https://www.in.gov/idem/cleanwater/files/wastewater_cert_booklist_10_manual.pdf

Wastewater Operator Certification Manual

Indiana Department of Environmental Management

Office of Water Quality
Compliance Branch

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Wastewater Operator Certification Manual

Table of Contents

		Page
Chapter I – About IDEM and the Office of Water Quality		**2**
Chapter II - Indiana Wastewater Operator Certification Process		
Section 1:	Operator Certification Program Overview	6
Section 2:	Continuing Education Requirements	13
Section 3:	Application Forms	16
Reference Book List		17
Chapter III – Study Questions, Rules and Statute		
Section 1:	Rules: Exam Study Practice Questions	19
Section 2:	Practice Questions for Facultative Lagoons	46
Section 3:	Text of Rule 327 IAC 5-22; Classification of Wastewater Treatment Plants; Examination and Certification of Operators	49
Section 4:	IC 13-18-11: Operator Certification Statute	71
Chapter IV – NPDES Permit Program and Wetlands Info		75
Chapter V – Reporting		75
Monitoring Report Forms		
Includes MRO, MMR, CSO DMR, Bypass/Overflow and Non-Compliance forms		
Chapter VI – Associated Topics for Wastewater Treatment		
Section 1:	IDEM "Rules" link	77
Section 2:	Wastewater Laboratory QA/QC Manual	77
Section 3:	Safety and Security	79
Appendices		
Appendix A	DMR/MRO Worksheet	82
Appendix B	Sample NetDMR data entry page	84
Appendix C	Sample MRO	85
Appendix D	Sample NPDES permit page with limits	86
Appendix E	Information on land application of biosolids	87

Chapter I:
About IDEM and the Office of Water Quality

The mission of the Indiana Department of Environmental Management (IDEM) is to implement federal and state regulations to protect human health and the environment while allowing the environmentally sound operations of industrial, agricultural, commercial and governmental activities vital to a prosperous economy.

Environmental protection in Indiana has come a long way since 1986, when IDEM was established. IDEM employs some of Indiana's most qualified engineers, scientists and environmental managers specializing in air, land, pollution prevention and water quality issues. Our staff members work hard to provide quality environmental oversight and technical assistance in every community around the state. Whether you are a business owner, consultant, student, farmer, teacher or parent, IDEM is here to help you. (http://www.in.gov/idem/)

The mission of IDEM's Office of Water Quality (OWQ), under the oversight of the Assistant Commissioner of OWQ, is to concentrate on fulfilling IDEM's mission where water quality is concerned. More specifically, OWQ is responsible for protecting public health and the environment by assessing the quality of surface water and groundwater through biological and chemical testing; regulating and monitoring drinking water supplies (including wellhead protection), wastewater treatment facilities and the construction of such facilities; overseeing the implementation of stormwater controls at construction sites and stormwater best management practices; and, protecting wetlands for proper drainage, flood protection and wildlife habitat. OWQ serves the citizens of Indiana by implementing state administrative rules and Indiana Code and by implementing the portions of the Clean Water Act as delegated by the U.S.EPA.

OWQ is divided into five branches for the implementation of its mission. The following is a description of the basic duties of each branch within the Office of Water Quality.

Compliance and Enforcement Branch:

The Compliance and Enforcement Branch (http://in.gov/idem/cleanwater/2337.htm) in OWQ conducts systematic inspections of facilities with NPDES and IWP permits, investigates pollution complaints, provides operator assistance and training, administers the wastewater operator certification/continuing education program, administers the sewer ban and sewer ban early warning program, records compliance data in the federal ICIS database, reviews and evaluates compliance data, conducts informal enforcement actions through the issuance of noncompliance letters, and conducts formal enforcement actions for the most serious violations pursuant to state code and administrative rules. This branch is also responsible for assuring wastewater laboratory proficiency and data integrity, as well as providing transparency by recording many documents into the IDEM Virtual File Cabinet. Branch staff are responsible for implementing the state pretreatment program rules and working with U.S. EPA Region 5 to administer the national pretreatment requirements in Indiana. Information on reported bypass and overflow events is collected and recorded, so that these discharges can be evaluated for further

agency action.

Compliance Data Section
Compliance Data staff are responsible for assuring that DMRs are submitted and recorded in the ICIS database. They also administer the pretreatment program, provide assistance in preparing/submitting DMRs, audit DMR data, and make every effort to assure that reported permit violations are addressed prior to going to enforcement.

Enforcement Section
The Water Enforcement Section administers the enforcement of all Office of Water Quality regulatory programs, including wastewater, safe drinking water, wetlands and stormwater, primarily through administrative enforcement actions, pursuant to Indiana rules and code.

Inspections Section
The Inspections Section conducts several tasks, but primarily the inspectors are the faces of IDEM to most people when they conduct on-site inspections or investigations. Pursuant to IDEM policy and EPA oversight, all facilities holding NPDES or IWP permits must be inspected periodically and all complaints must be investigated. Inspection reports are prepared very promptly and provided to the facility management.

Inspections are conducted without prior notification, so the inspector can see normal operating conditions, without opportunity for facility staff to “fine tune” or spruce prior to the inspector’s arrival.

Laboratory Assistance

Laboratory technical assistance is provided to operators by phone and on-site. Laboratory technical assistance staff also oversees the EPA DMRQA and operations and maintenance award programs. For additional guidance, the QA/QC Manual for Wastewater Laboratories can be found at http://www.in.gov/idem/cleanwater/2443.htm.

Operation Assistance

Technical staff within the Inspections Section provide on-site, hands-on assistance in the proper operation of wastewater plants. Operator Assistance staff also provide management assistance and promotes the involvement of community elected officials in the operation of wastewater treatment plants.

Operator Certification

Staff of the Operator Certification group review and approve applications to become certified operators (including determining when an applicant is eligible to sit for the exam), applications for renewal, and applications for course approval. Exams are administered by Ivy Tech at its various locations once the applicant is approved to sit for the exam. New and renewed licenses are issued through a cooperative arrangement with the Professional Licensing Agency after IDEM staff enter the information in the system. This group also tracks earned contact hours and makes the listing available to certified operators.

Permits Branch:

The Wastewater Permitting Branch serves residents and businesses located in Indiana by issuing NPDES, IWP and construction permits to sources that discharge wastewater to stream, lakes, and other water bodies. The Municipal Permits Section (http://in.gov/idem/cleanwater/2432.htm), including the Combined Sewer Overflow (CSO) Program (http://in.gov/idem/cleanwater/2455.htm), and Industrial Permits Section (http://in.gov/idem/cleanwater/2434.htm) issue NPDES permits (http://in.gov/idem/cleanwater/2429.htm) to point source discharges in accordance with the federal Clean Water Act (CWA), federal laws, and state laws and regulations. The Industrial Permits Section also issues Industrial Waste Pretreatment (IWP) permits to significant and categorical industrial users of non-delegated POTWs. The Permits Administration Section administers the non-stormwater NPDES general permits program. The Facility Construction and Engineering Support Section (http://in.gov/idem/cleanwater/2430.htm) issues construction permits related to wastewater treatment plant and sewer construction.

Watershed Assessment and Planning Branch

The Watershed Assessment and Planning Branch administers the watershed monitoring, assessment, Total Maximum Daily Load (TMDL) and Nonpoint Source (NPS) programs. Staff conducting the monitoring programs operate through the Probabilistic and Targeted Sections and collect water chemistry, *E. coli*, fish, macroinvertebrate, aquatic habitat, and algae data. The data are analyzed and used for statewide and watershed specific surface water-related assessments, development of the Integrated Report, and planning and restoration projects. Support for the programs is provided by staff in the Technical and Logistical Support Section, which includes quality assurance/quality control of collected and submitted data, spatial and tabular data management, laboratory, equipment, and vehicle management and logistics. The branch also supports water quality standards development, NPDES permitting and compliance activities, public health advisories, such as for fish consumption and blue-green algae, volunteer monitoring efforts through the Hoosier Riverwatch and Clean Lakes Programs, and the Indiana Map.

Surface Water and Operations Branch

The Surface Water and Operations Branch includes two separate sections: The Wetland and Stormwater Section and the Operations Section.

The Wetland program addresses activities that impact wetlands, lakes and streams to ensure that those activities maintain the chemical, physical, and biological integrity of state waters. When a project is planned in Indiana that will result in the placement of fill material in a wetland, lake, river, stream, or other waters of the U.S., IDEM must issue a Section 401 Water Quality Certification (401 WQC) or an Indiana Isolated Wetland permit.

The stormwater program issues NPDES permits for stormwater discharges associated with industrial activities, active construction that results in land disturbances of one acre or more, and Municipal Separate Storm Sewer Systems (MS4s). In addition to permitting, staff also conducts inspections and audits of permittees to assess compliance.

The Operations section provides several different functions, including the budget, Wastewater Fees and Drinking Water Fees, and the Geothermal Program. The Operations section also administers the Regional Water and Sewer Districts program for IDEM.

State Revolving Fund Loan Program

The State Revolving Fund Loan Program is part of the Indiana Finance Authority and not a part of IDEM. The SRF program is however located on the IGCN 12th floor with the IDEM Office of Water Quality, and works closely with OWQ to provide low-cost financial assistance for planning, design and construction of necessary and environmentally sound drinking water and wastewater infrastructure; to facilitate statewide compliance with state and federal drinking water and water quality standards; to maintain a fiscally self-sufficient program as a continuing source of funding for improvement and protection of public health and water quality; and to conduct any other activity permitted by the Safe Drinking Water Act or the Clean Water Act.

Cities, towns, counties, regional sewer/water districts, conservancy districts and water authorities are eligible for wastewater, drinking water and nonpoint source SRF loans. Private and not-for-profit facilities are eligible only for drinking water SRF loans. Any project where there is an existing water pollution abatement or public health need is eligible for SRF funding.

Environmental Rules Board

The Environmental Rules Board was established as an independent board under Indiana Code 13-13-8-3. State statute at IC 13-13-8-15 provides authority for the Environmental Rules Board to adopt rules under IC 4-22-2 and IC 13-14-9 various pollution matters.

For more information and current membership of the Environmental Rules Board, please see the IDEM, Rules Internet home page at http://www.in.gov/idem/4087.htm.

Chapter II: Indiana Wastewater Operator Certification Program

Section 1: Operator Certification Program Overview: Questions and Answers Concerning the Overall Program

Of all the people working in IDEM's Office of Water Quality, a wastewater operator is most likely to have contact with staff of the Compliance Branch, including certification staff, compliance/data staff and the field inspectors. The field inspectors will be making periodic personal appearances at your wastewater treatment plant. The following questions and answers are designed to help you understand an operator will interact with IDEM and the overall NPDES and operator certification program.

What does an inspector want to see during an inspection?

The NPDES permit for each wastewater facility specifies effluent limitations and other conditions that must be met to protect Indiana's aquatic resources by minimizing the discharge of pollutants from your wastewater treatment facilities. During an inspection, the inspector will conduct a walk-through of the facility to observe and assess overall conditions and determine the adequacy of the operation and maintenance practices. The inspector will discuss plant conditions and issues with facility staff and will review facility records.

The inspection will include examination of lab procedures and equipment, sampling procedures and equipment, on-line monitoring instruments, and operation and maintenance procedures of all pumps, treatment units and other equipment. The inspector will determine whether data included on the reports is accurate and representative.

The self-monitoring program for your plant is the foundation for proper evaluation of facility compliance. All monitoring records are required to be kept on site for a minimum of three years. Monitoring records that may be reviewed during an inspection include DMRs, MROs, pretreatment reports, sampling reports, lab bench sheets, chain of custody sheets, operator log sheets, flow measurement records, calibration records, industrial user records and other miscellaneous reports. These reports and records must be clear, concise, and include all information required by the NPDES permit.

Why is my facility required to have a certified operator?

A person who operates a wastewater treatment plant is a steward of Indiana's water and aquatic resources, as well as the financial investment into the infrastructure of wastewater treatment facilities. Therefore, for a person to be placed into a position of such responsibility, they must demonstrate their qualifications and competence to do so by becoming certified.

Indiana Code (meaning law) (IC) 13-18-11-11(a) requires all wastewater treatment plants, regardless of ownership to be under the supervision of an operator whose competency is certified by the commissioner in a classification corresponding to the classification of the plant being supervised. This requirement applies to wastewater treatment plants even when they do not hold an IDEM-issued NPDES or IWP permit.

Further, Indiana Administrative Code (IAC) 5-22-1 establishes a classification system of wastewater treatment plants and the criteria by which a person may become a wastewater treatment apprentice or certified operator.

*"*The intended result of this rule is to facilitate the entry of individuals into the occupation of wastewater treatment through an apprenticeship opportunity and promote excellence among wastewater treatment operators for the ultimate goal of protecting Indiana waters…"

Note: IDEM recognizes that many parts of 327 IAC 5-22 need to be updated, and plans are under way to do just that. A new rule, 327 IAC 5-23, has been drafted and is in the review process. It is intended to eventually replace 327 IAC 5-22. For now, however, all references in this document will continue to be to the effective version of 327 IAC 5-22.

What are the Indiana operator classifications?

There are ten classifications of wastewater treatment facilities, as described in 327 IAC 5-22-4 and 5, including five municipal and five industrial classifications. The municipal classifications are I-SP, I, II, III, and IV. The industrial classifications are A-SO, A, B, C, and D. Operators may be licensed in any of these ten classifications.

How do I know my facility classification?

327 IAC 5-22-4 establishes the classifications and criteria for nonindustrial wastewater treatment plants, and 327 IAC 5-22-5 establishes the classifications and criteria for industrial treatment plants. Generally, classifications are determined based on plant size (daily volume of wastewater it is designed to treat) and complexity of treatment systems. If you cannot determine the classification of your plat from the rule, or if the facility classification is not specified in your permit (or Fact Sheet accompanying your permit), or you have questions, please call the Wastewater Certification Director at (317) 232-8791 or email at rmcmonig@idem.in.gov.

How do I know what classification my operator should be?

The operator is required to have a license matching the classification of the facility or be of a higher classification.

