
3442	3442	METAL DOORS, SASH AND TRIM	433	A	METAL FINISHING	1	9	2
3442	3442	METAL DOORS, SASH AND TRIM		NR	NO ELECTROPLATING	1	1	99
3443	3443	FABRICATED PLATE WORK (BOILER SHOPS)		NR		1	1	99
3444	3444	SHEET METAL WORK		NR		1	1	99
3444	3449	SHEET METAL WORK		NR		1	1	99
3446	3446	ARCHITECTURAL METAL WORK		NR		1	1	99
3448	3448	PREFABRICATED METAL BUILDINGS		NR		1	1	99
3449	3449	MISCELLANEOUS METAL WORK		NR		1	1	99
3451	3451	SCREW MACHINE PRODUCTS	433	A	METAL FINISHING	1	9	0
3451	3451	SCREW MACHINE PRODUCTS		NR	NO ELECTROPLATING	1	1	99

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3452	3452	BOLTS, NUTS, RIVETS AND WASHERS	433	A	METAL FINISHING	1	9	0
3452	3452	BOLTS, NUTS, RIVETS AND WASHERS		NR	NO ELECTROPLATING	1	1	99
3462	3462	IRON STEEL FORGINGS	433	A	METAL FINISHING	1	9	0
3462	3462	IRON STEEL FORGINGS		NR	NO ELECTROPLATING	1	1	99
3463	3463	NONFERROUS FORGINGS	433	A	METAL FINISHING	1	9	3
3463	3463	NONFERROUS FORGINGS	467	D	FORGING (ALUMINUM)	5	5	1
3463	3463	NONFERROUS FORGINGS	468	A	COPPER FORMING	1	9	2
3463	3463	NONFERROUS FORGINGS	471	A	BERYLLIUM FORMING	5	5	4
3463	3463	NONFERROUS FORGINGS	471	B	LEAD/TIN/BISMUTH FORMING	9	10	5
3463	3463	NONFERROUS FORGINGS	471	C	MAGNESIUM FORMING	5	5	6
3463	3463	NONFERROUS FORGINGS	471	D	NICKEL-COBALT FORMING	8	9	7
3463	3463	NONFERROUS FORGINGS	471	E	PRECIOUS METALS FORMING	1	10	8
3463	3463	NONFERROUS FORGINGS	471	J	ZIRCONIUM/HAFNIUM FORMING	7	9	13
3463	3463	NONFERROUS FORGINGS	471	G	TITANIUM FORMING	3	8	10
3463	3463	NONFERROUS FORGINGS	471	H	URANIUM FORMING	1	8	11
3463	3463	NONFERROUS FORGINGS	471	I	ZINC FORMING	1	8	12
3463	3463	NONFERROUS FORGINGS	471	F	REFRACTORY METALS FORMING	1	8	9
3463	3463	NONFERROUS FORGINGS		NR	NON-CONTACT COOLING Water ONLY	1	1	99
3465	3465	AUTOMOTIVE STAMPINGS	433	A	METAL FINISHING	1	9	0
3465	3465	AUTOMOTIVE STAMPINGS		NR	NO ELECTROPLATING	1	1	99
3466	3466	CROWNS AND CLOSURES	433	A	METAL FINISHING	1	9	0
3466	3466	CROWNS AND CLOSURES		NR	NO ELECTROPLATING	1	1	99
3469	3449	METAL STAMPINGS, NEC		NR		1	1	99
3469	3469	METAL STAMPINGS, NEC		NR		1	1	99
3471	3471	PLATING AND POLISHING	433	A	METAL FINISHING	1	9	0
3479	3479	METAL COATING AND ALLIED SERVICES	420	L	HOT COATING	10	10	5
3479	3479	METAL COATING AND ALLIED SERVICES	433	A	METAL FINISHING	1	9	4
3479	3479	METAL COATING AND ALLIED SERVICES		NR	NO ELECTROPLATING/COATING	1	1	99
3479	3479	METAL COATING AND ALLIED SERVICES	465	A	STEEL BASIS MATERIAL COATING	10	10	2
3479	3479	METAL COATING AND ALLIED SERVICES	465	B	GALVANIZED Basis Material COATING	10	10	3
3479	3479	METAL COATING AND ALLIED SERVICES	465	C	ALUMINUM Basis Material COATING	10	10	1
3482	3482	SMALL ARMS AMMUNITION	433	A	METAL FINISHING	1	9	1
3482	3482	SMALL ARMS AMMUNITION	457	C	Explosives Load, Assemble & Pack Plants	6	6	2
3482	3482	SMALL ARMS AMMUNITION		NR	NO ELECTROPLATING/EXPLOSIVES	1	1	99
3482	3482	SMALL ARMS AMMUNITION	463	A	Contact Cooling & Heating Water (Plastics)	4	6	3
3482	3482	SMALL ARMS AMMUNITION	463	B	CLEANING WATER (PLASTICS)	5	6	4
3483	3483	AMMUNITION, EXC. FOR SMALL ARMS, NEC	433	A	METAL FINISHING	1	9	1
3483	3483	AMMUNITION, EXC. FOR SMALL ARMS, NEC	457	C	Explosives Load, Assemble & Pack Plants	6	6	2
3483	3483	AMMUNITION, EXC. FOR SMALL ARMS, NEC		NR	NO ELECTROPLATING/EXPLOSIVES	1	1	99
3484	3484	SMALL ARMS	433	A	METAL FINISHING	1	9	0
3484	3484	SMALL ARMS		NR	NO ELECTROPLATING	1	1	99
3489	3489	ORDNANCE AND ACCESSORIES, NEC	433	A	METAL FINISHING	1	9	0
3489	3489	ORDNANCE AND ACCESSORIES, NEC		NR	NO ELECTROPLATING	1	1	99
3493	3493	STEEL SPRINGS, EXCEPT WIRE	433	A	METAL FINISHING	1	9	0
3493	3493	STEEL SPRINGS, EXCEPT WIRE		NR	NO ELECTROPLATING	1	1	99
3494	3492	VALVES AND PIPE FITTINGS	433	A	METAL FINISHING	1	9	1
3494	3491	VALVES AND PIPE FITTINGS	433	A	METAL FINISHING	1	9	2
3494	3494	VALVES AND PIPE FITTINGS	433	A	METAL FINISHING	1	9	3
3494	3494	VALVES AND PIPE FITTINGS		NR	NO ELECTROPLATING	1	1	99
3494	3494	VALVES AND PIPE FITTINGS		NR	NO ELECTROPLATING	1	1	99
3494	3492	VALVES AND PIPE FITTINGS		NR	NO ELECTROPLATING	1	1	99
3495	3495	WIRE SPRINGS	433	A	METAL FINISHING	1	9	0
3495	3495	WIRE SPRINGS		NR	NO ELECTROPLATING	1	1	99
3496	3496	MISC. FABRICATED WIRE PRODUCTS	433	A	METAL FINISHING	1	9	0

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3496	3496	MISC. FABRICATED WIRE PRODUCTS		NR	NO ELECTROPLATING	1	1	99
3497	3497	METAL FOIL AND LEAF	468	A	COPPER FORMING	1	9	2
3497	3497	METAL FOIL AND LEAF	471	E	PRECIOUS METALS FORMING	1	10	7
3497	3497	METAL FOIL AND LEAF	465	C	ALUMINUM Basis Material COATING	5	5	1
3497	3497	METAL FOIL AND LEAF	471	B	LEAD/TIN/BISMUTH FORMING	9	10	4
3497	3497	METAL FOIL AND LEAF	471	C	MAGNESIUM FORMING	5	5	5
3497	3497	METAL FOIL AND LEAF	471	D	NICKEL-COBALT FORMING	8	9	6
3497	3497	METAL FOIL AND LEAF	471	A	BERYLLIUM FORMING	5	5	3
3497	3497	METAL FOIL AND LEAF	471	F	REFRACTORY METALS FORMING	1	8	8
3497	3497	METAL FOIL AND LEAF	471	G	TITANIUM FORMING	3	8	9
3497	3497	METAL FOIL AND LEAF	471	H	URANIUM FORMING	1	8	10
3497	3497	METAL FOIL AND LEAF	471	I	ZINC FORMING	1	8	11
3497	3497	METAL FOIL AND LEAF	471	J	ZIRCONIUM/HAFNIUM FORMING	7	9	12
3498	3498	FABRICATED PIPE AND FITTINGS	433	A	METAL FINISHING	1	9	0
3498	3498	FABRICATED PIPE AND FITTINGS		NR	NO ELECTROPLATING	1	1	99
3499	3499	FABRICATED METAL PRODUCTS, NEC	433	A	METAL FINISHING	1	9	0
3499	3499	FABRICATED METAL PRODUCTS, NEC		NR	NO ELECTROPLATING	1	1	99
3511	3511	TURBINES AND TURBINE GENERATOR SETS	433	A	METAL FINISHING	1	9	0
3511	3511	TURBINES AND TURBINE GENERATOR SETS		NR	NO ELECTROPLATING	1	1	99
3519	3519	INTERNAL COMBUSTION ENGINES, NEC	433	A	METAL FINISHING	1	9	0
3519	3519	INTERNAL COMBUSTION ENGINES, NEC		NR	NO ELECTROPLATING	1	1	99
3523	3523	FARM MACHINERY AND EQUIPMENT	433	A	METAL FINISHING	1	9	0
3523	3523	FARM MACHINERY AND EQUIPMENT		NR	NO ELECTROPLATING	1	1	99
3524	3524	LAWN AND GARDEN EQUIPMENT	433	A	METAL FINISHING	1	9	0
3524	3524	LAWN AND GARDEN EQUIPMENT		NR	NO ELECTROPLATING	1	1	99
3531	3531	CONSTRUCTION MACHINERY	433	A	METAL FINISHING	1	9	0
3531	3531	CONSTRUCTION MACHINERY		NR	NO ELECTROPLATING	1	1	99
3532	3532	MINING MACHINERY	433	A	METAL FINISHING	1	9	0
3532	3532	MINING MACHINERY		NR	NO ELECTROPLATING	1	1	99
3533	3533	OIL FIELD MACHINERY	433	A	METAL FINISHING	1	9	0
3533	3533	OIL FIELD MACHINERY		NR	NO ELECTROPLATING	1	1	99
3534	3534	ELEVATORS AND MOVING STAIRWAYS	433	A	METAL FINISHING	1	9	0
3534	3534	ELEVATORS AND MOVING STAIRWAYS		NR	NO ELECTROPLATING	1	1	99
3535	3535	CONVEYORS AND CONVEYING EQUIPMENT	433	A	METAL FINISHING	1	9	0
3535	3535	CONVEYORS AND CONVEYING EQUIPMENT		NR	NO ELECTROPLATING	1	1	99
3536	3536	HOISTS, CRANES AND MONORAILS	433	A	METAL FINISHING	1	9	2
3536	3536	HOISTS, CRANES AND MONORAILS	433	A	METAL FINISHING	1	9	1
3536	3536	HOISTS, CRANES AND MONORAILS		NR	NO ELECTROPLATING	1	1	99
3536	3537	HOISTS, CRANES AND MONORAILS		NR	NO ELECTROPLATING	1	1	99
3536	3536	HOISTS, CRANES AND MONORAILS		NR	NO ELECTROPLATING	1	1	99
3536	3531	HOISTS, CRANES AND MONORAILS		NR	NO ELECTROPLATING	1	1	99
3536	3537	HOISTS, CRANES AND MONORAILS	433	A	METAL FINISHING	1	9	3
3537	3537	INDUSTRIAL TRUCKS AND TRACTORS	433	A	METAL FINISHING	1	9	0
3537	3537	INDUSTRIAL TRUCKS AND TRACTORS		NR	NO ELECTROPLATING	1	1	99
3541	3541	MACHINE TOOLS, METAL CUTTING TYPES	433	A	METAL FINISHING	1	9	0
3541	3541	MACHINE TOOLS, METAL CUTTING TYPES		NR	NO ELECTROPLATING	1	1	99
3542	3542	MACHINE TOOLS, METAL FORMING TYPES	433	A	METAL FINISHING	1	9	0
3542	3542	MACHINE TOOLS, METAL FORMING TYPES		NR	NO ELECTROPLATING	1	1	99
3544	3544	SPECIAL DIES, TOOLS, JIGS & FIXTURES	433	A	METAL FINISHING	1	9	0
3544	3544	SPECIAL DIES, TOOLS, JIGS & FIXTURES		NR	NO ELECTROPLATING	1	1	99
3545	3545	MACHINE TOOL ACCESSORIES	433	A	METAL FINISHING	1	9	0
3545	3545	MACHINE TOOL ACCESSORIES		NR	NO ELECTROPLATING	1	1	99
3546	3546	POWER DRIVEN HAND TOOLS	433	A	METAL FINISHING	1	9	0
3546	3546	POWER DRIVEN HAND TOOLS		NR	NO ELECTROPLATING	1	1	99

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3547	3547	ROLLING MILL MACHINERY	433	A	METAL FINISHING	1	9	0
3547	3547	ROLLING MILL MACHINERY		NR	NO ELECTROPLATING	1	1	99
3549	3548	METALWORKING MACHINERY, NEC	433	A	METAL FINISHING	1	9	1
3549	3548	METALWORKING MACHINERY, NEC		NR	NO ELECTROPLATING	1	1	99
3549	3559	METALWORKING MACHINERY, NEC	433	A	METAL FINISHING	1	9	2
3549	3559	METALWORKING MACHINERY, NEC		NR	NO ELECTROPLATING	1	1	99
3549	3549	METALWORKING MACHINERY, NEC	433	A	METAL FINISHING	1	9	3
3549	3549	METALWORKING MACHINERY, NEC		NR	NO ELECTROPLATING	1	1	99
3551	3565	FOOD PRODUCTS MACHINERY	433	A	METAL FINISHING	1	9	0
3552	3552	TEXTILE MACHINERY	433	A	METAL FINISHING	1	9	0
3552	3552	TEXTILE MACHINERY		NR	NO ELECTROPLATING	1	1	99
3553	3553	WOODWORKING MACHINERY	433	A	METAL FINISHING	1	9	0
3553	3553	WOODWORKING MACHINERY		NR	NO ELECTROPLATING	1	1	99
3554	3554	PAPER INDUSTRIES MACHINERY	433	A	METAL FINISHING	1	9	0
3554	3554	PAPER INDUSTRIES MACHINERY		NR	NO ELECTROPLATING	1	1	99
3555	3069	PRINTING TRADES MACHINERY	428	E	sm-sizedGenMolded,extra&fabrRubberPlnt	5	5	1
3555	3069	PRINTING TRADES MACHINERY	428	F	md-sizedGenMolded,extra&fabrRubberPlnt	6	6	2
3555	3069	PRINTING TRADES MACHINERY	428	G	lg-sizedGenMolded,extra&fabrRubberPlnt	6	6	3
3555	3523	PRINTING TRADES MACHINERY		NR	NO ELECTROPLATING	1	1	99
3555	3423	PRINTING TRADES MACHINERY	433	A	METAL FINISHING	1	9	4
3555	3555	PRINTING TRADES MACHINERY	433	A	METAL FINISHING	1	9	5
3555	3555	PRINTING TRADES MACHINERY		NR	NO ELECTROPLATING	1	1	99
3559	3559	SPECIAL INDUSTRY MACHINERY, NEC	433	A	METAL FINISHING	1	9	0
3559	3559	SPECIAL INDUSTRY MACHINERY, NEC		NR	NO ELECTROPLATING	1	1	99
3561	3594	PUMPS AND PUMPING EQUIPMENT		NR	NO ELECTROPLATING	1	1	99
3561	3561	PUMPS AND PUMPING EQUIPMENT	433	A	METAL FINISHING	1	9	0
3561	3561	PUMPS AND PUMPING EQUIPMENT		NR	NO ELECTROPLATING	1	1	99
3561	3594	PUMPS AND PUMPING EQUIPMENT	433	A	METAL FINISHING	1	9	0
3562	3562	BALL AND ROLLER BEARINGS	433	A	METAL FINISHING	1	9	0
3562	3562	BALL AND ROLLER BEARINGS		NR	NO ELECTROPLATING	1	1	99
3563	3563	AIR AND GAS COMPRESSORS	433	A	METAL FINISHING	1	9	0
3563	3563	AIR AND GAS COMPRESSORS		NR	NO ELECTROPLATING	1	1	99
3564	3564	BLOWER AND FANS	433	A	METAL FINISHING	1	9	0
3564	3564	BLOWER AND FANS		NR	NO ELECTROPLATING	1	1	99
3565	3543	INDUSTRIAL PATTERNS	433	A	METAL FINISHING	1	9	0
3565	3543	INDUSTRIAL PATTERNS		NR	NO ELECTROPLATING	1	1	99
3566	3594	SPEED CHANGERS, DRIVES AND GEARS	433	A	METAL FINISHING	1	9	1
3566	3594	SPEED CHANGERS, DRIVES AND GEARS		NR	NO ELECTROPLATING	1	1	99
3566	3566	SPEED CHANGERS, DRIVES AND GEARS		NR	NO ELECTROPLATING	1	1	99
3566	3566	SPEED CHANGERS, DRIVES AND GEARS	433	A	METAL FINISHING	1	9	2
3567	3567	INDUSTRIAL FURNACES AND OVENS	433	A	METAL FINISHING	1	9	0
3567	3567	INDUSTRIAL FURNACES AND OVENS		NR	NO ELECTROPLATING	1	1	99
3568	3568	POWER TRANSMISSION EQUIPMENT, NEC	433	A	METAL FINISHING	1	9	0
3568	3568	POWER TRANSMISSION EQUIPMENT, NEC		NR	NO ELECTROPLATING	1	1	99
3569	3594	GENERAL INDUSTRIAL MACHINERY, NEC	433	A	METAL FINISHING	1	9	1
3569	3594	GENERAL INDUSTRIAL MACHINERY, NEC		NR	NO ELECTROPLATING	1	1	99
3569	3565	GENERAL INDUSTRIAL MACHINERY, NEC		NR	NO ELECTROPLATING	1	1	99
3569	3565	GENERAL INDUSTRIAL MACHINERY, NEC	433	A	METAL FINISHING	1	9	2
3569	3569	GENERAL INDUSTRIAL MACHINERY, NEC	433	A	METAL FINISHING	1	9	3
3569	3569	GENERAL INDUSTRIAL MACHINERY, NEC		NR	NO ELECTROPLATING	1	1	99
3572	3579	TYPEWRITERS	433	A	METAL FINISHING	1	9	0
3572	3579	TYPEWRITERS		NR	NO ELECTROPLATING	1	1	99
3573	3571	ELECTRONIC COMPUTING EQUIPMENT	433	A	METAL FINISHING	1	9	1
3573	3571	ELECTRONIC COMPUTING EQUIPMENT		NR	NO ELECTROPLATING	1	1	99