How do I become certified?

To become a certified operator, you will need to:

a. meet the educational and experience requirements set forth in the certification rule (327 IAC 5-22-7, 7.3, and 9) and certification statute (IC 13-18-11). The rule does provide for certain substitutions of education and experience, so it is worth looking into this if you think you may be able to qualify
b. complete the application to sit for the certification exam
c. pay a $30 application fee and
d. pass the exam with a score of 70% or higher.

The certification rule is found at this link:
http://www.in.gov/legislative/iac/T03270/A00050.PDF, and then scrolling down to page 161. The rule is also found beginning on page 58 of this document.

For certification, a minimum amount of acceptable experience in the actual hands-on operation of a wastewater treatment plant is required to sit for any examination. The application fee is non-refundable per IAC 5-22-12(b). You may contact the certification director if you have any questions regarding your eligibility to sit for an exam.

For apprenticeship, no experience is necessary to sit for an examination; however, apprenticeship is not a certification. You may not be a Responsible Charge Operator at a wastewater facility until you have obtained certification. Please contact the certification director if you have any questions regarding the apprenticeship program.

What options do I have in getting scheduled to sit for the exam?

With the availability of Ivy Tech to administer the exams on an ongoing basis, there is no longer a need to wait for the next scheduled annual paper exam. Also, it may not be necessary to obtain a provisional certificate if the individual already meets the criteria for becoming certified and is prepared to take the exam. Once the application is approved, the applicant may schedule the test with Ivy Tech and take the test in a very short time.

If your job requires to become certified but you are not ready to sit for the exam, a provisional certification may be granted under certain situations as specified in 327 IAC 5-22-13. A provisional certification is granted to the facility and allows the specified individual to act in responsible charge, under specific conditions for up to one year. A provisional operator may be required when a vacancy in a position of operator occurs due to death, resignation, extended illness, or a similar cause.

How do I know if I passed the exam?

When you take the exam at Ivy Tech, you will be informed of your score before you leave the exam site. This is an unofficial notification. If you passed the exam, your official notification will come when you received your certificate and card in the mail from the Professional Licensing Agency. Otherwise, you will receive a letter from IDEM informing you that you did not pass the exam.

How do I receive my certificate and card?

Upon being approved as an Indiana Certified Wastewater Operator, your card and certificate will be mailed to you from the Indiana Professional Licensing Agency.

If I have a valid license, what types of plants am I authorized to operate?

327 IAC 5-22-8 describes which type of treatment facilities may be operated by the holder of an Indiana wastewater operator's license, as follows:

- Class I-SP certified operators are only certified to operate Class I-SP plants.
- Class A-SO certified operators are only certified to operate a Class A-SO plants.
- Class I certified operators are certified to operate Class I-SP, Class I, Class A-SO, and Class A plants.
- Class A certified operators are certified to operate Class A-SO and Class A plants.
- Class II certified operators are certified to operate Class A-SO, Class A, Class

I-SP, Class I, and Class II plants.

- Class B certified operators are certified to operate Class A-SO, Class A, and Class B plants.
- Class III certified operators are certified to operate Class A-SO, Class A, Class I-SP, Class I, Class II, and Class III plants.
- Class C certified operators are certified to operate Class A-SO, Class A, Class B, and Class C plants.
- Class IV certified operators are certified to operate Class A-SO, Class A, Class I-SP, Class I, Class II, Class III, and Class IV plants.
- Class D certified operators are certified to operate Class A-SO, Class A, Class B, Class C, and Class D plants.

Am I allowed to operate more than one wastewater treatment facility?

Yes, with certain limitations. Pursuant to 327 IAC 5-22-10.5, a certified operator may be in responsible charge of more than one plant or system if certain requirements are met, including:

- The operator must spend adequate time at each plant to be knowledgeable of actual facility operations, that sampling is correct, and test results are representative of operational conditions
- The certified operator must be fully in responsible charge of plant operations, to ensure proper operation, maintenance and supervision of each facility
- each plant must be in compliance with its effluent limitations and performance requirements

How do I obtain replacement certificates and cards?

There is no charge for the replacement of lost or damaged certificates or cards. An operator in need of a replacement certificate should submit the following information to the certification director:

a. class of wastewater treatment operator;
b. date of issuance of the original certificate, if known; and
c. certificate number.

How can I get certified in Indiana if I am already certified in another state?

The certification rule (5-22-13) allows an operator with a current certification in good standing in another state to be granted reciprocity with an equivalent certification in Indiana without re-testing, with certain limitations. Each reciprocity application is reviewed individually. The State of Indiana does not have reciprocity with all states. Please call the wastewater certification director at (317) 232-8791 or email to rmcmonig@idem.in.gov for specific situations.

Can an operator lose their license?

Yes. Pursuant to 327 IAC 5-22-18 and IC 13-18-11-8, IDEM may suspend or revoke the wastewater treatment certificate of an Indiana certified operator subject to due process if:

a. it is found that the certified operator has practiced fraud or deception
b. he/she has failed to use reasonable care, judgment

c. he/she has failed to apply their knowledge or ability in the performance of their duties or
d. he/she is found to be incompetent in their assigned duties.

Suspension or revocation of an operator's license is accomplished through an administrative enforcement action, typically concluding with an Agreed Order. Generally, suspension is for a designated period of time. Revocation is permanent in nature.

What are the responsibilities of the owner/governing body of a wastewater treatment plant in maintaining compliance?

The owner/governing body of a wastewater treatment facility is required by 327 IAC 5-22-10 to:

a. provide adequate funding and oversight of its facilities to ensure the proper operation, maintenance, management and supervision of the designated facilities
b. maintain compliance with the monitoring requirements, effluent limitations, and other terms and conditions of its NPDES permit.
c. have each plant under the direct supervision of an Indiana Certified Wastewater Operator in responsible charge who holds a license appropriate for the classification of plant being supervised.

As a result, both the designated operator in responsible charge and the NPDES holder are legally bound to take whatever actions are necessary to ensure compliance. The failure to adequately fund operations is a legal requirement and is no excuse for noncompliance.

What is a wastewater apprentice?

327-IAC 5-22-7 includes a classification designation of "Wastewater Apprentice". The apprentice classification allows persons with <u>no experience at a wastewater treatment facility</u> to take the exact same certification examination taken by those wishing to obtain certification. The person need only complete the short apprentice application form and pay the $30 fee. Having passed the exam might make it easier for an apprentice to get a job in the wastewater industry and acquire the necessary experience to then apply for certification, but it is not a license to operate a wastewater treatment facility.

If I become a Wastewater Apprentice, may I be in responsible charge of a wastewater treatment plant?

No. A person who receives an apprentice certificate may work as wastewater treatment apprentice but cannot be designated as the certified operator in responsible charge of a wastewater treatment plant.

If I become a Wastewater Apprentice, how do I get my certification?

Based on the requirements of 327 IAC 5-22-7.5, after you complete as an apprentice all of the educational and experience requirements in section 7.3 and the continuing education requirements of section 15, you may apply to IDEM to become a certified operator.

Are exam prep courses available?

IDEM does not provide exam prep courses, nor does it require any certain training course prior to sitting for a certification exam, although it is strongly recommended. There are a number of exam prep courses available from private training providers, educational facilities and professional associations. As IDEM becomes aware of training courses being provided by outside parties, the course providers are listed on the Operator Wastewater Certification webpage (http://www.in.gov/idem/cleanwater/2393.htm).

How do I start preparing for a certification exam?

The best place to begin preparation for a certification exam is with the ***Exam Book List***, available online at http://www.in.gov/idem/cleanwater/2398.htm and the study guides at https://www.in.gov/idem/cleanwater/2397.htm. The Exam Book List specifies the reference books used to prepare for each of the ten certification exams.

How do I obtain exam reference books?

Reference books may be obtained from a variety of sources including the Water Environment Federation (WEF), California State University, Sacramento, the U.S. EPA; and IDEM. Several of these documents may be obtained on-line, with the appropriate Web addresses specified on the book list online and as shown on pages 16 and 17 below.

Is it possible to take more than one exam on test day?

Yes, it is possible to take one municipal and one industrial exam on the same day. However, if an applicant sits for an exam at Ivy Tech and learns that same day that they did not pass, they will have to submit a new application form to go through the approval process again, so it is not possible to take the same exam a second time on one day.

If I have registered to sit for an exam, and cannot take the test on that date, may I change or cancel my appointment?

Yes. For the written (on paper) exam, 327 IAC 5-22-11(d) allows for one postponement by submitting a written request to IDEM to take the examination one offering later than the date initially granted if the postponement is requested within 14 days of the examination date. If the need for postponement is for an emergency reason it may be submitted less than 14 days prior to the scheduled exam, but as soon as conditions of the emergency warrant. Only one postponement is allowed. After that, a new application will need to be submitted.

However, since virtually everyone sitting for the exam is doing so at an Ivy Tech location, the need for this formal postponement process is practically moot. When IDEM issues an exam admission letter for Ivy Tech it is good for any business day for six months. If you have already made an appointment with Ivy Tech, it may be changed (through Ivy Tech) up to 24 hours prior to the desired test session. Cancelling with less than 24 hours' notice will require an additional proctor fee.

What happens if I fail?

A score of 69 or less is a failing score. A person also will be considered to have failed the examination if they fail to attend the scheduled examination (without having previously requested a postponement) or are caught cheating. Those with scores of 68 or 69 may

want to make an appointment with the wastewater certification director to come to an IDEM office to review the exam and possibly challenge specific questions. A person with a failing score can reapply to take the exam with no waiting period, except as described below.

What happens if I cheat?

If a person is caught cheating on an examination, they are credited with a score of zero and are ineligible to sit for any operator certification examination for a period of two years.

What if I fail multiple times?

Currently, there is no restriction on how many times a person may sit for the exam. The new rule in progress will require persons who fail the same exam three times to take an approved training course before sitting for the exam again.

If my certification expires, can I get it reinstated?

Yes. Indiana law gives operators a one-year grace period to reinstate their expired certification without reexamination. The agency may reinstate the certification if the certified operator submits payment of any current and past due fees and fulfills all continuing education credit requirements.

If the operator fails to renew a certificate for one year after the expiration date, the operator must reapply and retest in accordance with IC 13-18-11-6.5(c) to become recertified.

Remember, once your certification expires, you are no longer certified, even while you are in the one-year grace period. Operators in the grace period may not act in responsible charge of a wastewater treatment facility, sign self-monitoring reports or prepare reports under their expired certification.

How do I maintain/renew my certification?

Certifications must be renewed every three years. All certifications expire on the last day of June. There is a $30 renewal fee. IDEM will send a renewal notification at least thirty days prior to the expiration of the certification card to the last known address on file.

To renew your certification, you must:

a. meet continuing education requirements,
b. submit a complete renewal application, including the renewal fee, on or before the expiration date; and
c. sign the notice and return it to the commissioner.

There is a convenient online renewal option available May 1 through July 1 through the Professional Licensing Agency at **MyLicense.IN.gov**. Details are available on the renewal notice that you receive from IDEM. IDEM strongly recommends that you renew your license online rather than submitting a paper application.

Certified operators are required to earn continuing education contact hours. The number of hours required for renewal varies based on the level of classification. The required

hours for each classification are shown in Section 2, further down on this page. Approximately 70% of the required hours need to be from the technical category of coursework, while the remaining hours can be from the general category or coursework. (Ten contact hours equal one continuing education unit or CEU. Although courses in Indiana are not offered in CEUs, some other states may do so. The conversion is given here to avoid any confusion that may occur over the two similar terms.)

Information about continuing education requirements can also be found in Section 2 below. Application for the approval of courses for continuing education credit may be made to the wastewater continuing education director.

Chapter 2, Section 2: Continuing Education Requirements

(Ref: 327 IAC 5-22-14 and 15)

Once you are an Indiana certified wastewater operator in any of the ten categories, your license will expire every three years. In order to maintain a current license and with it the ability to work as a certified wastewater operator in Indiana, you will have to earn a certain number of contact hours within that time period, document them on the appropriate form, and submit the form to IDEM within 90 days of course completion. While many course providers certify course attendance directly to IDEM, the ultimate responsibility for getting that information to IDEM lies with the operator. IDEM records certificates of course completion in its database and keeps a running total of the contact hours earned by every operator. These totals are publicly available on IDEM's web site, so you may want to check the listing from time-to-time to see all your contact hours have been credited to your license. This documentation, along with a complete application for renewal and the $30 fee will be required for license renewal.

What are the contact hour requirements for my certification?

For each 3-year renewal period, the following continuing education hours are required to be eligible for renewal:

- Class A-SO and I-SP operators need a total of 8 contact hours, including 6 technical.
- Class A, B, I and II operators need a total of 15 contact hours, including 11 technical.
- Class C, D, III and IV operators need a total of 30 contact hours, including 21 technical.

Technical continuing education contact hours include subject matter that addresses technical matters related directly to wastewater treatment plant and sewer system operations, maintenance, management, or supervision.

Nontechnical or General subject material must still enhance the performance of the certified operator's responsibilities but is not directly related to wastewater treatment plant and sewer system operations, maintenance, management, or supervision.

For continuing education credit to be counted in either category, the course must still be approved by IDEM, and documentation of your attendance received by IDEM within 90 days of your taking the course.

Please direct any questions or comments about the Wastewater Continuing Education

Program to the Wastewater Continuing Education Director at (800) 451-6027, (317) 233-0479 or tfullerw@idem.in.gov.

How do I get a training course approved for wastewater credit?

The course approval process required by 327 IAC 5-22-16 is relatively straightforward. Applications for training course approval can be found on IDEM's Web site at http://in.gov/idem/cleanwater/2394.htm. Training course providers should submit completed applications to IDEM for advance approval at least 60 days before the first date when the course is conducted but must be submitted not later than 90 days after training completion in order to be considered for approval. A certified operator may also submit a training course approval application to IDEM prior to or within 90 days of course completion along with written proof of attendance at the course. Course approvals are date and location specific. An operator submitting approval for an after-the-fact course that was not approved by IDEM has no guarantee that credit will be granted.