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3573	3572	ELECTRONIC COMPUTING EQUIPMENT	433	A	METAL FINISHING	1	9	2
3573	3572	ELECTRONIC COMPUTING EQUIPMENT		NR	NO ELECTROPLATING	1	1	99
3573	3575	ELECTRONIC COMPUTING EQUIPMENT		NR	NO ELECTROPLATING	1	1	99
3573	3575	ELECTRONIC COMPUTING EQUIPMENT	433	A	METAL FINISHING	1	9	3
3573	3577	ELECTRONIC COMPUTING EQUIPMENT	433	A	METAL FINISHING	1	9	4
3573	3577	ELECTRONIC COMPUTING EQUIPMENT		NR	NO ELECTROPLATING	1	1	99
3573	3695	ELECTRONIC COMPUTING EQUIPMENT	433	A	METAL FINISHING	1	9	5
3573	3695	ELECTRONIC COMPUTING EQUIPMENT		NR	NO ELECTROPLATING	1	1	99
3574	3578	CALCULATING AND ACCOUNTING MACHINES	433	A	METAL FINISHING	1	9	0
3574	3578	CALCULATING AND ACCOUNTING MACHINES		NR	NO ELECTROPLATING	1	1	99
3576	3596	SCALES AND BALANCES, EXC. LABORATORY	433	A	METAL FINISHING	1	9	0
3576	3596	SCALES AND BALANCES, EXC. LABORATORY		NR	NO ELECTROPLATING	1	1	99
3579	3579	OFFICE MACHINES, NEC	433	A	METAL FINISHING	1	9	0
3579	3579	OFFICE MACHINES, NEC		NR	NO ELECTROPLATING	1	1	99
3581	3581	AUTOMATIC MERCHANDISING MACHINES	433	A	METAL FINISHING	1	9	0
3581	3581	AUTOMATIC MERCHANDISING MACHINES		NR	NO ELECTROPLATING	1	1	99
3582	3582	COMMERCIAL LAUNDRY EQUIPMENT	433	A	METAL FINISHING	1	9	0
3582	3582	COMMERCIAL LAUNDRY EQUIPMENT		NR	NO ELECTROPLATING	1	1	99
3585	3585	REFRIGERATION AND HEATING EQUIPMENT	433	A	METAL FINISHING	1	9	0
3585	3585	REFRIGERATION AND HEATING EQUIPMENT		NR	NO ELECTROPLATING	1	1	99
3586	3586	MEASURING AND DISPENSING PUMPS	433	A	METAL FINISHING	1	9	0
3586	3586	MEASURING AND DISPENSING PUMPS		NR	NO ELECTROPLATING	1	1	99
3589	3589	SERVICE INDUSTRY MACHINERY, NEC	433	A	METAL FINISHING	1	9	0
3589	3589	SERVICE INDUSTRY MACHINERY, NEC		NR	NO ELECTROPLATING	1	1	99
3592	3592	CARBURETORS, PISTONS, RINGS, VALVES	433	A	METAL FINISHING	1	9	0
3592	3592	CARBURETORS, PISTONS, RINGS, VALVES		NR	NO ELECTROPLATING	1	1	99
3599	3593	MACHINERY, EXCEPT ELECTRICAL, NEC	433	A	METAL FINISHING	1	9	1
3599	3593	MACHINERY, EXCEPT ELECTRICAL		NR	NO ELECTROPLATING	1	1	99
3599	3599	MACHINERY, EXCEPT ELECTRICAL		NR	NO ELECTROPLATING	1	1	99
3599	3599	MACHINERY, EXCEPT ELECTRICAL	433	A	METAL FINISHING	1	9	2
3612	3612	TRANSFORMERS	433	A	METAL FINISHING	1	9	0
3612	3612	TRANSFORMERS		NR	NO ELECTROPLATING	1	1	99
3612	3612	TRANSFORMERS		NR	NO ELECTROPLATING	8	8	99
3613	3625	SWITCHGEAR AND SWITCHBOARD APPARATUS	433	A	METAL FINISHING	1	9	0
3613	3625	SWITCHGEAR AND SWITCHBOARD APPARATUS		NR	NO ELECTROPLATING	1	1	99
3613	3613	SWITCHGEAR AND SWITCHBOARD APPARATUS		NR	NO ELECTROPLATING	1	1	99
3613	3613	SWITCHGEAR AND SWITCHBOARD APPARATUS	433	A	METAL FINISHING	1	9	0
3621	3621	MOTORS AND GENERATORS	433	A	METAL FINISHING	1	9	0
3621	3621	MOTORS AND GENERATORS		NR	NO ELECTROPLATING	1	1	99
3622	3625	RELAYS AND INDUSTRIAL CONTROLS	433	A	METAL FINISHING	1	9	0
3622	3625	RELAYS AND INDUSTRIAL CONTROLS		NR	NO ELECTROPLATING	1	1	99
3623	3548	WELDING APPARATUS, ELECTRIC		NR	NO ELECTROPLATING	1	1	99
3623	3548	WELDING APPARATUS		NR	NO ELECTROPLATING	1	1	99
3624	3624	CARBON AND GRAPHITE PRODUCTS		NR	CARBON & GRAPHITE PRODUCTS	8	8	99
3629	3629	ELECTRICAL INDUSTRIAL APPARATUS, NEC	433	A	METAL FINISHING	1	9	0
3629	3629	ELECTRICAL INDUSTRIAL APPARATUS, NEC		NR	NO ELECTROPLATING	1	1	99
3629	3629	ELECTRICAL INDUSTRIAL APPARATUS, NEC		NR	FUEL CELLS	8	8	99
3631	3631	HOUSEHOLD COOKING EQUIPMENT	433	A	METAL FINISHING	1	9	1
3631	3631	HOUSEHOLD COOKING EQUIPMENT		NR	NO ELECTROPLATING/PORCELAIN	1	1	99
3631	3631	HOUSEHOLD COOKING EQUIPMENT	466	A	STEEL Basis Material (PORCELAIN)	10	10	3
3631	3631	HOUSEHOLD COOKING EQUIPMENT	466	C	ALUMINUM Basis Material (Porcelain)	10	10	2
3632	3632	HOUSEHOLD REFRIGERATORS AND FREEZERS	433	A	METAL FINISHING	1	9	1
3632	3632	HOUSEHOLD REFRIGERATORS AND FREEZERS		NR	NO ELECTROPLATING (PORCELAIN)	1	1	99
3632	3632	HOUSEHOLD REFRIGERATORS AND FREEZERS	466	A	STEEL Basis Material (PORCELAIN)	10	10	2

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3633	3633	HOUSEHOLD LAUNDRYEQUIPMENT	433	A	METAL FINISHING	1	9	1
3633	3633	HOUSEHOLD LAUNDRYEQUIPMENT		NR	NO ELECTROPLATING/PORCELAIN	1	1	99
3633	3633	HOUSEHOLD LAUNDRYEQUIPMENT	466	A	STEEL Basis Material (PORCELAIN)	10	10	2
3634	3634	ELECTRIC HOUSEWARES AND FANS	433	A	METAL FINISHING	1	9	0
3634	3634	ELECTRIC HOUSEWARES AND FANS		NR	NO ELECTROPLATING	1	1	99
3635	3635	HOUSEHOLD VACUUM CLEANERS	433	A	METAL FINISHING	1	9	0
3635	3635	HOUSEHOLD VACUUM CLEANERS		NR	NO ELECTROPLATING	1	1	99
3636	3639	SEWING MACHINES	433	A	METAL FINISHING	1	9	0
3636	3639	SEWING MACHINES		NR	NO ELECTROPLATING	1	1	99
3636	3559	SEWING MACHINES	433	A	METAL FINISHING	1	9	0
3636	3559	SEWING MACHINES		NR	NO ELECTROPLATING	1	1	99
3639	3639	HOUSEHOLD APPLIANCES, NEC	433	A	METAL FINISHING	1	9	3
3639	3639	HOUSEHOLD APPLIANCES, NEC	466	A	STEEL Basis Material (PORCELAIN)	10	10	1
3641	3641	ELECTRIC LAMPS	433	A	METAL FINISHING	1	9	2
3641	3641	ELECTRIC LAMPS	469	D	LUMINESCENT MATERIALS	1	1	1
3643	3643	CURRENT-CARRYING WIRING DEVICES	433	A	METAL FINISHING	1	9	0
3643	3643	CURRENT-CARRYING WIRING DEVICES		NR	NO ELECTROPLATING	1	1	99
3643	3643	CURRENT-CARRYING WIRING DEVICES		NR		1	1	99
3644	3644	NONCURRENT-CARRYING WIRING DEVICES	433	A	METAL FINISHING	1	9	0
3644	3644	NONCURRENT-CARRYING WIRING DEVICES		NR	NO ELECTROPLATING	1	1	99
3645	3645	RESIDENTIAL LIGHTING FIXTURES	433	A	METAL FINISHING	1	9	0
3645	3645	RESIDENTIAL LIGHTING FIXTURES		NR	NO ELECTROPLATING	1	1	99
3646	3646	COMMERCIAL LIGHTING FIXTURES	433	A	METAL FINISHING	1	9	0
3646	3646	COMMERCIAL LIGHTING FIXTURES		NR	NO ELECTROPLATING	1	1	99
3647	3647	VEHICULAR LIGHTING EQUIPMENT	433	A	METAL FINISHING	1	9	0
3647	3647	VEHICULAR LIGHTING EQUIPMENT		NR	NO ELECTROPLATING	1	1	99
3648	3648	LIGHTING EQUIPMENT, NEC	433	A	METAL FINISHING	1	9	0
3648	3648	LIGHTING EQUIPMENT, NEC		NR	NO ELECTROPLATING	1	1	99
3651	3651	RADIO AND TV RECEIVING SETS	433	A	METAL FINISHING	1	9	0
3651	3651	RADIO AND TV RECEIVING SETS		NR	NO ELECTROPLATING	1	1	99
3652	3652	PHONOGRAPH RECORDS		NR		1	1	99
3661	3575	TELEPHONE AND TELEGRAPH APPARATUS		NR		1	1	99
3661	3575	TELEPHONE AND TELEGRAPH APPARATUS		NR		1	1	99
3662	3663	RADIO AND TV COMMUNICATION EQUIPMENT		NR		1	1	99
3662	3812	RADIO AND TV COMMUNICATION EQUIPMENT		NR		1	1	99
3662	3669	RADIO AND TV COMMUNICATION EQUIPMENT		NR		1	1	99
3662	3829	RADIO AND TV COMMUNICATION EQUIPMENT		NR		1	1	99
3662	3699	RADIO AND TV COMMUNICATION EQUIPMENT		NR		1	1	99
3672	3671	ELECTRON TUBES	469	C	CATHODE RAY TUBE	8	8	0
3674	3674	SEMICONDUCTORS AND RELATED DEVICES	469	A	SEMI-CONDUCTORS	9	10	0
3675	3675	ELECTRONIC CAPACITORS	433	A	METAL FINISHING	1	9	0
3676	3676	RESISTORS FOR ELECTRONIC APPLICATIONS	433	A	METAL FINISHING	1	9	0
3676	3676	RESISTORS FOR ELECTRONIC APPLICATIONS		NR	NO ELECTROPLATING	1	1	99
3677	3677	ELECTRONIC COILS, TRANSFORMERS & OTHER i	433	A	METAL FINISHING	1	9	0
3677	3677	ELECTRONIC COILS, TRANSFORMERS & OTHER i		NR	NO ELECTROPLATING	8	8	99
3678	3678	CONNECTORS FOR ELECTRONIC APPLICATIONS	433	A	METAL FINISHING	1	9	0
3678	3678	CONNECTORS FOR ELECTRONIC APPLICATIONS		NR	NO ELECTROPLATING	1	1	99
3679	3672	ELECTRONIC COMPONENTS, NEC	413	H	PRINTED CIRCUIT BOARDS	1	9	1
3679	3264	ELECTRONIC COMPONENTS, NEC		NR		1	1	99
3679	3679	ELECTRONIC COMPONENTS, NEC	469	B	ELECTRONIC CRYSTALS	1	5	2
3679	3671	ELECTRONIC COMPONENTS, NEC		NR		1	1	99
3679	3695	ELECTRONIC COMPONENTS, NEC		NR		1	1	99
3679	3679	ELECTRONIC COMPONENTS, NEC		NR		1	1	99
3679	3625	ELECTRONIC COMPONENTS, NEC		NR		1	1	99