To apply for training course approval, a course provider must fully complete the application; attach the course content information, including the amount of time spent on each topic; and a bio or resume of the instructor and mail to:

Wastewater Continuing Education Director
IDEM - Office of Water Quality
100 N. Senate Ave., IGCN Room 1255
Indianapolis, Indiana 46204-2251

What types of courses are acceptable for wastewater continuing education hours?

The rule requires that the course deals with one or more of the following:

1) Technical matters related directly to wastewater treatment plant and sewer system operations, maintenance, management, or supervision. Examples include activated sludge, BOD testing, and solids handling.
2) General matters that enhance the performance of the certified operator's responsibilities but are not directly related to wastewater treatment plant and sewer system operations, maintenance, management, or supervision. Examples include first aid/CPR, blood borne pathogens, OSHA trainings.

Note: 327 IAC 5-22-15(e) requires that a minimum of 70% of the required continuing education contact hours must be obtained from the technical category. Not more than 30% of the required continuing education contact hours will be credited toward license renewal for nontechnical subject matter.

For example: A Class II operator earns 15 contact hours for a general computer course. Four contact hours may be applied toward this operator's certification renewal. The operator still must earn eleven contact hours in approved technical courses. In another example, a Class D operator takes a 30 hour technical course. All 30 hours can apply toward the certification renewal. In this example, the operator is not required to attend any other continuing education courses for this renewal period.

Is there a list of pre-approved courses that I can obtain from IDEM?

No. IDEM does not maintain a listing of pre-approved course names, dates and locations. However, a partial listing of trade associations and other course providers and their contact information can be found at www.in.gov/idem/cleanwater/2393.htm. It is left up to the certified operators to contact these groups to inquire about any upcoming wastewater continuing education courses. Many of these associations also maintain web sites that include announcements of upcoming courses with prior or pending approval from IDEM for their specific courses.

When I complete a course, how does IDEM get informed so I will receive credit for the course hours?

Training course providers are required by the rule to submit the completed and signed credit reporting forms to IDEM within 90 days of the conclusion of the course. The provider must maintain records of all continuing education courses for a period of three years following the completion of each course. IDEM recommends that you obtain a copy of the signed credit reporting form from the course provider for your records. It is your license, so ultimately it is your responsibility to make sure IDEM gets the completed credit reporting forms.

Can I receive partial credit for a course if I arrive late or leave early?

No. 327 IAC 5-22-16(e) states; "Partial credit shall not be given to instructors, speakers, or students participating in less than a complete wastewater treatment continuing education course."

Can I receive continuing education credits for attending trade association conferences or workshops?

Yes. There are several trade associations which have periodic conferences or workshops that offer training which may be eligible for training course approval. In these instances, the training providers are urged to work with IDEM in advance to determine which sessions of the conference are pertinent to technical matters or general matters.

These providers must document attendance to verify which sessions of the conference the certified operator attended for credit. Once this has been done, IDEM can complete its review of the training course application and issue a course approval number for all or part of the conference.

Chapter 2, Section 3: Operator Exam Application Forms and instruction sheets links:

This web link https://www.in.gov/idem/forms/idem-agency-forms/#owq_cert_education will take you to the IDEM wastewater operator certification page where you can find the following:

1. Application for Wastewater Treatment Plant Operator or Apprentice to take the examination and instruction sheet for completing the application
2. Application for Apprentice (short form) and instruction sheet for completing the short form application
3. Application for Apprentice to Request Certification
4. Application for Certification by Reciprocity
5. Application for a Provisional Operator and instruction sheet for completing the application
6. Application for Approval of Training for Wastewater Operator Continuing Education Credit
7. Wastewater Operator Continuing Education Credit Report

Operator Exam Book List

The materials listed here are the source of the questions on the exam, as indicated in each column

Book	I-SP	I	II	III	IV	A-SO	A	B	C	D
1	X[1]	X	X	X	X		X			
2	X[2]	X	X	X	X		X	X[3]	X[3]	X[3]
3				X	X					
4								X	X	X
5								X	X	X
10	X	X	X	X	X	X	X	X	X	X
11	X									
12						X				
14			X	X	X			X	X	X

[1] Study only Chapter 1 (Introduction to Wastewater Treatment) of Book #1
[2] Study only Chapter 15 (Maintenance) and Chapter 16 (Laboratory Procedures and Chemistry) of Book #2
[3] Study only Chapter 16 (Laboratory Procedures and Chemistry) of Book #2

Reference Books

1. Operation of Wastewater Treatment Plants, Volume I, 8th Edition
2. Operation of Wastewater Treatment Plants, Volume II, 7th Edition
3. Advanced Waste Treatment, 5th Edition
4. Industrial Waste Treatment, Volume I, 3rd Edition
5. Industrial Waste Treatment, Volume II, 3rd Edition

10. Wastewater Operator Certification Manual, June 2021, (you are looking at it now) **free on-line**

11. Stabilization Ponds, U.S. EPA Operation Manual, August 1977, **free on-line**

12. Study Guide for Industrial A-SO Operators, March 2021, **free on-line**

14. Introduction to the National Pretreatment Program, February 1999, **free on-line**

For specific areas of study in these books, please check the available Study Guides and Keys at https://www.in.gov/idem/cleanwater/2397.htm.

Where to Obtain Exam Reference Books

Books 1 through 5
Office of Water Programs
California State University, Sacramento and Pearson Learning Solutions
https://www.owp.csus.edu/courses/wastewater.php

Book 10
Wastewater Operator Certification Manual, April 2021

IDEM Office of Water Quality, Compliance Branch
http://www.in.gov/idem/cleanwater/files/wastewater_cert_booklist_10_manual.pdf

Book 11
Stabilization Ponds, U.S. EPA Operation Manual
IDEM Office of Water Quality, Compliance Branch
http://www.in.gov/idem/cleanwater/files/wastewater_cert_booklist_11_stabilization_ponds.pdf

Book 12
Study Guide for Industrial A-SO Operators, April 2021

IDEM Office of Water Quality, Compliance Branch
https://www.in.gov/idem/cleanwater/files/wastewater_cert_study_guide_aso.pdf

Book 14
Introduction to the National Pretreatment Program
U.S. EPA – Office of Water Resource Center
Phone: (202) 566-1729
https://www3.epa.gov/npdes/pubs/pretreatment_program_intro_2011.pdf
Publication #: EPA-833-B-98-002, Feb. 1999

Chapter III: Rules

Section 1: Rules: Exam Study Practice Questions

Introduction
The following **Questions and Answers** were derived from Indiana Administrative Code (IAC) Title 327 Water Pollution Control. Please refer to the disclaimer at the beginning of this manual. For the purpose of this manual and the certification exams, only portions of 327 IAC are represented. Please refer to the entire Rule for any other purpose. The complete text of 327 IAC 5-22 is included below in Section 3, beginning on page 43. The Rules Study Guide generally includes lengthy answers to the questions. However, operators are not expected to memorize these lengthy answers for the certification exams. Operators should be able to identify the correct answer to a question when given the correct answer among several incorrect answers on the multiple-choice exam. Citations (for example, 327 IAC 2-1-1.5) are included for your convenience and will only be included in the exam as references. Concerning math questions appearing on the exam: Formulae sheets will be provided on exam day. Operators are not required to memorize formulae. Everyone sitting for the exam will be expected to be able to make conversions and rearrange formulae in order to complete the mathematics portion of the certification exams.

Questions on 327 IAC ARTICLE 2. Water Quality Standards

1) What are the goals of the state regarding water quality?
   Answer: The goals of the state regarding water quality are to restore and maintain the chemical, physical and biological integrity of the waters of the state.
   In furtherance of this primary goal:
   (a) It is the public policy of the state that the discharge of toxic substances in toxic amounts be prohibited; AND
   (b) It is the public policy of the state that the discharge of persistent and bioconcentrating toxic substances be reduced or eliminated.

   Source: 327 IAC 2-1-1.5

2) All surface waters of the state are designated for **_a_**. Also, all waters of the state, except limited use waters, must be capable of supporting a well-balanced, warm water **_b_** community
   Answer
   (a) Full-body contact recreation
   (b) Aquatic.
   Source: 327 IAC 2-1-3(a)

3) All waters at all times and at all places, including the mixing zone, shall meet the minimum conditions of being free from substances, materials, floating debris, oil, or scum attributable to municipal, industrial, agricultural, and other land use practices, or other discharges. What are the four types of undesirable conditions or substances described in the rule?
   Answer
   (a) Substances that will settle to form putrescent or otherwise objectionable deposits.
   (b) Substances that are in amounts sufficient to be unsightly or deleterious.
   (c) Substances that produce color, visible oil sheen, odor, or other conditions in such degree as to create a nuisance.

(d) Substances which are in amounts sufficient to be acutely toxic to, or otherwise severely injure or kill aquatic life, other animals, plants, or humans.

Source: 327 IAC 2-1-6(a)(1)

4) My wastewater treatment plant receives brine wastes from water softeners. Do I have to be concerned about the salt content of my discharge?
Answer: Yes. The salt discharge could increase the dissolved solids concentration of your discharge. The state water quality standards require that dissolved solids shall not exceed 750 mg/l in any waters. In the typical municipal type wastestream, dilution from other domestic sources should keep your effluent below the standard, but in certain conditions, where there is a large industrial discharge, it could be a problem.

Source: 327 IAC 2-1.5-8(f)(4)

5) What is the minimum dissolved oxygen requirement in surface waters of the State of Indiana?
Answer: Concentrations of dissolved oxygen shall average at least five milligrams per liter per calendar day and shall not be less than four milligrams per liter at any time.

Source: 327 IAC 2-1-6(b)(3)

6) What are the conditions for temperature in the waters of the state (except for Lake Michigan)?
Answer
(a) There shall be no abnormal temperature changes that may adversely affect aquatic life unless caused by natural conditions.
(b) The normal daily and seasonal temperature fluctuations that existed before the addition of heat due to other than natural causes shall be maintained.
(c) The maximum temperature rise at any time or place above natural temperatures shall not exceed 5°F in streams and 3°F in lakes and reservoirs.
(d) Water temperatures shall not exceed the maximum limits in Table 6-4 during more than one percent of the hours in the twelve-month period ending with any month. At no time shall the water temperature at such locations exceed the maximum limits in Table 6-4 by more than 3°F.

Source: 327 IAC 2-1-6(b)(4)

7) What are the requirements for reporting spills?
Answer: A spill must be reported to IDEM as soon as possible, but within two hours of discovery (at the latest). The discovery of a spill must be reported to the IDEM Emergency Response Section by telephone at 888-233-7745 for in-state calls (toll free) and 317- 233-7745 for out-of-state calls. As new or updated spill information becomes known throughout the spill response process, the responsible party shall continue to notify IDEM as soon as possible but within two hours of the time the new or updated information becomes known.

Source: 327 IAC 2-6.1-7(3)

Questions on 327 IAC ARTICLE 4. Wastewater Treatment Facilities; Overload Condition

1) What is the purpose of 327 IAC, Article 4, Wastewater Treatment Facilities; Overload Condition?
   Answer: The two main goals underlying this rule are the prevention of water pollution and the protection of wastewater treatment infrastructure. Collection systems and treatment plants can, by design, carry only a certain amount of wastewater. Beyond that, they become overloaded and overflow or fail to provide adequate treatment. Overloaded conditions can cause actual damage to the plant. The purpose of this rule is to prevent the excessive hydraulic and/or organic overloading of POTWs and semipublic facilities, and the subsequent discharge or bypassing of untreated or insufficiently treated wastewater. IDEM recognizes that placing a community on a sewer ban is a major step that can cause significant hardships to a community, which is why the sewer ban early warning is almost always used prior to imposing a sewer ban.

   Source: 327 IAC 4-1-1

2) What is a "sanitary sewer"?
   Answer: A sanitary sewer, sometimes also called "separate sanitary sewer," exclusively conveys liquid and water-carried wastes from residences, commercial buildings, industrial plants, and institutions to a treatment plant. Storm, surface, and ground waters should never intentionally be allowed to enter a sanitary sewer. It is recognized that all sanitary sewers experience some amount of leakage into (infiltration) and from (exfiltration) the pipes, but the intentional connection of clear water (inflow) is not acceptable. Any overflow from a sanitary sewer is unacceptable. Sewers constructed since the 1960s should be sanitary sewers. Sewers constructed prior to this period are likely to be "combined sewers," meaning that clear water is intentionally diverted into the system. Wet weather conditions dramatically increase the volume of flow in combined sewers, making it much more difficult to transport wastewater to a facility for treatment, and likely to result in the overflow of untreated, if somewhat diluted, wastewater.

   Source: 327 IAC 4-1-2(9)

3) Define a "water pollution treatment/control facility"
   Answer: The regulatory definition of a water pollution treatment/control facility includes any equipment, device, unit, structure, etc., that is used to control, prevent, pretreat, or treat any discharge or threatened discharge of pollutants into any waters of the state of Indiana, including surface and subsurface waters and public or private sewerage systems. The term includes, but is not limited to, the following:
   (a) Treatment facilities.
   (b) Combined sewers.
   (c) Sanitary sewers.
   (d) Lift (pumping) stations.
   It is important for you, as an operator, to recognize your responsibilities include the entire wastewater treatment facility, including sewers and lift stations, and that these often represent the single largest capital asset of a city or town.

   Source: 327 IAC 4-1-2(14)

4) What is meant by "waters of the state of Indiana" or "waters of the state"?

Answer: The two terms are interchangeable from IDEM's perspective. The regulatory definition says: "Such accumulations of water, surface and underground, natural and artificial, public and private, or parts thereof, that are wholly or partially within, flow through, or border upon this state. The terms do not include any private pond or any off-stream pond, reservoir, or facility built for reduction or control of pollution or cooling of water prior to the discharge unless the discharge causes or threatens to cause water pollution."