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3691	3691	STORAGE BATTERIES	461	A	CADMIUM BATTERIES	5	10	14
3691	3691	STORAGE BATTERIES	461	B	CALCIUM BATTERIES	5	5	1
3691	3691	STORAGE BATTERIES	461	C	LEAD BATTERIES	2	9	5
3691	3691	STORAGE BATTERIES	461	D	LECLANCHE BATTERIES	5	5	17
3691	3691	STORAGE BATTERIES	461	E	LITHIUM BATTERIES	5	5	7
3691	3691	STORAGE BATTERIES	461	O	MERCURY (WESTON) CELLS	5	5	11
3691	3691	STORAGE BATTERIES	461	G	ZINC BATTERIES	10	10	4
3691	3691	STORAGE BATTERIES	461	O	MERCURY (RUBEN) BATTERIES	5	5	10
3691	3691	STORAGE BATTERIES	461	O	LEAD ACID RESERVE BATTERIES	5	5	6
3691	3691	STORAGE BATTERIES	461	F	MAGNESIUM BATTERIES	5	5	9
3692	3692	PRIMARY BATTERIES, DRY & WET	461	A	CADMIUM BATTERIES	5	10	14
3692	3692	PRIMARY BATTERIES, DRY & WET	461	B	CALCIUM BATTERIES	5	5	1
3692	3692	PRIMARY BATTERIES, DRY & WET	461	C	LEAD BATTERIES	2	9	5
3692	3692	PRIMARY BATTERIES, DRY & WET	461	E	LITHIUM BATTERIES	5	5	7
3692	3692	PRIMARY BATTERIES, DRY & WET	461	F	MAGNESIUM BATTERIES	5	5	9
3692	3692	PRIMARY BATTERIES, DRY & WET	461	O	MERCURY (RUBEN) BATTERIES	5	5	10
3692	3692	PRIMARY BATTERIES, DRY & WET	461	O	MERCURY (WESTON) CELLS	5	5	11
3692	3692	PRIMARY BATTERIES, DRY & WET	461	O	LEAD ACID RESERVE BATTERIES	3	3	6
3692	3692	PRIMARY BATTERIES, DRY & WET	461	G	ZINC BATTERIES	10	10	4
3693	3845	ELECTROMEDICAL EQUIPMENT	469	C	ELECTRON TUBES	8	8	1
3693	3844	X-RAY APPARATUS AND TUBES	469	C	ELECTRON TUBES	8	8	2
3694	3694	ELECTRICAL EQUIP for INTERNAL COMBUSTION	433	A	METAL FINISHING	1	9	0
3694	3694	ELECTRICAL EQUIP for INTERNAL COMBUSTION		NR	NO ELECTROPLATING	1	1	99
3699	3641	ELECTRICAL MACHINERY, EQUIPMENT & SUPPL	433	A	METAL FINISHING	1	9	1
3699	3585	ELECTRICAL MACHINERY, EQUIPMENT & SUPPL	433	A	METAL FINISHING	1	9	2
3699	3699	ELECTRICAL MACHINERY, EQUIPMENT & SUPPL	433	A	METAL FINISHING	1	9	3
3711	3711	MOTOR VEHICLES & PASSENGER CAR BODIES	433	A	METAL FINISHING	1	9	0
3711	3711	MOTOR VEHICLES & PASSENGER CAR BODIES		NR	NO ELECTROPLATING	1	1	99
3713	3713	TRUCK & BUS BODIES	433	A	METAL FINISHING	1	9	0
3713	3713	TRUCK & BUS BODIES		NR	NO ELECTROPLATING	1	1	99
3714	3714	MOTOR VEHICLE PARTS & ACCESSORIES		NR	NO ELECTROPLATING	1	1	99
3714	3714	MOTOR VEHICLE PARTS & ACCESSORIES	433	A	METAL FINISHING	1	9	0
3715	3715	TRUCK TRAILERS	433	A	METAL FINISHING	1	9	0
3715	3715	TRUCK TRAILERS		NR	NO ELECTROPLATING	1	1	99
3721	3721	AIRCRAFT	433	A	METAL FINISHING	1	9	0
3721	3721	AIRCRAFT		NR	NO ELECTROPLATING	1	1	99
3724	3724	AIRCRAFT ENGINES & ENGINE PARTS	433	A	METAL FINISHING	1	9	0
3724	3724	AIRCRAFT ENGINES & ENGINE PARTS		NR	NO ELECTROPLATING	1	1	99
3728	3492	AIRCRAFT EQUIPMENT, NEC	433	A	METAL FINISHING	1	9	0
3728	3593	AIRCRAFT EQUIPMENT, NEC		NR	NO ELECTROPLATING	1	1	99
3728	3594	AIRCRAFT EQUIPMENT, NEC		NR	NO ELECTROPLATING	1	1	99
3728	3594	AIRCRAFT EQUIPMENT, NEC	433	A	METAL FINISHING	1	9	1
3728	3593	AIRCRAFT EQUIPMENT, NEC	433	A	METAL FINISHING	1	9	2
3728	3492	AIRCRAFT EQUIPMENT, NEC		NR	NO ELECTROPLATING	1	1	99
3728	3728	AIRCRAFT EQUIPMENT, NEC		NR	NO ELECTROPLATING	1	1	99
3728	3728	AIRCRAFT EQUIPMENT, NEC	433	A	METAL FINISHING	1	9	3
3731	3731	SHIP BUILDING AND REPAIRING	470	I	SHIP BUILDING AND REPAIRING	6	6	0
3732	3732	BOAT BUILDING AND REPAIRING		NR	NO ELECTROPLATING	1	1	99
3732	3732	BOAT BUILDING AND REPAIRING	433	A	METAL FINISHING	1	9	0
3743	3743	RAILROAD EQUIPMENT	433	A	METAL FINISHING	1	9	0
3743	3743	RAILROAD EQUIPMENT		NR	NO ELECTROPLATING	1	1	99
3751	3751	MOTORCYCLES, BICYCLES AND PARTS	433	A	METAL FINISHING	1	9	0
3751	3751	MOTORCYCLES, BICYCLES AND PARTS		NR	NO ELECTROPLATING	1	1	99
3761	3761	GUIDED MISSILES AND SPACE VEHICLES	433	A	METAL FINISHING	1	9	0

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1972/ 1977 SIC Code	1987 SIC Code	1987 Title	CFR Part	CFR Sub Part	Sub-part title	Human Health Toxicity Number	Total Toxicity Number	Industry Subcat Number
3761	3761	GUIDED MISSILES AND SPACE VEHICLES		NR	NO ELECTROPLATING	1	1	99
3764	3764	SPACE PROPULSION UNITS AND PARTS	433	A	METAL FINISHING	1	9	0
3764	3764	SPACE PROPULSION UNITS AND PARTS		NR	NO ELECTROPLATING	1	1	99
3769	3769	SPACE VEHICLE EQUIPMENT, NEC	433	A	METAL FINISHING	1	9	0
3769	3769	SPACE VEHICLE EQUIPMENT, NEC		NR	NO ELECTROPLATING	1	1	99
3792	3792	TRAVEL TRAILERS AND CAMPERS	433	A	METAL FINISHING	1	9	0
3792	3792	TRAVEL TRAILERS AND CAMPERS		NR	NO ELECTROPLATING	1	1	99
3795	3795	TANKS AND TANK COMPONENTS	433	A	METAL FINISHING	1	9	0
3795	3795	TANKS AND TANK COMPONENTS		NR	NO ELECTROPLATING	1	1	99
3799	3799	TRANSPORTATION EQUIPMENT, NEC	433	A	METAL FINISHING	1	9	0
3799	3799	TRANSPORTATION EQUIPMENT, NEC		NR	NO ELECTROPLATING	1	1	99
3811	3812	ENGINEERING AND SCIENTIFIC INSTRUMENTS	433	A	METAL FINISHING	1	9	1
3811	3812	ENGINEERING AND SCIENTIFIC INSTRUMENTS		NR	NO ELECTROPLATING	1	1	99
3811	3821	ENGINEERING AND SCIENTIFIC INSTRUMENTS		NR	NO ELECTROPLATING	1	1	99
3811	3821	ENGINEERING AND SCIENTIFIC INSTRUMENTS	433	A	METAL FINISHING	1	9	2
3811	3826	ENGINEERING AND SCIENTIFIC INSTRUMENTS	433	A	METAL FINISHING	1	9	3
3811	3826	ENGINEERING AND SCIENTIFIC INSTRUMENTS		NR	NO ELECTROPLATING	1	1	99
3811	3829	ENGINEERING AND SCIENTIFIC INSTRUMENTS	433	A	METAL FINISHING	1	9	4
3811	3829	ENGINEERING AND SCIENTIFIC INSTRUMENTS		NR	NO ELECTROPLATING	1	1	99
3811	3826	ENGINEERING AND SCIENTIFIC INSTRUMENTS	433	A	METAL FINISHING	1	9	5
3811	3827	ENGINEERING AND SCIENTIFIC INSTRUMENTS		NR	NO ELECTROPLATING	1	1	99
3811	3827	ENGINEERING AND SCIENTIFIC INSTRUMENTS	433	A	METAL FINISHING	1	9	6
3822	3822	ENVIRONMENTAL CONTROLS	433	A	METAL FINISHING	1	9	0
3822	3822	ENVIRONMENTAL CONTROLS		NR	NO ELECTROPLATING	1	1	99
3823	3823	PROCESS CONTROL INSTRUMENTS	433	A	METAL FINISHING	1	9	0
3823	3823	PROCESS CONTROL INSTRUMENTS		NR	NO ELECTROPLATING	1	1	99
3824	3824	FLUID METERS AND COUNTING DEVICES	433	A	METAL FINISHING	1	9	0
3824	3824	FLUID METERS AND COUNTING DEVICES		NR	NO ELECTROPLATING	1	1	99
3825	3825	INSTRUMENTS TO MEASURE ELECTRICITY	433	A	METAL FINISHING	1	9	0
3825	3825	INSTRUMENTS TO MEASURE ELECTRICITY		NR	NO ELECTROPLATING	1	1	99
3829	3829	MEASURING & CONTROLLING DEVICES, NEC	433	A	METAL FINISHING	1	9	0
3829	3829	MEASURING & CONTROLLING DEVICES, NEC		NR	NO ELECTROPLATING	1	1	99
3832	3826	OPTICAL INSTRUMENTS AND LENSES	433	A	METAL FINISHING	1	9	1
3832	3826	OPTICAL INSTRUMENTS AND LENSES		NR	NO ELECTROPLATING	1	1	99
3832	3829	OPTICAL INSTRUMENTS AND LENSES	433	A	METAL FINISHING	1	9	2
3832	3829	OPTICAL INSTRUMENTS AND LENSES		NR	NO ELECTROPLATING	1	1	99
3832	3827	OPTICAL INSTRUMENTS AND LENSES	433	A	METAL FINISHING	1	9	3
3832	3827	OPTICAL INSTRUMENTS AND LENSES		NR	NO ELECTROPLATING	1	1	99
3841	3841	SURGICAL AND MEDICAL INSTRUMENTS		NR	NO ELECTROPLATING	1	1	99
3841	3841	SURGICAL AND MEDICAL INSTRUMENTS	433	A	METAL FINISHING	1	9	0
3842	3842	SURGICAL APPLIANCES AND SUPPLIES		NR	NO ELECTROPLATING	1	1	99
3842	3842	SURGICAL APPLIANCES AND SUPPLIES	433	A	METAL FINISHING	1	9	0
3843	3843	DENTAL EQUIPMENT AND SUPPLIES		NR	NO ELECTROPLATING	1	1	99
3843	3843	DENTAL EQUIPMENT AND SUPPLIES	433	A	METAL FINISHING	1	9	0
3851	3851	OPHTHALMIC GOODS		NR	NO ELECTROPLATING	1	1	99
3851	3851	OPHTHALMIC GOODS	433	A	METAL FINISHING	1	9	0
3861	3861	PHOTOGRAPHIC EQUIPMENT AND SUPPLIES	459	3	DIAZO, SOLVENT PROCESS	8	8	1
3861	3861	PHOTOGRAPHIC EQUIPMENT AND SUPPLIES	459	4	PHOTOGRAPHIC Equipment & Supplies	8	8	2
3861	3861	PHOTOGRAPHIC EQUIPMENT AND SUPPLIES	459	5	THERMAL, SOLVENT PROCESS	8	8	3
3873	3873	WATCHES, CLOCKS AND WATCHCASES	433	A	METAL FINISHING	1	9	0
3873	3873	WATCHES, CLOCKS AND WATCHCASES		NR	NO ELECTROPLATING	1	1	99
3911	3911	JEWELRY, PRECIOUS METAL	433	A	METAL FINISHING	1	9	2
3911	3911	JEWELRY, PRECIOUS METAL	471	D	PRECIOUS METAL FORMING	1	10	1
3914	3914	SILVERWARE AND PLATED WARE	433	A	METAL FINISHING	1	9	0

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3914	3914	SILVERWARE AND PLATED WARE		NR	NO ELECTROPLATING	1	1	99
3915	3915	JEWELER'S MATERIALS & LAPIDARY WORK	433	A	METAL FINISHING	1	9	0
3915	3915	JEWELER'S MATERIALS & LAPIDARY WORK		NR	NO ELECTROPLATING	1	1	99
3931	3931	MUSICAL INSTRUMENTS		NR	NO ELECTROPLATING	1	1	99
3931	3931	MUSICAL INSTRUMENTS	433	A	METAL FINISHING	1	9	0
3942	3942	DOLLS		NR		1	1	99
3944	3944	GAMES, TOYS AND CHILDREN'S VEHICLES	433	A	METAL FINISHING	1	9	0
3944	3944	GAMES, TOYS AND CHILDREN'S VEHICLES		NR	NO ELECTROPLATING	1	1	99
3949	3949	SPORTING AND ATHLETIC GOODS, NEC	433	A	METAL FINISHING	1	9	1
3949	3949	SPORTING AND ATHLETIC GOODS, NEC		NR	NO ELECTROPLATING	1	1	99
3949	3949	SPORTING AND ATHLETIC GOODS, NEC	433	A	METAL FINISHING	1	1	2
3951	3951	PENS AND MECHANICAL PENCILS		NR	NO ELECTROPLATING	1	1	99
3951	3951	PENS AND MECHANICAL PENCILS	433	A	METAL FINISHING	1	9	0
3952	3952	LEAD PENCILS AND ART GOODS		NR		1	1	99
3953	3953	MARKING DEVICES		NR		1	1	99
3955	3955	CARBON PAPER AND INKED RIBBONS		NR		1	1	99
3961	3961	COSTUME JEWELRY		NR	NO ELECTROPLATING	1	1	99
3961	3961	COSTUME JEWELRY	433	A	METAL FINISHING	1	9	0
3962	3999	ARTIFICIAL FLOWERS		NR		1	1	99
3964	3965	NEEDLES, PINS AND FASTENERS	433	A	METAL FINISHING	1	9	0
3964	3965	NEEDLES, PINS AND FASTENERS		NR	NO ELECTROPLATING	1	1	99
3991	3991	BROOMS AND BRUSHES	433	A	METAL FINISHING	1	9	0
3991	3991	BROOMS AND BRUSHES		NR	NO ELECTROPLATING	1	1	99
3993	3993	SIGNS AND ADVERTIZING DISPLAYS	433	A	METAL FINISHING	1	9	0
3993	3993	SIGNS AND ADVERTIZING DISPLAYS		NR		1	1	99
3993	3993	SIGNS AND ADVERTIZING DISPLAYS		NR	NO ELECTROPLATING	1	1	99
3995	3995	BURIAL CASKETS		NR	NO ELECTROPLATING	1	1	99
3995	3995	BURIAL CASKETS	433	A	METAL FINISHING	1	9	0
3996	3996	HARD SURFACE FLOOR COVERINGS		NR		1	1	99
3996	3996	HARD SURFACE FLOOR COVERINGS	443	D	LINOLEUM &PRINTED ASPHALT FELT	1	1	0
3999	3999	MANUFACTURING INDUSTRIES, NEC		A	METAL FINISHING	1	9	0
3999	3999	MANUFACTURING INDUSTRIES, NEC		NR		1	1	99
4172	4173	BUS TERMINAL AND SERVICE FACILITIES		NR		1	1	99
4226	4226	SPECIAL WAREHOUSE & STORAGE, NEC		NR		1	1	99
4231	4231	TRUCKING TERMINAL FACILITIES				5	5	0
4469	4493	WATER TRANSPORTATION SERVICES, NEC				5	5	1
4469	4959	WATER TRANSPORTATION SERVICES, NEC				5	5	2
4469	4499	WATER TRANSPORTATION SERVICES, NEC				5	5	3
4612	4612	CRUDE PETROLEUM PIPELINES		NR		8	8	0
4911	4911	ELECTRICAL SERVICES	423	A	Hydro Electric Pwr Gen. (w/ SAN. WST.)	6	6	1
4911	4911	ELECTRICAL SERVICES	423	A	STEAM ELECTRIC POWER Generating	6	6	2
4931	4931	ELECTRIC AND OTHER SERVICES COMBINED	423	A	Hydro Electric Pwr Gen. (w/ SAN. WST.)	6	6	1
4931	4931	ELECTRIC AND OTHER SERVICES COMBINED	423	A	STEAM ELECTRIC POWER Generating	6	6	2
4941	4941	WATER SUPPLY				7	7	0
4952	4952	SEWERAGE SYSTEMS				1	1	0
4953	4953	REFUSE SYSTEMS				7	7	1
4953	4953	REFUSE SYSTEMS				10	10	2
4959	4959	SANITARY SERVICES, NEC				1	1	0
4961	4961	STEAM SUPPLY				1	1	0
5052	5052	COAL & OTHER MINERALS & ORES				8	8	0
5093	5093	SCRAP & WASTE MATERIALS				10	10	0
5143	5143	DAIRY PRODUCTS	405	A	RECEIVING STATIONS	1	1	0
5161	5169	CHEMICALS AND ALLIED PRODUCTS				10	10	0
5171	5171	PETROLEUM BULK STATIONS & TERMINALS				8	8	0