This definition is clearly confusing. It is further complicated by the continuing decades-long and very political national conversation over defining "Waters of the United States." This conversation is mostly centered on wetlands issues but does bleed over into surface waters. An operator does not need to fully understand this vastly complicated national issue. The one important point coming out of this issue relevant to operators (and one that is settled law) is a point source discharge of pollutants to Waters of the United States, and therefore the Waters of the State of Indiana requires an NPDES permit. As this relates to you, in Indiana, a wastewater treatment plant with a point source discharge and a NPDES permit requires a certified operator. An operator does need to understand the discharge of pollutants into the environment is a very bad thing, is largely illegal, and it is your responsibility as a licensed professional to apply your skills in preventing such discharges.

Source: 327 IAC 4-1-2(15)

5) What is a sewer connection ban ("sewer ban"), and when may IDEM impose one?

Answer: A sewer ban is a legal document issued by IDEM which prohibits the addition of any new sources of wastewater into collection system/treatment facility until the cause of overloading has been corrected.

Sewer bans may be imposed by IDEM to either POTWs or semipublic facilities and can be limited to specific parts of a collection system. The purpose of a sewer ban is to stop or prevent the discharge or bypassing of insufficiently treated wastewater. They may be issued in two circumstances. First, a sewer ban may be issued when a facility is hydraulically or organically overloaded or overloading is impending. Overloading includes organic loading, the volume of wastewater arriving at the plant, and the occurrence of bypasses/overflows within the collection system. Second, a sewer ban may be issued when IDEM determines poor operation and maintenance practices are causing the discharge or bypassing of insufficiently treated wastewater.

Typically, when IDEM identifies (potential) overloading issues at a facility, it will issue a letter called a "sewer ban early warning," also referred to as a SBEW. These letters are not Orders, but rather an informal notice a problem has been identified. The intent is to allow (strongly encourage) the facility to begin corrective action prior to the need to issue a formal sewer ban. If IDEM does not see satisfactory progress in a reasonable time, a sewer ban will be issued.

In most cases, the solution to hydraulic overloading conditions involves some combination of reducing clear water intrusion into the sanitary sewers, increasing pumping capacity to the treatment plant, and increasing the size/capacity of the treatment plant. All these take time and money.

The underlying issues causing overload conditions are largely beyond the authority of the certified operator to resolve, since they may require design, engineering, financing, bids,

selection of contractors, and construction. Therefore, it is your responsibility as the operator to inform (and educate) your managers or municipal officials of the seriousness of the issue and to strongly encourage them to act, once you have identified hydraulic overloading in your system.

Source: 327 IAC 4-1-4

6) What are the criteria used by IDEM to issue a sewer ban early warning (SBEW)?
Answer: When IDEM determines a semipublic facility or POTW has reached or is approaching 90% of its hydraulic or organic design capacity, it will notify the facility of these conditions and it may be necessary to impose a sewer connection ban if action is not taken. This notice is called a SBEW. At any time after IDEM issues a SBEW, a Sewer Ban may be issued. Sewer Bans are typically issued when no substantial progress in resolving the overloading problem is being made.

327 IAC 4-1-3

Questions on 327 IAC ARTICLE 5. Industrial Wastewater Treatment Programs and NPDES

1) What is meant by "Best Management Practices", or "BMPs"?
Answer: BMPs are actions to prevent or reduce the pollution of waters of the state, including:
   (a) Schedules of activities.
   (b) Prohibitions of practice.
   (c) Treatment requirements.
   (d) Operation and maintenance procedures.
   (e) Use of containment facilities.
   (f) Other management practices.

Source: 327 IAC 5-1.5-6(a)

2) BMPs may be employed to control what types of pollution?
Answer: BMPs are used to control:
   (a) Plant site run-off.
   (b) Spillage or leaks.
   (c) Sludge or waste disposal, or
   (d) Drainage from raw materials storage.

Source: 327 IAC 5-1.5-6(b)

3) What are "nonpoint source discharges"?
Answer: Nonpoint sources include any discharge of a pollutant that is not a point source, such as the following:
   (a) In-place contaminants.
   (b) Direct wet and dry deposition.
   (c) Ground water inflow.
   (d) Overland run-off.

Nonpoint sources of pollution are generally exempt from the requirement to have an NPDES permit, but that does not mean the discharge of pollutants into waters of Indiana is acceptable or authorized.

Source: 327 IAC 5-1.5-6(b)

4) What does “NPDES” stand for?
Answer: National Pollutant Discharge Elimination System

Source: 327 IAC 5-1.5-34

5) What is a “point source discharge”?
Answer: The regulatory definition of a “Point source discharge” is any discernible, confined, and discrete conveyance, including, but not limited to, any of the following from which pollutants are or may be discharged:

(a) Pipe.
(b) Ditch.
(c) Channel
(d) Tunnel.
(e) Conduit.
(f) Well.
(g) Discrete fissure
(h) Container.
(i) Rolling stock.
(j) Concentrated animal feeding operation
(k) Landfill leachate collection system.
(l) Vessel.
(m) Other floating craft.

The definition specifically excludes return flows from irrigated agriculture or agricultural storm run-off.

Source: 327 IAC 5-1.5-40

6) What does “population equivalent” or “PE” mean?
Answer: “Population equivalent” or “PE” mean means the calculated population that would contribute a particular amount of five day biochemical oxygen demand (BOD_5) per day, using the base of 0.17 pound of BOD_5 per capita per day. A different conversion factor may be used in the calculation when approved by IDEM based on site-specific technical information. The projected PE from all sources (domestic, industrial and commercial) is used to determine the size when designing new or expanded wastewater treatment facilities.

Source: 327 IAC 5-1.5-42

7) Define “design population equivalent”.
Answer: “Design population equivalent” means the PE for which the plant or collection system component is designed.

Source: 327 IAC 5-22-3(9)

8) What is “process wastewater”?
Answer: Process wastewater is any water that, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product. The NPDES rules distinguish process wastewater from stormwater, noncontact cooling water, sanitary wastewater and nonprocess wastewaters for purposes of applying the federal effluent limitations guidelines and setting effluent limitations.

Source: 327 IAC 5-1.5-46

9) What is a “schedule of compliance”?

Answer: The legal definition from the rule is: “A schedule of remedial measures, including an enforceable sequence of actions or operations, including construction, leading to compliance with an effluent limitation, other limitation, prohibition, standard, or another permit condition.” A simpler way of saying it is a schedule given by IDEM with specific tasks and deadlines for complying with permit requirements. IDEM uses schedules of compliance in NPDES permits when establishing new requirements and in enforcement actions to assure a return to compliance.

Source: 327 IAC 5-1.5-55

10) Define “total maximum daily load” or “TMDL”:

Answer: “TMDL” is defined as the sum of the individual wasteload allocations (WLAs for point sources and load allocations for nonpoint sources and natural background minus the sum of a specified margin of safety and any capacity reserved for growth. If a receiving water has only one point source discharger, the TMDL is the sum of that point source WLA (waste load allocation) plus the LAs (load allocation) for any nonpoint sources of pollution and natural background sources, tributaries, or adjacent segments minus the sum of a specified margin of safety and any capacity reserved for growth. TMDLs can be expressed in terms of either mass per time, toxicity, or other appropriate measure. If best management practices (BMPs) or other nonpoint source pollution controls make more stringent load allocations practicable, then wasteload allocations may be made less stringent. Thus, the TMDL process provides for nonpoint source control tradeoffs. A TMDL sets and allocates the maximum amount of a pollutant that may be introduced into a waterbody and still assure attainment and maintenance of water quality standards.

Source: 327 IAC 5-1.5-66

11) What is a “water pollution treatment or control facility”?

Answer: The definition from the rule is: “Any equipment, device, unit, or structure that is used to control, prevent, pretreat, or treat any discharge or threatened discharge of pollutants into any waters of Indiana, including surface and subsurface waters and public or private sewerage systems. The term includes, but is not limited to, the following:

(a) Treatment facilities.
(b) Combined sewers.
(c) Sanitary sewers.
(d) Disposal well systems.
(e) Animal feeding operation treatment facilities.
(f) Land application treatment facilities.
(g) Cyanide isolation facilities.”

These facilities are more commonly called wastewater treatment plants, but the definition includes sewers and lift stations. This is what you are responsible for operating and maintaining and is what you need an operator’s license to run.

Source: 327 IAC 5-1.5-71

12) Who is required to have an NPDES permit?

Answer: The rule says: “Any discharge of pollutants into waters of the state as a point source discharge, except for exclusions made in 327 IAC 5-2-4, is prohibited unless in conformity with a valid NPDES permit obtained prior to the discharge.” This IDEM

requirement, which closely follows the federal Clean Water Act, is why your wastewater treatment plant needs to have a NPDES permit. You will rarely encounter a discharge that is exempted from a NPDES permit. Even then, some discharges exempted from requiring an NPDES permit may need permits or approvals under other laws.

Source: 327 IAC 5-2-2

13) Who is responsible for submitting the application for an NPDES permit?

Answer: The owner of the facility or operation from which a discharge of pollutants occurs is responsible for applying for and obtaining a permit, except where the facility or operation is operated by a person other than an employee of the owner (such as a contractor). In these cases, it is the contract operator's duty to apply for and obtain a permit.

Source: 327 IAC 5-2-3(c)

14) What is the maximum term of a NPDES permit?

Answer: NPDES permits are limited to a maximum term of five years. Most permits are issued for the maximum term. Permits of less than five years duration may be issued in appropriate circumstances at the discretion of the commissioner. A permit may be modified, revoked and reissued, or terminated prior to the expiration of the term for cause, as specified in 327 IAC 5-2-16, or in accordance with conditions set forth in the permit (as in a reopening clause). In no event may the term of a permit be extended beyond five years from its original effective date by modification, extension, or other means, except as provided in 327 IAC 5-2-6(b).

Source: 327 IAC 5-2-6(a)

15) What rights do IDEM personnel have to enter a facility?

Answer: The Indiana rules require a permittee to allow employees of IDEM (including an authorized contractor acting as a representative of IDEM), upon the presentation of credentials and such other documents as may be required by law:

(a) To enter upon the permittee's premises where a point source is located or where any records relating to the permit are kept;

(b) To have access to and copy (at reasonable times) any records relating to the permit;

(c) To inspect (at reasonable times); monitoring equipment, collection, treatment, pollution management, or discharge facilities, and practices required or otherwise regulated under the permit; AND

(d) To sample or monitor (at reasonable times**)** any discharge of pollutants or internal wastestream for the purpose of evaluating compliance with the permit or as otherwise authorized.

Source: 327 IAC 5-2-8(8)

The great majority of contacts between IDEM and the regulated community involve routine compliance inspections, which often means you, as the certified operator, are going to be the one meeting with the IDEM inspector. These encounters are generally not adversarial and provide you with the opportunity to get to know your inspector, develop a working relationship, and understand the inspector's expectations.

16) What are some NPDES permit reporting requirements?

Answer

(a) The monthly DMR and MRO/MMR is the most familiar report to the certified operator.

(b) Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of your permit must be submitted

no later than 14 days following each schedule date.

(c) A permittee is required to give advance notice to the commissioner of any planned changes in the permitted facility, any activity, or other circumstances that the permittee has reason to believe may result in noncompliance with permit requirements.

(d) A permittee is required to orally report information on any of the following types of noncompliance within 24 hours from the time the permittee becomes aware of such noncompliance:

(1) Any unanticipated bypass or upset that exceeds any effluent limitation in the permit.

(2) Violation of a maximum daily discharge limitation for any of the pollutants listed by the commissioner in the permit to be reported within 24 hours.

(3) Any noncompliance that may pose a significant danger to human health or the environment. This kind of event will be managed like a spill. Reports of this type of event are to be made as soon as possible, but no later than two hours of discovery, to the Emergency Response Section at 888-233-7745 for in-state calls (toll free) and 317-233-7745 for out-of-state calls.

A written submission must also be provided with five days of the time the permittee becomes aware of the circumstances. The written submission needs to contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The commissioner may waive the written report on a case- by-case basis if the oral report has been received within 24 hours.

Source: 327 IAC 5-2-8(11)

17) What am I required to do when I have a bypass?

Answer: The first thing you need to know is what type of event constitutes a bypass. The rule says:

(1) "Bypass" means the intentional diversion of a waste stream from any portion of a treatment facility. This does not require you to actually turn a valve to cause a bypass. Any device or structure designed to bypass above a certain flow rate constitutes a bypass when a discharge occurs.

(2) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities that would cause them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

You may allow a bypass to occur that does not exceed any effluent limitations contained in the NPDES permit, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the following two paragraphs.

For other bypasses, you must provide IDEM's OWQ Compliance Branch with the following notice:

(1) If you know or should have known in advance of the need for a bypass (anticipated bypass), you are required to submit prior written notice. If possible, such notice shall be provided at least ten days before the date of the bypass for review and approval by the commissioner.

(2) You are required to submit notice of an unanticipated bypass within 24-hours. **Under this**

provision, bypasses which may pose a significant danger to human health or the environment are to be treated like a spill. This type of event must be reported as soon as possible, but within two hours of discovery, to the Emergency Response Section at 888-233-7745 for in-state calls (toll free) and 317-233-7745 for out-of-state calls.

Generally, concerning bypasses:

(1) Bypass is prohibited, and the commissioner may take enforcement action against a permittee for bypass unless the following occur:

(A) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage.

(B) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment down time. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment down time or preventive maintenance.

(C) The permittee submitted notices as required under clause (c).

(2) The commissioner may approve an anticipated bypass, after considering its adverse effects if the commissioner determines that the anticipated bypass will meet the three conditions listed in item (i). The commissioner may impose any conditions determined to be necessary to minimize any adverse effects throughout the anticipated bypass.

So, yes, if your read through all of item 17 to this point, you learned that a bypass may be allowed and also that a bypass is prohibited. This is confusing to everyone because it is complicated and very case specific. This rule could, but generally does NOT apply to combined sewer overflows or wet-weather sanitary sewer overflows, which have their own reporting requirements. Therefore, if you have a bypass or think you are going to have a bypass, please call the OWQ Compliance Data Section and ask what their expectations are

Source: 327 IAC 5-2-8(12)

18) What are possible penalties for noncompliance with NPDES permit reporting requirements?