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5191	5191	FARM SUPPLIES				6	6	0
5423	5421	MEAT AND FISH (SEAFOOD) MARKETS	432	E	SMALL PROCESSOR	1	1	1
5423	5421	MEAT AND FISH (SEAFOOD) MARKETS	432	F	MEAT CUTTER	1	1	2
5423	5421	MEAT AND FISH (SEAFOOD) MARKETS	432	G	Sausage & Luncheon Meats PROCESSOR	1	1	3
5423	5421	MEAT AND FISH (SEAFOOD) MARKETS		NR	OTHER MARKETS W/O PROCESSING	1	1	99
7211	7211	POWER LAUNDRIES, FAMILY & COMMERCIAL	444	3	POWER LAUNDRIES	3	3	0
7213	7213	LINEN SUPPLY	444	9	LINEN SUPPLY	6	6	0
7214	7219	DIAPER SERVICE	444	5	DIAPER SERVICE	3	3	0
7215	7215	COIN-OPERATED LAUNDRIES & DRY CLEANING	444	1	COIN-OPERATED LAUNDRIES	3	3	0
7216	7216	DRY CLEANING PLANTS, except RUG CLEANING	444	2	DRY CLEANING PLANTS	3	3	0
7217	7217	CARPET & UPHOLSTERY CLEANING	444	4	CARPET & UPHOLSTERY CLEANING	3	3	0
7218	7218	INDUSTRIAL LAUNDERERS	444	8	INDUSTRIAL LAUNDRY	6	6	0
7219	7219	LAUNDRY, GARMENT SERVICES, NEC	444	6	LAUNDRY, GARMENT SERVICES NEC	1	1	0
7342	7342	DISINFECTING & EXTERMINATING SERVICE				10	10	0
7391	8731	RESEARCH & DEVELOPMENT LABORATORIES		NR		1	1	99
7395	7384	PHOTOFINISHING LABORATORIES	459	A	PHOTOGRAPHIC PROCESSING	1	1	0
7397	8734	COMMERCIAL TESTING LABORATORIES				1	1	0
7542	7542	CAR WASHES	444	7	CAR WASH	3	3	0
7699	7699	REPAIR SHOPS, NEC	433	A	METAL FINISHING	1	9	0
7699	7699	REPAIR SHOPS, NEC		NR	NO ELECTROPLATING	1	1	99
7819	7819	SERVICE ALLIED TO MOTION PICTURE PROD.	459	A	PHOTOGRAPHIC PROCESSING	1	1	0
8062	8062	GEN. MEDICAL/SURGICAL HOSPITALS				10	10	0
8069	8069	SPECIALTY HOSPITALS				10	10	0
8071	8071	MEDICAL LABORATORIES				10	10	0
8922	8733	NONCOMMERCIAL RESEARCH ORGANIZATIONS				7	7	0

Appendix C. Outline of IPDES Individual Permit Development and Issuance Process

Appendix D. Outline of IPDES General Permit Development and Issuance Process

Appendix E. ENDNOTES: IDAPA and CFR References

[1] IDAPA 58.01.25.101.03
[2] IDAPA 58.01.25.130.b
[3] IDAPA 58.01.25.130.01.a
[4] IDAPA 58.01.25.010.51
[5] IDAPA 58.01.25.370 and 40 CFR Part 403
[6] IDAPA 58.01.25.380 and 40 CFR Part 503
[7] 40 CFR 122.26(b)(14)(i – xi)
[8] IDAPA 58.01.25.010.01
[9] IDAPA 58.01.25.010.35
[10] IDAPA 58.01.25.110.a.i – iii
[11] IDAPA 58.01.25.110.02.a.i – iii
[12] IDAPA 58.01.25.110.02.b
[13] IDAPA 58.01.25.110.02, IDAPA 58.01.25.110.03.a, and IDAPA 58.01.25.110.04
[14] IDAPA 58.01.25.110.03.b.ii
[15] IDAPA 58.01.25.110.03.c
[16] IDAPA 58.01.25.110.05.a
[17] IDAPA 58.01.25.110.05.b and IDAPA 58.01.25.110.05.b.i
[18] (IDAPA 58.01.25.110.05.b.ii)
[19] IDAPA 58.01.25.110.05.b.iii
[20] IDAPA58.01.25.110.03.b.i
[21] IDAPA58.01.25.110.05.c
[22] IDAPA 58.01.25.106.01
[23] IDAPA 58.01.25.110.06
[24] IDAPA 58.01.25.110.07.a
[25] IDAPA 58.01.25.110.07.b
[26] IDAPA 58.01.25.104
[27] IDAPA 58.01.03
[28] IDAPA 58.01.17
[29] IDAPA 58.01.25
[30] IDAPA 58.01.21.012.01.a
[31] IDAPA 58.01.25.102.02 and IDAPA 58.01.25.090.01
[32] IDAPA 58.01.25.002.02
[33] 40 CFR 2.302
[34] 40 CFR 136
[35] IDAPA 58.01.02
[36] IDAPA 58.01.02.051.02
[37] IDAPA 58.01.05
[38] IDAPA 37.03.03
[39] IDAPA 58.01.25
[40] IDAPA 58.01.01
[41] IDAPA 58.01.01
[42] IDAPA 58.01.01
[43] IDAPA 58.01.16.650
[44] IDAPA 58.01.03
[45] IDAPA 58.01.17
[46] IDAPA 58.01.25.103
[47] IDAPA 58.01.25.103.05
[48] IDAPA 58.01.02.052 and IDAPA 58.01.02.052
[49] IDAPA 58.01.02.060
[50] IDAPA 58.01.02.400
[51] IDAPA 58.01.25.105.11.b and IDAPA 58.01.25.105.17.a

[52] IDAPA 58.01.25.106.06
[53] IDAPA 58.01.25.106.07
[54] IDAPA 58.01.25.105.03
[55] IDAPA 58.01.25.101.02
[56] IDAPA 58.01.25.106.04.b
[57] IDAPA 58.01.25.106.04.a
[58] IDAPA 58.01.25.101.02
[59] IDAPA 58.01.25.106.01
[60] IDAPA 58.01.25.106.01
[61] IDAPA 58.01.25.106.05.c
[62] IDAPA 58.01.25.106.05
[63] IDAPA 58.01.25.105.03.e
[64] IDAPA 58.01.25.106.02
[65] IDAPA 58.01.25.106.02
[66] IDAPA 58.01.25.106.03
[67] 40 CFR 125.3
[68] IDAPA 58.01.25.302.03 and 40 CFR 122.29(d)
[69] 40 CFR 122.44(d)(1)(v) – (vi)
[70] IDAPA 58.01.02.051
[71] 40 CFR 133, 40 CFR 133.102, and 40 CFR 133.105
[72] 40 CFR 401 – 471
[73] IDAPA 58.01.02.210.03
[74] IDAPA 58.01.25.302.06.a.ii.(2)
[75] IDAPA 58.01.02.051 and IDAPA 58.01.02.052
[76] IDAPA 58.01.02.060
[77] IDAPA 58.01.02.060.01.i
[78] IDAPA 58.01.25.302.06.a.i
[79] IDAPA 58.01.25.302.06
[80] IDAPA 58.01.25.302.06.a.v
[81] IDAPA 58.01.25.302.06.a.vi
[82] IDAPA 58.01.25.302.06.a.vii
[83] IDAPA 58.01.25.302.06.a.vii
[84] IDAPA 58.01.25.303.06
[85] 40 CFR 125.3
[86] IDAPA 58.01.25.303.01
[87] IDAPA 58.01.25.303.02
[88] 40 CFR Part 136 and IDAPA 58.01.25.303.03
[89] 40 CFR 125.3
[90] IDAPA 58.01.25.303.06
[91] IDAPA 58.01.25.303.06
[92] IDAPA 58.01.25.303.08
[93] IDAPA 58.01.25.303.09
[94] 40 CFR 125.70–73
[95] IDAPA 58.01.02.401.01
[96] IDAPA 58.01.25.303.07
[97] IDAPA 58.01.25.303.07.b
[98] 40 CFR Part 401 through 471
[99] IDAPA 58.01.25.303.07.c
[100] IDAPA 58.01.25.200.02
[101] IDAPA 58.01.25.108.b.vii and IDAPA 58.01.25.108.b.ix
[102] IDAPA 58.01.25.304.01.b
[103] IDAPA 58.01.25.304.01.a
[104] IDAPA 58.01.25.304.01.g and IDAPA 58.01.25.304.01.h
[105] IDAPA 58.01.25.304.01.c and IDAPA 58.01.25.304.02
[106] IDAPA 58.01.25.304.02.a and IDAPA 58.01.25.304.02.e