Answer: All applications, reports, or other information submitted to the commissioner are required to be signed and certified by the responsible persons, as defined under 327 IAC 5-2-22. Any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under the NPDES permit, including monitoring reports or reports of compliance or noncompliance commits a crime and will, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than 180 days per violation, or by both.

Source: 327 IAC 5-2-8(15)

This part of the rule refers to the criminal statute and only involves matters that are knowing, willful or intentional, making them crimes. This is entirely separate from IDEM's administrative enforcement authority, which it uses when issuing Notices of Violation (NOVs) and entering into Agreed Orders requiring corrective actions and usually including civil penalties for permit violations that are not crimes.

19) What does "average monthly discharge" mean?

Answer: It is the total mass or flow-weighted concentration of all daily discharges sampled or measured during a calendar month on which daily discharges are sampled and measured, divided by the number of daily discharge samples and/or measured during such month. The

average monthly discharge limitation is the highest allowable average monthly discharge for any calendar month.

Source: 327 IAC 5-2-11(a)(1)

20) What does “average weekly discharge” mean?

Answer: It is the total mass or flow-weighted concentration of all daily discharges during any calendar week on which daily discharges are sampled or measured, divided by the number of daily discharges sampled and/or measured during such calendar week. The average weekly discharge limitation is the maximum allowable average weekly discharge for any calendar week. A calendar week in defined in each NPDES permit as Sunday to the following Saturday

Source: 327 IAC 5-2-11(a)(2)

21) What is a “continuous discharge”?

Answer: It is a discharge that occurs without interruption, except for infrequent shutdowns for maintenance, process changes, or other similar activities, throughout the operating hours of the facility.

Source: 327 IAC 5-2-11(a)(3)

22) What is a “daily discharge”?

Answer: It is the total mass of a pollutant discharged during the calendar day. Or, in the case of a pollutant limited in terms other than mass pursuant to 327 IAC 5-2-11(e), the average concentration or other measurement of the pollutant specified over the calendar day or any 24 hour period that reasonably represents the calendar day for the purposes of sampling. The maximum daily discharge limitation is the maximum allowable daily discharge for any calendar day.

Source: 327 IAC 5-2-11(a)(4)

23) How do I determine the average of discharge data?

Answer

(a) For fecal coliform, the average monthly discharge and average weekly discharge, as concentrations, shall be calculated using a geometric mean.
(b) For *E. coli*, the average monthly discharge, as a concentration, shall be calculated using a geometric mean.
(c) For all other parameters, calculations that require averaging of sample analyses or measurements of daily discharges shall use an arithmetic mean unless otherwise specified or approved by the commissioner.

Source: 327 IAC 5-2-11(a)(5)

24) Given the following monthly BOD monitoring data, what number should be reported on the DMR in the space marked the "maximum weekly average BOD concentration"?

Sampling is required twice weekly.

Week	**Sample Results**	**Weekly Average**
1	10	
	18	14

2	10	
	20	15
3	10	
	22	16
4	10	
	20	15

Answer: 16. In the third week, the weekly average BOD was 16 mg/l, which was the highest value of the four weeks that month.

25) Given the following data for monitoring the concentration of TSS, how many TSS exceedances ("NO. EX.") should be recorded in the DMR?

Limits are 20 mg/L Monthly Average and 30 mg/L Weekly Average. Sampling is required twice weekly. Assume only four weeks in the month.

Week	**Sample Results Mg/l**	**Weekly Average mg/l**
1	20	
	30	25
2	20	
	50	35
3	50	
	30	40
4	30	
	68	49

Monthly Average: 37

Answer: 4. The monthly average was exceeded and the weekly average was exceeded in three of the four weeks, for a total of four TSS violations.

26) Have different water quality-based effluent limitations (WQBELs) been established for Great Lakes dischargers and those not discharging to the Great Lakes watershed?
Answer: Yes, water quality-based effluent limitations for dischargers not discharging to waters within the Great Lakes system and Great Lakes dischargers may differ and are set out separately at 327 IAC 5-2-11 and 12.

Source: 327 IAC 5-2-11 & 12

27) To assure compliance with permit terms and conditions, what are some of the monitoring requirements for all permittees, as required by their permit?
Answer
(a) The mass, concentration, or other measurement specified in 327 IAC 5-2-11, 11.1, and 11.6 for each pollutant specified in the permit.
(b) The volume of wastewater flow at monitoring points specified in the permit, including the final effluent flow from each point source.
(c) Other parameters and conditions as specifically required in the permit.
(d) A POTW is required to monitor the mass, concentration, or other units of specified

pollutants in the raw influent, in the discharge from intermediate unit treatment processes as specified in the permit or the applicable report of operation form, and in the final effluent, and the volume of effluent flow.

Source: 327 IAC 5-2-13(a)

28) What records do permittees who are required to monitor under 327 IAC 5-2-13 need to maintain?

Answer: The permittee is required to maintain all monitoring information and monitoring activity records including:

(a) The date, exact place and time of sampling or measurements;
(b) The person(s) who performed the sampling or measurements;
(c) The dates(s) analyses were performed;
(d) The person(s) who performed the analyses;
(e) The analytical techniques or methods used; AND
(f) The results of such measurements and analyses.

Source: 327 IAC 5-2-14(a)

29) How long must records of monitoring activities and results be maintained?

Answer: All records of monitoring activities and results (including all original strip chart recordings for continuous monitoring instrumentation and calibration and maintenance records) shall be retained by the permittee for three years. The three-year period shall be extended:

(a) Automatically during the course of any unresolved litigation regarding the discharge of pollutants by the permittee or regarding promulgated effluent guidelines applicable to the permittee; OR
(b) As requested by the commissioner.

Source: 327 IAC 5-2-14(b)

30) Does a certified operator have to prepare or direct the preparation of reports?

Answer: Yes. All reports required by this section are required to be prepared by or under the direction of a certified wastewater treatment plant operator licensed under the provisions of 327 IAC 8 when such reports concern a discharge originating in whole or in part from a wastewater treatment plant as defined in IC 13-11-2.

Source: 327 IAC 5-2-15(c)

31) Indiana Code 13 provides for a civil penalty not to exceed twenty-five thousand dollars ($25,000) per day of any violation of Indiana's environmental laws or regulations. Who is subject to this penalty?

Answer: Any person causing or contributing to a violation. This can include the permittee, any representative or employee of the permittee, a contractor, or the certified operator. IDEM's administrative enforcement authority under this rule is separate from the criminal penalties discussed in question 18 above.

Sources: 327 IAC 5-2-20 and IC 13-30

32) Which violations may be subject to IDEM's enforcement?

Answer

(a) The discharge of pollutants without an NPDES permit or in violation of any effluent limitation in an NPDES permit;
(b) The violation of any other term or condition of an NPDES permit;

(c) Failure to comply with NPDES application requirements under 327 IAC 5-3 or 327 IAC 5-2-3; OR

(d) Failure to allow entry, inspection, and monitoring by the commissioner when requested in accordance with applicable law or to carry out monitoring, recording, and reporting required under 327 IAC 5.

This type of violation may result in the issuance of a Notice of Violation (NOV) by IDEM, and ultimately result in the entry into an Agreed Order which sets out corrective actions to be taken and may also include a civil penalty. Further, 327 IAC 5-2-8-1 states that a violation of a permit may result in an enforcement action, permit revocation or denial of an application for renewal.

Source: 327 IAC 5-2-20

33) Who must sign/is authorized to sign permit applications?

Answer

(a) All permit applications must be signed as follows:

(1) The following for a corporation by a responsible corporate officer:

(A) For purposes of this section, a "responsible corporate officer" means either of the following: (i) A president, secretary, treasurer, any vice president of the corporation in charge of a principal business function, or any other person who performs similar policymaking or decision making functions for the corporation.

(ii) The manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25,000,000 (in second quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

(B) For purposes of this section, a principal executive officer of a federal agency includes the following:

(i) The chief executive officer of the agency.

(ii) A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.

(2) For a partnership or sole proprietorship by a general partner or the proprietor, respectively.

(3) For a municipality, state, federal, or other public agency or political subdivision thereof by either a principal executive officer or ranking elected official.

(b) All reports required by permits and other information requested by the commissioner shall be signed by a person described in subsection (a), or by a duly authorized representative of that person. A person is a duly authorized representative only if the authorization meets the following requirements:

(1) The authorization is made in writing by a person described in subsection (a).

(2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position).

(3) The written authorization is submitted to the commissioner.

(c) If an authorization under subsection (b) is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of subsection (b) must be submitted to the

commissioner prior to or together with any reports, information, or applications to be signed by an authorized representative.

Source: 327 IAC 5-2-22(a), (b) & (c)

34) How must any person signing a document under 327 IAC 5-2-22(a) or (b) certify the document?
Answer: The following certification statement is required:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Source: 327 IAC 5-2-22(d)

35) Your NPDES permit will expire soon. When should you submit a new application for an NPDES permit?
Answer: An NPDES permit application must be submitted at least 180 days prior to the expiration date of the existing permit, unless the commissioner allows a later date.

Source: 327 IAC 5-3-2(a)(2)

36) If you disagree with an action the agency takes, is there anything you can do?
Answer: Yes, you are entitled to due process. Any person aggrieved by a final agency action may file an appeal with the Indiana Office of Environmental Adjudications seeking an adjudicatory hearing. Anyone who is still aggrieved by the outcome of an adjudicatory hearing or affirming the denial of a request for adjudicatory hearing may seek judicial review of said action pursuant to the provisions of IC 4-21.5-5. (Note: There are strict time limitations.)

Source: 327 IAC 5-3-16

37) When is disinfection required?
Answer
(a) Disinfection is required of all sanitary discharges for the annual period of April 1 through October 31 except multi-celled waste stabilization ponds that are adequately designed and operated and are not either hydraulically or organically overloaded and as provided in 327 IAC 5-10-3(c) & 4(d).
(b) Disinfection is not required and is not expected to be practiced during the annual period of November 1 through March 31, except as necessary to comply with ORSANCO requirements (for discharges directly into the Ohio River). In cases where chlorination must be practiced during this period (such as to maintain sand filters), the maximum effluent limitation for chlorine and monitoring requirements for such remain in effect.

Source: 327 IAC 5-10-6(a) & (b)

38) When may the commissioner order facilities to connect to and/or receive and treat sewage?
Answer
(a) If the commissioner finds it is in the interest of the health, safety, convenience,

and welfare of the residents of any area, any person, publicly or semipublicly owned sewage treatment systems may be ordered to connect to and/or receive and treat sewage from any other person or from an industry, shopping center, mobile home park, school, or housing development when such service and use will not result in irreparable injury to the receiving equipment or make impossible the rendering of the service previously rendered to the users of such equipment. The persons involved shall negotiate the terms for such connection and service, in accordance with the terms of IC 13-7-15-1.

(b) Any new school, mobile home park, motel, motor court, or motor hotel shall dispose of sewage through the use of a public sewerage system if the sewerage system is available within a reasonable distance from the facility.

(c) Any existing school, mobile home park, motel, motor court, or motor hotel with a direct discharge of sewage, as authorized by an NPDES permit shall connect to a public sewerage system, discontinue the direct discharge, and abandon their wastewater treatment plant if a public sewerage system becomes available at any time within a reasonable distance from the facility. In this instance, "reasonable distance" is related to cost. The intent of this provision is to encourage the entities mentioned in this section to compare the cost of connecting to a sewerage system against the cost to build or upgrade and operate a sewage treatment plant.

Source: 327 IAC 5-10-7(a), (b) & (c)

Questions on 327 IAC ARTICLE 5. Rules 16 through 21. State Pretreatment Program

1) The pretreatment rules establish a state program to control the discharge of industrial pollutants into publicly owned treatment works (POTWs). What are the objectives of the state pretreatment program?

Answer

(a) To prevent the introduction of pollutants into a POTW that will interfere with the operation of a POTW, including interference with the use or disposal of municipal sludge.

(b) To prevent the introduction of pollutants into a POTW that will pass through the treatment works without receiving effective treatment or otherwise be incompatible with such works.

(c) To improve opportunities to recycle and reclaim municipal and industrial wastewaters and sludges.

Source: 327 IAC 5-16-1(b)

2) Who does the pretreatment rule apply to?

Answer

(a) New or existing industries that discharge by direct connection or indirectly by truck, rail, or other means, non-domestic wastes into POTWs; and

(b) POTWs that receive or may receive discharges of non-domestic wastes from those same industries.

Source: 327 IAC 5-16-1(c)

3) What are some of the possible legal consequences of violation of the pretreatment rules:

Answer

(a) A person causing or contributing to the violation may be subject to administrative or judicial enforcement proceedings, under IC 13-30-3, and the penalties provided under IC 13-30-4;
(b) Be cause for modification; revocation and reissuance; or termination of an industrial waste pretreatment permit or an NPDES permit; AND
(c) IDEM may invoke the emergency procedures under IC 13-14-10.

Source: 327 IAC 5-16-4(a)

4) Is the operator required to allow representatives of the commissioner onto their site?
Answer
(a) Entry, inspection, and monitoring by representatives of the commissioner when requested in accordance with applicable law; or
(b) To carry out monitoring, recording, and reporting required under 327 IAC 5-16-4?

Yes, failure to allow the above access to representatives of the commissioner constitutes a violation of the pretreatment permit.

Source: 327 IAC 5-16-4(c)(6)

5) All POTWs and industrial users are required to comply with the applicable reporting requirements of 40 CFR 403.12 and 327 IAC 5-21-10. Additionally, reporting of spills into a POTW or of upsets in pretreatment facilities may be required of an industrial user by its control authority. Who is required to sign reports?
Answer
(a) A responsible corporate officer (as defined by 327 IAC 5-16-5(b)(1)).
(b) A general partner or proprietor or manager if the industrial user submitting the reports is a partnership or sole proprietorship, respectively.
(c) A duly authorized representative of the individual designated in either subdivision (a) or (b) above if:
(1) The authorization is made in writing by the individual described in either subdivision (a) or (b) above;
(2) The authorization specifies either an individual or a position having responsibility for the overall operation of the facility from which the industrial discharge originates, such as the position of plant manager, operator of a well, or well field superintendent, or a position of equivalent responsibility, or having overall responsibility for environmental matters for the company; AND
(3) The written authorization is submitted to the control authority.