[107] IDAPA 58.01.25.300.12
[108] IDAPA 58.01.25.302.13
[109] IDAPA 58.01.25.305 and IDAPA 58.01.02.400
[110] 40 CFR 122.29(d)(4)
[111] IDAPA 58.01.25.305
[112] IDAPA 58.01.25.305.02
[113] IDAPA 58.01.25.300
[114] IDAPA 58.01.25.107.01
[115] IDAPA 58.01.25.109
[116] IDAPA 58.01.25.109.01
[117] IDAPA 58.01.25.109.01.d, IDAPA 58.01.25.109.02.b., and IDAPA 58.01.25.109.01.i
[118] IDAPA 58.01.25.109.02.h
[119] 40 CFR §123.44
[120] IDAPA 58.01.25.107.04
[121] IDAPA 58.01.25.204
[122] IDAPA 58.01.25.600.02
[123] IDAPA 58.01.25.130.05.b.iv
[124] IDAPA 58.01.25.103
[125] 40 CFR 125.3
[126] 40 CFR 122.44(d)(1)(v) – (vi)
[127] IDAPA 58.01.02.051
[128] 40 CFR 401 – 471
[129] IDAPA 58.01.02.210.03
[130] IDAPA 58.01.25.302.06.a.ii.(2)
[131] IDAPA 58.01.02.051 and IDAPA 58.01.02.052
[132] IDAPA 58.01.25.302.06.a.i
[133] IDAPA 58.01.25.302.06
[134] IDAPA 58.01.25.302.06.a.v
[135] IDAPA 58.01.25.302.06.a.vi
[136] IDAPA 58.01.25.302.06.a.vii
[137] IDAPA 58.01.25.302.06.a.vii
[138] IDAPA 58.01.25.303.06
[139] 40 CFR 125.3
[140] IDAPA 58.01.25.303.01
[141] 40 CFR Part 136 and IDAPA 58.01.25.303.03
[142] 40 CFR 125.3
[143] IDAPA 58.01.25.303.06
[144] IDAPA 58.01.25.303.06
[145] IDAPA 58.01.25.303.08
[146] IDAPA 58.01.25.303.09
[147] 40 CFR 125.70–73
[148] IDAPA 58.01.25.303.07
[149] IDAPA 58.01.25.200.02
[150] IDAPA 58.01.25.108.b.vii and IDAPA 58.01.25.108.b.ix
[151] IDAPA 58.01.25.304.01.b
[152] IDAPA 58.01.25.304.01.a
[153] IDAPA 58.01.25.304.01.g and IDAPA 58.01.25.304.01.h
[154] IDAPA 58.01.25.304.01.c and IDAPA 58.01.25.304.02
[155] IDAPA 58.01.25.304.02.a and IDAPA 58.01.25.304.02.e
[156] IDAPA 58.01.25.300.12
[157] IDAPA 58.01.25.302.13
[158] IDAPA 58.01.25.130.05.b.iv
[159] IDAPA 58.01.25.103
[160] IDAPA 58.01.25.109.01
[161] IDAPA 58.01.25.109.01.d, IDAPA 58.01.25.109.02.b., and IDAPA 58.01.25.109.01.i

[162] IDAPA 58.01.25.102.02 and IDAPA 58.01.25.090.01
[163] IDAPA 58.01.25.130.04
[164] IDAPA 58.01.25.130.05.b.xi
[165] IDAPA 58.01.25.130.05.b.ii
[166] IDAPA 58.01.25.130.03
[167] IDAPA 58.01.21.012.01.a
[168] IDAPA 58.01.25.002.02
[169] 40 CFR 2.302
[170] IDAPA 58.01.25.106.01
[171] IDAPA 58.01.25.130.05.b.xii
[172] IDAPA 58.01.25.130.05.d
[173] IDAPA 58.01.25.130.05.c
[174] IDAPA 58.01.25.130.05.c
[175] IDAPA 58.01.25.130.05.c
[176] IDAPA 58.01.25.130.05.d
[177] IDAPA 58.01.25.130.05.e
[178] IDAPA 58.01.25.130.05.f
[179] IDAPA 58.01.25.201.01.a
[180] IDAPA 58.01.25.201.02.d
[181] IDAPA 58.01.25.202
[182] IDAPA 58.01.25.203
[183] IDAPA 58.01.25.201.02.b
[184] IDAPA 58.01.25.201.01.b.ii
[185] IDAPA 58.01.25.201.03
[186] 40 CFR 122.42(e)(6)
[187] IDAPA 58.01.25.201.01.b.ii
[188] IDAPA 58.01.25.201.02.c.i
[189] IDAPA 58.01.25.201.02.c.ii
[190] IDAPA 58.01.25.130
[191] IDAPA 58.01.25.201.02.c.ii(1)
[192] IDAPA 58.01.25.120
[193] IDAPA 58.01.25.201.02.c.ii(2)
[194] IDAPA 58.01.25.201.02.c.iii
[195] IDAPA 58.01.25.201.01 or IDAPA 58.01.25.203.01
[196] IDAPA 58.01.25.201.01 or IDAPA 58.01.25.203.01
[197] IDAPA 58.01.25.201.02.c.iv
[198] IDAPA 58.01.25.201.02.c.xiii and IDAPA 58.01.12,
[199] IDAPA 58.01.25.201.02.c.v
[200] IDAPA 58.01.25.310
[201] IDAPA 58.01.25.201.02.c.vi
[202] IDAPA 58.01.25.201.02.c.vii
[203] IDAPA 58.01.25.201.02.c.viii
[204] IDAPA 58.01.25.201.02.c.ix
[205] IDAPA 58.01.25.201.02.c.x
[206] IDAPA 58.01.25.201.02.c.xi
[207] IDAPA 58.01.25.201.02.c.xii and IDAPA 58.01.25.302.08
[208] 40 CFR §122.34(b) and IDAPA 58.01.25.201.02.c.xiv
[209] IDAPA 58.01.25.201.02.c.xv
[210] IDAPA 58.01.25.201.02.c.xvi
[211] IDAPA 58.01.25.201.02.c.xviii
[212] IDAPA 58.01.16.650
[213] IDAPA 58.01.25.380
[214] IDAPA 58.01.25.201.01.a
[215] IDAPA 58.01.25.201.01.b
[216] IDAPA 58.01.25.201.01.b.ii

[217] IDAPA 58.01.25.201.02.d
[218] IDAPA 58.01.25.201.02.c
[219] IDAPA 58.01.25.202
[220] IDAPA 58.01.25.201.02.d.i
[221] IDAPA 58.01.25.201.01.a
[222] IDAPA 58.01.25.201.01.b.iii
[223] IDAPA 58.01.25.201.01.b
[224] IDAPA 58.01.25.203.02
[225] IDAPA 58.01.25.203.03
[226] IDAPA 58.01.02.051
[227] IDAPA 58.01.02.052
[228] IDAPA 58.01.23
[229] IDAPA 58.01.25.310
[230] IDAPA 58.01.25.310
[231] 40 CFR 125.30 – 32
[232] IDAPA 58.01.25.310.01.b
[233] 40 CFR 125.70–73
[234] IDAPA 58.01.25.310 and 40 CFR 125.70 – 73
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[236] IDAPA 58.01.25.310.01.e
[237] IDAPA 58.01.25.109.01.f – h
[238] IDAPA 58.01.02.260 and 40 CFR 131.10(g)
[239] IDAPA 58.01.02.102.02.a.vi and IDAPA 58.01.02.260.01.b.vi
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[242] IDAPA 58.01.25.105.11.b and IDAPA 58.01.25.105.17.a
[243] IDAPA 58.01.25.106.06
[244] IDAPA 58.01.25.106.07
[245] IDAPA 58.01.25.302.03.c
[246] IDAPA 58.01.25.303.07
[247] IDAPA 58.01.25.303.07.b
[248] 40 CFR Part 401 – 471
[249] IDAPA 58.01.25.303.07.c