Source: 327 IAC 5-16-5.3(a)

6) What type of access to records must an industrial user allow and how long must that industrial user maintain the records required under 327 IAC 5-16-5(c)?
Answer: These records must be retained for three years. They also must be made available for inspection and copying, upon request, to the commissioner, the regional administrator, and the POTW to which the industrial user discharges its wastewater. The period of retention may be extended during the course of any unresolved litigation regarding the discharge of pollutants by the industrial user, the operation of the approved POTW pretreatment, or when requested by the commissioner or the regional administrator. Records of monitoring activities must also be maintained (in accordance with 327 IAC 5-2-14)

Source: 327 IAC 5-16-5.3(c)

7) Reports that relate to the actual operation of or discharge from a pretreatment facility must be prepared by or under the direction of _____?
Answer: A wastewater treatment plant operator certified under IC 13-18-11.
Source: 327 IAC 5-16-5.3(d)

8) Who must sign reports required by a POTW?
Answer: A responsible corporate officer, ranking elected official or other duly authorized employee must sign these reports (if that employee is responsible for the overall operation of the POTW). A copy of the written authorization designating the employee must be submitted to the commissioner.
Source: 327 IAC 5-16-5.3(e)

9) As used in 327 IAC 5-16-6, an "upset" means an exceptional incident in which there is unintentional and temporary noncompliance with any pretreatment standards or requirements in 327 IAC 5-2 because of factors beyond the reasonable control of the industrial user. What does NOT constitute an upset?
Answer
(a) Noncompliance to the extent caused by operational error;
(b) Improperly designed treatment facilities;
(c) Inadequate treatment facilities;
(d) Lack of preventive maintenance; OR
(e) Careless or improper operation.
Source: 327 IAC 5-16-6(a)

10) A "bypass" means the intentional diversion of waste streams from any portion of an industrial user's treatment facility. When may an industrial user allow a bypass to occur?
Answer
(a) When it does not cause a violation of any pretreatment standard or requirement under 327 IAC 5-2; AND
(b) When it is for essential maintenance to assure efficient operation.
Source: 327 IAC 5-16-7 (a) & (b)

11) What are "categorical pretreatment standards"?
Answer: They are national pretreatment standards, specifying quantities or concentrations of pollutants or pollutant properties that may be discharged or introduced to a POTW by an existing or new industrial user in a specific industrial subcategory, that are established by EPA.
Source: 327 IAC 5-17-3

12) What does "control authority" mean?
Answer: The commissioner or, in the case of a POTW with an approved POTW pretreatment program, the POTW.
Source: 327 IAC 5-17-5

13) What is a "four day average discharge"?
Answer: The calculated result of totaling the mass or average concentration of all daily

discharges sampled or measured during four consecutive sampling days, though not necessarily consecutive calendar days, divided by the number of daily discharges sampled or measured.

Source: 327 IAC 5-17-8

14) What is "interference"?

Answer

(a) "Interference" means a discharge that, alone or in conjunction with a discharge or discharges from other sources, inhibits or disrupts the:
(1) treatment process or operations;
(2) sludge processes; or
(3) selected sludge:
(A) use; or
(B) disposal methods;

of a POTW.

(b) The inhibition or disruption under subsection (a) must:
(1) cause a violation of a requirement of the POTW's NPDES permit, including an increase in the magnitude or duration of a violation; or
(2) prevent the use of the POTW's sewage sludge or its sludge disposal method selected in compliance with the following statutory provisions, regulations, or permits issued thereunder or more stringent state or local regulations:
(1) Section 405 of the Clean Water Act (33 U.S.C. 1345).
(2) The Solid Waste Disposal Act (SWDA) (42 U.S.C. 6901), including:
A) Title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA); and
(B) The rules contained in any state sludge management plan prepared pursuant to Subtitle D of the SWDA (42 U.S.C. 6941).
(3) The Clean Air Act (42 U.S.C. 7401).
(4) The Toxic Substances Control Act (15 U.S.C. 2601).

Source: 327 IAC 5-17-11

15) What is a "national pretreatment standard"?

Answer: Any regulation that applies to industrial users and contains pollutant discharge limits promulgated by the EPA in accordance with Section 307(b) and 307(c) of the federal Clean Water Act (33 U.S.C. 1317(b) and 33 U.S.C. 1317(c)).

Source: 327 IAC 5-17-12

16) What do "pretreatment standards" include?

Answer

(a) State pretreatment standards;
(b) Pretreatment standards for prohibited discharges; AND
(c) National categorical pretreatment standards.

Source: 327 IAC 5-17-21

17) What is an "Overflow":

Answer: "Overflow" is the intentional or unintentional diversion of wastewater flow from the POTW prior to the wastewater entering the POTW treatment plant.

Source: 327 IAC 5-17-14

18) What is “Pass through”?:

Answer: A discharge proceeding through a POTW into waters of the state in quantities or concentration that, alone or in conjunction with a discharge or discharges from other sources, are a cause of a violation of any requirement of the POTW’s NPDES permit, including an increase in the magnitude or duration of a violation.

Source: 327 IAC 5-17-15

19) What is a “significant industrial user” or “SIU”?

Answer

(a) Industrial users subject to categorical pretreatment standards under 327 IAC 5-18-10.
(b) An industrial user that:
  (1) Discharges an average of 25,000 gallons per day or more of process wastewater (excluding sanitary, noncontact cooling and boiler blowdown wastewater) to the POTW;
  (2) Contributes a process wastestream that makes up five percent or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant; OR
  (3) Is designated as a significant industrial user by the control authority on the basis that the industrial user has a reasonable potential to:
    (A) Adversely affect the POTW’s operation;
    (B) Violate a pretreatment standard; or
    (C) Violate a requirement of 327 IAC 5-19-3.

(Except, a control authority may, on its own initiative or in response to a petition received from an industrial user or a POTW and in accordance with 327 IAC 5-19-3(6), determine that an industrial user is not a significant industrial user if it does not meet subsection (3) above.)

Source: 327 IAC 5-17-23

20) What is “significant noncompliance”?

Answer: It is a designated status applied to an industrial user when it has caused or allowed a violation meeting one or more of the following criteria:

(a) Chronic violations of wastewater discharge limits.
(b) Technical review criteria (TRC) violations.
(c) Any other violation of a pretreatment effluent limit (daily maximum or longer-term average) that the control authority determines has caused, alone or in combination with other discharges, interference or pass through, including endangering the health of POTW personnel or the general public.
(d) Any discharge of a pollutant that has caused imminent endangerment to human health, welfare, or to the environment or has resulted in the POTW’s exercise of its emergency authority under 327 IAC 5- 19-3(1)(G) to halt or prevent such a discharge.
(e) Failure to meet, within 90 days after the schedule date, a compliance schedule milestone contained in a local control mechanism or enforcement order for starting construction, completing construction, or attaining final compliance.
(f) Failure to provide, within 30 days after the due date, required reports.
(g) Failure to accurately report noncompliance.
(h) Any other violation or group of violations that the control authority determines will adversely affect the operation or implementation of the approved POTW

pretreatment program.

Source: 327 IAC 5-17-24

21) Which pollutants are PROHIBITED from being introduced to a POTW, whether or not the user or responsible party is subject to categorical standards or state, local, or any other national pretreatment standard or requirement?

Answer

(a) A pollutant from any source of nondomestic wastewaters that could pass through or cause interference with the operation or performance of the POTW.
(b) A pollutant that could create a fire or explosion hazard in the POTW.
(c) A pollutant that could cause corrosive structural damage to the POTW.
(d) A solid or viscous pollutant in an amount that could cause obstruction to the flow in a sewer or other interference with the operation of the POTW.
(e) A pollutant, including an oxygen demanding pollutant released in a discharge at a flow rate or pollutant concentration that could cause interference with the POTW.
(f) Heat in an amount that could:
(1) Inhibit biological activity in the POTW and result in interference or damage to the POTW; OR
(2) Exceed 40°C or 104°F at the POTW unless the commissioner, upon request of the POTW, approves alternate temperature limits.
(g) Petroleum, oil, non-biodegradable cutting oil, or products of mineral oil origin in an amount that cause interference or pass through.
(h) A pollutant that could result in the presence of toxic gases, vapors, or fumes within the POTW in a quantity that may cause acute worker health and safety problems.
(i) A trucked or hauled pollutant, except:
(1) With the permission of the POTW; AND
(2) When introduced to the POTW at a discharge point designated by the POTW.

Source: 327 IAC 5-18-2(a)

22) What is the purpose of a POTW pretreatment program?

Answer: The purpose of a POTW pretreatment program is to provide the POTW with the administrative and technical capability to ensure that industrial users of the POTW comply with applicable pretreatment standards and requirements.

Source: 327 IAC 5-19-2(a)

23) What are the requirements that an approved POTW pretreatment program must fully and effectively exercise and implement?

Answer

(a) The POTW must operate under legal authority, enforceable in federal or state court.
(b) The POTW shall have procedures to ensure compliance with the requirements of an approved POTW pretreatment program.
(c) The POTW must have sufficient resources and qualified personnel to carry out the approved POTW pretreatment program.
(d) The POTW must develop local limits as required or demonstrate that they are not necessary.
(e) The POTW must develop and implement an enforcement response plan. This plan must contain detailed procedures demonstrating how a POTW will investigate and

respond to instances of industrial user noncompliance.

(f) The POTW shall prepare a list of its industrial users meeting the criteria in 327 IAC 5-17-22. This list, and any subsequent modifications, must be submitted to the commissioner as a non-substantial modification of the approved POTW pretreatment program.

Source: 327 IAC 5-19-3

24) POTWs not required to have an approved POTW pretreatment program must meet the following?

Answer

(a) Comply with a decision of the commissioner who has the responsibility of implementing a POTW pretreatment program that will achieve the objectives stated in 327 IAC 5-16-1(b) if the commissioner determines that a need exists for such a POTW pretreatment program. Generally, such a state pretreatment program will be implemented at the local POTW through the use of procedures comparable to those described under section 3(2) of this rule and, ultimately, the issuance of appropriate industrial wastewater pretreatment permits under 327 IAC 5-21.

(b) Develop, adopt, and enforce a sewer use ordinance that implements the standards for prohibited discharges in accordance with 327 IAC 5-18-2.

(c) Comply with any requirements of the commissioner specified in the POTW's NPDES permit to perform certain elements of an approved POTW pretreatment program, such as monitoring for industrial pollutants in the discharges from the POTW's industrial users.

Source: 327 IAC 5-19-7

25) When is an industrial user required to obtain an Industrial Wastewater Pretreatment (IWP) Permit for a discharge of wastewater into a POTW?

Answer: If ONE of the following situations exists:

(a) The discharge is from a significant industrial user as defined in 327 IAC 5-17-22 and is discharged into a POTW that is not required to have an approved POTW pretreatment program under 327 IAC 5-19-1.

(b) The commissioner determines that an IWP permit is needed for effective control of an industrial discharge.

Source: 327 IAC 5-21-2(a)

26) What are the time requirements for the submission of IWP permit applications?

Answer: No later than:

(a) 180 days prior to the expiration date of an existing permit.

(b) 180 days prior to the date when a new industrial discharger intends to commence discharging to a POTW.

(c) In the case of an initial issuance of an IWP permit to a significant industrial user or to an industrial user determined by the commissioner to be subject to the IWP permit requirements, no later than 120 days after the latter of:

(1) The promulgation of an applicable categorical pretreatment standard; OR

(2) The date of notification by the commissioner of a determination made according to section 2(a)(2) of this rule.

(d) 120 days prior to a planned expansion or modification of production or treatment facilities or processes that are likely to cause a significant increase in quantity of

pollutants or a change in the nature of pollutants discharged to the POTW by an industrial user with an existing IWP permit.

Source: 327 IAC 5-21-3

27) What requirements are an IWP permit holder required to comply with?
Answer
(a) The IWP permit as issued or modified by IDEM.
(b) The sewer use ordinance for the POTW receiving the permitted industrial discharge.
(c) The local government having jurisdiction over the industrial discharge or the construction or operation of the discharging facility.

Source: 327 IAC 5-21-4

28) What information must the IWP permittee provide to IDEM in the event of permit noncompliance (when the permittee is not able to comply with discharge limitations specified in the permit)? What is the time requirement for reporting?
Answer
(a) A description of the discharge and cause of noncompliance.
(b) The period of noncompliance, including exact dates and times of the non-complying event and the anticipated time when the discharge will return to compliance.
(c) Steps being taken to reduce, eliminate, and prevent recurrence of the noncomplying discharge.
(d) The permittee shall take all reasonable steps to minimize any adverse impact to the POTW or to waters of the state resulting from noncompliance with the IWP permit.
(e) The information must be reported to the commissioner within 24 hours of an event of permit noncompliance.

Source: 327 IAC 5-21-6(c) and (d)

Questions on 327 IAC ARTICLE 5. Rule 22. Operator Certification

1) If it is found that the certified operator has violated any provision of IC 13-18-11-8 the commissioner may __a__ or __b__ the wastewater treatment certificate of a wastewater treatment certified operator following a __c__ pursuant to IC 4-21.5.
Answer: (a) Suspend. (b) Revoke. (c) Hearing.

Source: 327 IAC 5-22-18

2) A person who is caught cheating on an examination will be ineligible to take any operator certification examination for a period of _____ following the examination date of the incidence of cheating.
Answer: Two years.

Source: 327 IAC 5-22-11(d)(2)(B)

3) When there is a change of the person serving as the certified operator in responsible charge of the wastewater treatment facility, the owner or governing body of a wastewater treatment plant shall notify the commissioner no later than ___days after a change in the operator.
Answer: Thirty days.

Source: 327 IAC 5-22-10(4)(A)

4) What is the definition of “acceptable experience”?
Answer: It is employment in the actual hands-on operation, maintenance, management, or supervision of a wastewater treatment plant. Acceptable experience shall be obtained under the supervision of a certified operator or by otherwise demonstrating to the commissioner that the applicant’s experience meets the requirements described in this rule.

Source: 327 IAC 5-22-3(1)

5) What is the definition of “responsible charge experience”?
Answer: Means the wastewater treatment certified operator who makes process control or system integrity decisions about the overall daily operation, maintenance, management, or supervision of a wastewater treatment plant necessary to meet the performance requirements and limits of the assigned permit and any applicable local ordinance or other regulatory requirements. The responsible charge operator must assure that written and electronic monitoring reports are prepared under his or her direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. The responsible charge operator certifies that, based on his or her inquiry of the persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of the knowledge and belief of the responsible charge operator, true, accurate, and complete.

Source: 327 IAC 5-22-3(11)

6) What is the definition of a “wastewater treatment apprentice”?
Answer: It is a person who has successfully passed the commissioner’s wastewater treatment operator’s certification examination but has not fulfilled either the educational or experience requirements, or both, necessary to qualify to be a certified operator. A wastewater treatment apprentice shall not be designated as the certified operator in responsible charge of a wastewater treatment facility.

Source: 327 IAC 5-22-3(14)

7) What is a “contact hour”?
Answer: A “contact hour” is a 50 to 60 minute instructional session involving a qualified instructor or lecturer. Ten contact hours equals one continuing education unit (CEU). For example, an operator receives a certificate upon completion of an IDEM-approved California State University at Sacramento correspondence course. California State grants nine CEUs for most of their wastewater courses. This means that the operator has earned 90 contact hours for this course.

Source: 327 IAC 5-22-3(8)

8) Define “training provider”.
Answer: A “training provider” is a person or organization that conducts or presents a course training session approved under this rule.

Source: 327 IAC 5-22-3-(13)

9) In order for a wastewater apprentice to become a certified wastewater treatment operator he or she must:
Answer:
(1) Meet the educational and experience requirements for that classification of certified operator; and

(2) Fulfill the continuing education credit requirement for that classification of certified operator; and

(3) Complete a certification application on a form approved by the commissioner that:

(A) contains true and accurate information to the best of the wastewater treatment apprentice's knowledge; and

(B) is free of omissions and misrepresentations, either of which may result in rejection of the application or revocation of any certificate previously granted.

(4) Submit a completed certification application, with the necessary fee, to the commissioner not later than six years after the date of successfully completing the wastewater treatment certification examination.

Source: 327 IAC 5-22-7.5 (a)

10) A certified operator may be designated as being in responsible charge of more than one wastewater treatment plant if certain requirements are met. Those requirements are:

Answer: (1) The certified operator gives adequate supervision to each wastewater treatment plant under his or her responsible charge. As used in this section, "adequate supervision" means that sufficient time is spent on a regular basis, either on site at or through remote monitoring of the wastewater treatment plant to assure that:

(A) The certified operator is knowledgeable of the actual operations; and

(B) test reports and results are representative of the actual operational and compliance conditions

(2) The certified operator in responsible charge ensures the proper:

(A) Operation;

(B) maintenance;

(C) management; and

(D) supervision;

to each wastewater treatment plant under his or her responsible charge.

(3) Each wastewater treatment plant under the responsible charge of a single certified operator must be achieving the performance requirements and limits in the:

(A) Assigned permit;

(B) local ordinances; and

(C) other applicable regulatory requirements.

Source: 327 IAC 5-22-10.5(a)

11) Certification examinations are to be held at places and times established by the commissioner:

Answer: (a) With at least 60 days advanced announcement; AND

(b) Except in such cases as may be declared necessary exceptions by the commissioner.

Source: 327 IAC 5-22-11(a)(3)

(Note: With the availability of Ivy Tech for administering these exams, it is no longer necessary to wait for IDEM to schedule an exam date. The language of the rule may be changed in the future to reflect the Ivy Tech option.)

12) Applications to sit for a certification examination must be:

Answer: Completed on an application form approved by the commissioner which:

(a) Contains true and accurate information to the best of the applicant's knowledge; AND

(b) Is free of omissions and misrepresentations, either of which may result in rejection of the application or revocation of any certificate previously granted.

Source: 327 IAC 5-22-11(b)(1)

13) What is the deadline for exam applications to be postmarked when taking the paper exam?
Answer: Applications MUST be postmarked no later than 45 days prior to the examination day. **(There are no exceptions when applying to sit for the paper exam at IDEM.)**

Source: 327 IAC 5-22-11(b)(2)

If an applicant chooses to sit for the exam at Ivy Tech, then there is no deadline for applying. Once IDEM approves an application, an admission letter is sent allowing the applicant to take the exam whenever they are able to schedule it with Ivy Tech. The admission letter expires one year after its date.

14) In accordance with 327 IAC 8-12-3.2(e), what water operator grades are considered to have met the educational and experience requirements necessary to apply for the appropriate wastewater treatment certification to treat wastewater from a water treatment plant provided the operator is certified to operate that classification of water treatment plant?
Answer: Grade WT3, WT4, and WT5

Source: 327 IAC 5-22-7(d)

15) If a there are two or more wastewater treatment plants at one industrial site and each independent wastewater treatment plant is classified as a Class B or Class C wastewater facility, how will that industrial site be classified?
Answer: It will be classified as a Class D wastewater treatment facility.

Source: 327 IAC 5-22-5(D)

16) A certified operator must complete continuing education contact hours according to 327 IAC 5-22 Table 15(6). The subject matter of continuing education contact hours must be distributed according to the following:
Answer:
(a) A minimum of 70% of the required continuing education contact hours shall be obtained from the technical category of approved continuing education courses. (Therefore an operator may choose to earn all contact hours in a technical subject.)
(b) No more than 30% of the required continuing education contact hours shall be obtained from nontechnical subject matter of approved continuing education courses.

Source: 327 IAC 5-22-15(e)

17) If an operator's card expires June 30, 2022, he may continue to act as operator in responsible charge of a facility until when?
Answer: June 30, 2022. There is no grace period beyond the card's expiration date. Continuing to act as a certified operator with an expired card places both the operator and facility in violation of the NPDES permit, IC 13-18, and 327 IAC 5.

Source: 327 IAC 5-22-14(c)(2)

18) When must a training provider apply to the commissioner to receive continuing education course approval?

Answer: The application should be submitted no less than 60 days before the first date when the course is conducted but must be submitted not later than 90 days after training completion.

Source: 327 IAC 5-22-16(a)(1)(B)

19) What information must be included in an application for approval of a wastewater treatment continuing education course?

Answer:

(a) Name, address, and telephone number of a course sponsor, training provider, or other contact person;
(b) Name of the course;
(c) Specific topics that are included in the course presentations;
(d) Amount of time devoted to each topic;
(e) Instructor's name and qualifications, including;
  (1) Educational background;
  (2) Professional experience; AND
  (3) Current professional affiliation; AND
(f) Dates and locations where the course will be offered.

Source: 327 IAC 5-22-16(a)(1)(D)

20) The certified operator may petition the commissioner for approval of a wastewater treatment continuing education course if what procedures are met?

Answer:

(a) An application is submitted prior to course completion or as soon as practical afterwards but not later than 90 days after training completion in order to be considered for approval.
(b) The application contains the information required by 5-22-16(a).
(c) The certified operator supplies written proof of attendance at the wastewater treatment continuing education course within 90 days following course completion.

Source: 327 IAC 327 5-22-16(b)

21) What qualifications must a continuing education course meet in order to be approved for continuing education contact hours?

Answer: The course deals with one or more of the following as determined by the commissioner:

(a) Technical matters related directly to wastewater treatment plant and sewer system operations, maintenance, management, or supervision.
(b) General matters that enhance the performance of the certified operator's responsibilities but are not directly related to wastewater treatment plant and sewer system operations, maintenance, management, or supervision.

Source: 327 IAC 5-22-16(a)(2)

22) Can a certified operator who is an instructor or speaker at a wastewater treatment continuing education course earn contact hours for that course?

Answer: Yes, the instructor or speaker shall be credited the same number of contact hours as the students of the course for not more than one presentation of the training.

Source: 327 IAC 5-22-16(d)

23) Is partial credit granted for wastewater continuing education courses?

Answer: No, partial credit shall not be given to instructors, speakers, or students participating in less than a complete wastewater treatment continuing education course.

Source: 327 IAC 5-22-16(e)

Section 2: Practice Questions for Operators of Facultative Lagoons

The following questions are for operators who are responsible for facultative lagoons and lagoons treating wastewater containing organic material classified as A, 1-SP or 1 wastewater treatment plants.

1) How does the facultative pond function?

   Answer: The facultative lagoon in the pond sequence functions like the primary clarifier of a conventional sewage treatment system. Heavy solids will settle to the bottom of the lagoon and lighter solids will float.

2) What is treated by the micro-organisms in a facultative pond or lagoon?

   Answer: The dissolved and suspended organics from the original wastewater and the products of anaerobic catabolism on the bottom of the lagoon are oxidized by the intermediate depths of the lagoon.

3) What may occur when the rate of oxygen transfer from the lagoon surface is less than the rate of oxygen consumption in the lower levels of the lagoon?

   Answer: Objectionable odors are formed when the rate of oxygen consumption is more in the lower levels of the lagoon than the rate of oxygen transfer from the lagoon surface.

4) How much oxygen should one acre of facultative lagoon provide per day?

   Answer: One acre (4000 square meter) facultative lagoon might provide 50 pounds of oxygen per day (5 grams of oxygen per square meter per day) for biochemical catabolism.

5) How does weather, specifically temperature, affect oxygen demand?

   Answer: During cold weather waste (sludge) can accumulate and cause short-term warm weather oxygen requirements to exceed long-term waste loading rates. Warm weather will require large oxygen transfer rates.

6) How do ice cover and scum mats affect the oxygen transfer surface?

   Answer: Algal respiration can require additional oxygen during darkness, but algae can provide surface oxygen during daylight hours. Ice cover or scum mats can reduce the oxygen transfer surface.

7) What is the depth range of facultative ponds?

Answer: Secondary facultative ponds are designed to be 4 to 6 feet deep and are designed for BOD removal on the basis of a relatively low surface loading rate at a temperature between 20˚C and 25˚C.

8) What are the basic operating conditions for facultative ponds?

Answer: Facultative ponds are designed for BOD removal based on a relatively low surface loading rate of 100 to 400 kg BOD/ha-d at a temperature between 20˚C and 25˚C.

9) What should be the color of properly functioning facultative ponds?

Answer: Due to the presence of algae, facultative ponds are colored dark green. Most types of algae found in these ponds are motile, which allows them to optimize their vertical position in the pond water column in relation to incident light intensity and temperature more easily than non-motile forms.

10) What is the recommended operational layout of a multicell facultative lagoon during the summer (or warmer) months?

Answer: It is best to operate facultative lagoons in series mode during warmer or summer months to allow for reduced effluent solids. By operating in series, the solids (such as algae) are kept in the primary or secondary cells, improving effluent quality and possibly avoiding NPDES violations for TSS. Proper operation of lagoon systems is a critical knowledge point for wastewater certification.

11) What is the function of algae in a facultative pond?

Answer: A facultative pond has an aerobic layer in the upper portion, and an anaerobic layer in the lower portion of the pond. The aerobic layer contains oxygen, while the anaerobic layer does not. There are microorganisms in both layers that “eat” or treat the incoming organic waste. This question is regarding the upper aerobic layer. In the upper layer, algae use sunlight as a source of energy to consume carbon dioxide in the wastewater to produce oxygen. This process is called photosynthesis, which then provides oxygen to the other microorganisms present to treat the wastewater. During the day, with the presence of sunlight, this process increases oxygen in the pond. Towards the end of the day, there is a lot of oxygen available due to the algae.

12) When would you expect the lowest concentration of dissolved oxygen (DO) in a facultative pond?

Answer: Dissolved oxygen (DO) is lowest at sunrise. Although algae generated oxygen in the presence of sunlight, through the process of photosynthesis, it consumes oxygen and generates carbon dioxide during night-time and the dark, early morning hours through the process of respiration. Without the presence of sunlight, the oxygen in the pond becomes depleted due to the respiration of the algae and bacteria. However, when the sun rises, the algae will once again begin to use the sunlight to consume carbon dioxide and release oxygen. This increases the oxygen level in the pond. At the end of the day, there is a lot of oxygen available.

13) Why should an aerobic pond with no mechanical agitation be shallow?

Answer: An aerobic pond, by definition, has DO throughout its entire depth. Shallow depth allows for distribution of DO throughout, preventing the development of an anaerobic layer at the bottom.

14) What supplies the dissolved oxygen (DO) for the supernatant layer of the facultative pond?

Answer: The presence of algae (photosynthesis), wind action (transfer from air), and the use of mechanical aeration devices serve to provide DO.

15) Why are facultative ponds the most commonly used lagoon systems?

Answer: Because it is nearly impossible to maintain completely aerobic and anaerobic conditions in a pond. Additionally, the aerobic, facultative and anaerobic layers support different populations of microbes that, in total, provide different chemical reactions that in total assure complete wastewater treatment

16) What is a lagoon which is aerobic near the surface but is anaerobic at lower levels called?

Answer: A facultative lagoon

17) What is the name for a lagoon where evaporation from the surface is equal to or greater than the total inflow and rainfall?

Answer: A total containment lagoon. This scenario is very unlikely to occur in Indiana due to the amount of precipitation that we receive annually. Claims that a lagoon (in Indiana) does not discharge due to evaporation are virtually never true, with most found to have either illicit discharges or seepage into the ground.

18) What is the primary source of oxygen in an aerated lagoon cell?

Answer: The oxygen supply in aerated lagoon is obtained primarily by mechanical means. Typically, the need for supplemental oxygen would have been anticipated when the lagoon was designed.

19) What are the advantages of an aerated lagoon over a facultative lagoon?

Answer: They do not require as much land area, they are It is not as dependent upon climate and weather, and they are mixed by the aerators.

20) Which group of bacteria require oxygen to live and grow?

Answer: Aerobic bacteria and facultative bacteria require varying amounts of oxygen to live and grow.

21) Where would you expect to find anaerobic bacteria?

Answer: Anaerobic bacteria would typically be found in the bottom sludge layer of a

facultative lagoon, where oxygen is scarce or absent.

22) Which chemical compound is required for aerobic bacteria to survive?

Answer: Aerobic bacteria cannot survive without the presence of free oxygen (O_2).

23) Which waste products may be produced by anaerobic bacteria?

Answer: Anaerobic bacteria may produce methane, ammonia and hydrogen sulfide through their metabolic processes.

24) What unique ability do facultative bacteria have?

Answer: Facultative bacteria can exist in both aerobic and anaerobic conditions.

25) What are useful functions of algae a facultative lagoon?

Answer: They consume carbon dioxide and they produce free oxygen.

26) What is the power source for algae to produce free oxygen and multiply in a lagoon?

Answer: Sunlight provides the power source for algae to grow

27) Is a predominance of blue green algae in a lagoon a good thing?

Answer: No, it is a sign of unhealthy conditions. There will always be a certain amount of blue green algae in a given lagoon, but when it predominates it indicates that something is not working well.

28) What affect does algae have on the pH of the water?

Answer: The process of photosynthesis by algae increases the pH of the water. This natural process rarely creates a problem for the wastewater operator. In fact, the Indiana Water Quality Standards, as applied to the NPDES permit effluent limitations allow for exceedances of the normal maximum pH level of 9 due to photosynthetic activity in a lagoon.

29) What are some of the factors concerning photosynthesis as a biochemical process?

Answer: Photosynthesis is a biochemical process performed by all green plants, including algae, which uses solar energy to convert carbon dioxide to oxygen.

Section 3: 327 IAC 5-22, the complete Operator Certification Rule

Following is the complete text of current Indiana wastewater operator certification rule. The official electronic version of this rule can also be found at this link: http://iac.iga.in.gov/iac/T03270/A00050.PDF and then scrolling down to page 161. It is anticipated that in the near future this rule will be repealed in its entirety and replaced with a new rule 327 IAC 5-23. Please keep track of the progress of these changes through 2021 and 2022.

Rule 22. Classification of Wastewater Treatment Plants; Examination and Certification of Operators

327 IAC 5-22-1 Purpose

Sec. 1. The purpose of this rule is to establish the following:
(1) A classification system of wastewater treatment plants.
(2) The criteria by which a person may become a wastewater treatment:
(A) apprentice; or
(B) certified operator.

The intended result of this rule is to facilitate the entry of individuals into the occupation of wastewater treatment through an apprenticeship opportunity and promote excellence among wastewater treatment operators for the ultimate goal of protecting Indiana waters receiving treated wastewater discharged from wastewater treatment plants.

327 IAC 5-22-2 Applicability

Sec. 2. This rule applies to:
(1) a certified operator who works at;
(2) a person endeavoring to become a wastewater treatment apprentice or a certified operator at; and
(3) the owner or governing body of;
a wastewater treatment plant.

327 IAC 5-22-3 Definitions

Sec. 3. The definitions in IC 13-11-2 and 327 IAC 1 and the following definitions apply throughout this rule:

(1) "Acceptable experience" means employment in the actual hands-on operation, maintenance, management, or supervision of a wastewater treatment plant. Acceptable experience shall be obtained under the supervision of a certified operator or by otherwise demonstrating to the commissioner that the applicant's experience meets the requirements described in this rule.

(2) "Applicant" means a:
(A) person seeking:
(i) classification as a wastewater treatment apprentice; or
(ii) certification as a wastewater treatment operator;
whether or not the person is currently employed at a wastewater treatment plant; or
(B) training course provider seeking course approval.

(3) "Application" means a written request submitted to the commissioner under this rule asking for:
(A) classification as a wastewater treatment apprentice;
(B) certification as a wastewater treatment operator; or
(C) training course approval.

(4) "Certificate" means an appropriate document containing the following information:
(A) Affirmation that the named person has fulfilled the requirements for certification as contained in this rule.

(B) The classification of the wastewater treatment certified operator.
(C) The date of issuance.
(D) An identification number unique to each certificate.

(5) “Certification card” means a card issued to a person who has fulfilled the requirements to be a wastewater treatment certified operator and contains the following information:
(A) The name and certificate number of the person.
(B) The classification of the wastewater treatment certified operator.
(C) An expiration date.

(6) “Certified operator” means a person who:
(A) has met the requirements of this rule; and
(B) holds a current certificate and certification card for wastewater treatment.

(7) “Commissioner” means the commissioner of the department of environmental management.

(8) “Contact hour” means a 50 to 60 minute instructional session:
(A) approved by the commissioner; and
(B) involving a qualified instructor or lecturer.

Ten contact hours equals one continuing education unit (CEU).

(9) “Design population equivalent” means the PE for which the plant is designed.

(10) “Population equivalent” or “PE” means the calculated population that would contribute the same amount of biochemical oxygen demand (BOD) per day using the base of 0.17 pounds of BOD_5 per capita per day.

(11) “Responsible charge operator” means the wastewater treatment certified operator who makes process control or system integrity decisions about the overall daily operation, maintenance, management, or supervision of a wastewater treatment plant necessary to meet the performance requirements and limits of the assigned permit and any applicable local ordinance or other regulatory requirements. The responsible charge operator must assure that written and electronic monitoring reports are prepared under his or her direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. The responsible charge operator certifies that, based on his or her inquiry of the persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of the knowledge and belief of the responsible charge operator, true, accurate, and complete.

(12) “Training course” means a continuing education course that, as determined by the commissioner, deals with one or more of the following:
(A) Technical matters related directly to wastewater treatment.
(B) General matters related to the responsibilities of a wastewater treatment certified operator.

(13) “Training provider” means a person or organization that conducts or presents a course training session approved under this rule.

(14) “Wastewater treatment apprentice” means a person who has successfully passed the commissioner’s wastewater treatment operator’s certification examination but has not fulfilled either the educational or experience requirements, or both, necessary to qualify to be a certified operator. A wastewater treatment apprentice shall not be designated as the certified operator in responsible charge of a wastewater treatment plant.

(15) “Wastewater treatment plant” means the system of treatment works, regulatory devices, equipment, and other facilities and appurtenances installed to treat sewage, industrial wastes, and other wastes delivered by a system of sewers and other related facilities, whether owned

or operated by the state, a municipality, or a person, firm, or corporation. The term does not include septic tank disposal systems. This is the definition found in IC 13-11-2-258.

327 IAC 5-22-4 Classification of wastewater treatment plants; nonindustrial treatment plants

Sec. 4. A nonindustrial wastewater treatment plant shall be classified into one of five classifications based on the design population equivalent of the plant according to the following:
(1) Class I-SP includes all waste stabilization ponds, whether controlled discharge or continuous discharge, regardless of flow.
(2) Class I includes wastewater treatment plants having a design population equivalent of less than 2,000.
(3) Class II includes wastewater treatment plants having a design population equivalent:
(A) equal to or greater than 2,000; and
(B) less than 10,000.
(4) Class III includes wastewater treatment plants having a design population equivalent:
(A) equal to or greater than 10,000; and
(B) less than or equal to 40,000.
(5) Class IV includes wastewater treatment plants having a design population equivalent greater than 40,000.

327 IAC 5-22-5 Classification of wastewater treatment plants; industrial treatment plants

Sec. 5. (a) An industrial wastewater treatment plant shall be classified into one of five classifications based on the type of treatment provided, design population equivalent, and the average daily flow according to the following:
(1) Class A-SO includes wastewater treatment plants having one or more of the following:
(A) Primary solids removal facilities, such as:
(i) settling tanks;
(ii) settling ponds;
(iii) sand filters; or
(iv) screens;
used only for removal of settleable inorganic solids.
(B) Tanks, ponds, centrifuges, or other facilities used to separate floatable oils and solids. (C) pH adjustment.

Wastewater flow is not a limiting factor in the Class A-SO classification of industrial wastewater treatment plant.

(2) Class A includes wastewater treatment plants having one or more of the following:
(A) Secondary treatment facilities that treat wastewater loads of less than 2,000 design population equivalent, such as:
(i) waste stabilization ponds whether anaerobic or aerobic;
(ii) trickling filter;
(iii) activated sludge-type treatment plants;
(iv) aerated lagoons; or
(v) other biological treatment facilities.
(B) Spray, broad, or ridge and furrow irrigation facilities that treat a wastewater flow of

less than 200,000 gallons per day.

(3) Class B includes wastewater treatment plants having one or more of the following:

(A) Secondary treatment facilities that treat wastewater loads equal to or greater than 2,000 design population equivalent and less than 10,000 design population equivalent, such as:

(i) waste stabilization ponds whether anaerobic or aerobic;
(ii) trickling filter;
(iii) activated sludge-type treatment plants;
(iv) aerated lagoons; or
(v) other biological treatment facilities.

(B) Spray, broad, or ridge and furrow irrigation facilities that treat a wastewater flow equal to or greater than 200,000 gallons per day and less than one million gallons per day.

(C) Chemical treatment facilities that process or treat wastewater flow of less than 50,000 gallons per day using one of the following methods:

(i) Cyanide destruction.
(ii) Chromium reduction.
(iii) Coagulation and flocculation.
(iv) Air flotation.
(v) Air stripping.
(vi) Wet air oxidation.
(vii) Activated carbon filtration.
(viii) Membrane filtration.
(ix) Steam stripping.

(4) Class C includes wastewater treatment plants having one or more of the following:

(A) Secondary treatment facilities that treat wastewater loads equal to or greater than 10,000 design population equivalent and less than 40,000 design population equivalent, such as:

(i) waste stabilization ponds whether anaerobic or aerobic;
(ii) trickling filter;
(iii) activated sludge-type treatment plants;
(iv) aerated lagoons; or
(v) other biological treatment facilities.

(B) Spray, broad, or ridge and furrow irrigation facilities that treat a wastewater flow equal to or greater than one million gallons per day and less than four million gallons per day.

(C) Chemical treatment facilities that process or treat wastewater flow equal to or greater than 50,000 gallons per day and less than 200,000 gallons per day using one of the following methods:

(i) Cyanide destruction.
(ii) Chromium reduction.
(iii) Coagulation and flocculation.
(iv) Air flotation.
(v) Air stripping.
(vi) Wet air oxidation.
(vii) Activated carbon filtration.
(viii) Membrane filtration.

(ix) Steam stripping.

(5) Class D includes wastewater treatment plants having one or more of the following:

(A) Secondary treatment facilities that treat wastewater loads equal to or greater than 40,000 design population equivalent, such as:

(i) waste stabilization ponds whether anaerobic or aerobic;

(ii) trickling filter;

(iii) activated sludge-type treatment plants;

(iv) aerated lagoons; or

(v) other biological treatment facilities.

(B) Chemical treatment facilities that process or treat a wastewater flow equal to or greater than 200,000 gallons per day using one of the following methods:

(i) Cyanide destruction.

(ii) Chromium reduction.

(iii) Coagulation and flocculation.

(iv) Air flotation.

(v) Air stripping.

(vi) Wet air oxidation.

(vii) Activated carbon filtration.

(viii) Membrane filtration.

(ix) Steam stripping.

(C) Deep well disposal systems, thermal evaporators, or incinerators used in conjunction with liquid waste disposal.

(D) Two or more industrial wastewater treatment plants at one industrial site if each independent industrial wastewater treatment plant is classified as a Class B or C wastewater treatment plant.

(E) An industry utilizing a highly complex wastewater treatment method.

(b) If an industrial wastewater treatment plant has more than one treatment process despite having only one wastewater treatment plant, that industrial wastewater treatment plant shall be classified into the classification of the most complex component of wastewater treatment performed in relation to the following factors:

(1) Secondary treatment PE.

(2) Spray irrigation volume.

(3) Chemical treatment volume.

327 IAC 5-22-6 Classification of wastewater treatment plants; reclassification

Sec. 6. (a) A wastewater treatment plant may be reclassified by the commissioner if a change occurs to the wastewater treatment plant's operation, treatment process, or influent wastewater. The commissioner shall do the following:

(1) Consider reclassification of a wastewater treatment plant based upon information supplied by the governing body or owner in a construction permit application for modification.

(2) Give written notice of a reclassification to the governing body or owner and to the responsible charge operator indicating the following:

(A) The classification of certified operator that is necessary to supervise the reclassified wastewater treatment plant.

(B) A date by which time a certified operator required according to clause (A) must be in responsible charge of the reclassified wastewater treatment plant.

(b) A wastewater treatment plant may be reclassified by the commissioner if one (1) of the following situations exists:

(1) The wastewater treatment plant utilizes special or complex equipment or features of design requiring more difficult operation.

(2) The wastewater is unusually difficult to treat.

(3) More than ordinary chemical or bacteriological controls are required.

(4) An unusually high degree of skill is required in the operation of the wastewater treatment plant to assure continuous production of effluent that meets the water quality requirements of the receiving stream and the national pollutant discharge elimination system (NPDES) permit limitations.

327 IAC 5-22-7 Qualifications to become a wastewater treatment apprentice or certified operator

Sec. 7. (a) Before applying for the commissioner's wastewater treatment certification examination, a person must have the educational skills necessary to do the following:

(1) Make computations.

(2) Calculate volumes.

(3) Keep records.

(4) Read and write the English language to the extent of interpreting service manuals and work orders and submitting written reports.

(b) A person may take the commissioner's wastewater treatment certification examination before obtaining the educational and experience requirements specified in section 7.3 of this rule. In order to become classified as a wastewater treatment apprentice, a person must pass the wastewater treatment certification examination required by the commissioner.

(c) In order to become a wastewater treatment certified operator, a person must:

(1) Pass the wastewater treatment certification examination required by the commissioner unless exempted by statute or rule;

(2) have the formal education specified in section 7.3 of this rule; and

(3) have the experience that is specified in section 7.3 of this rule and acceptable to the commissioner in the field of wastewater treatment that:

(A) Demonstrates the applicant's technical knowledge;

(B) can be verified based on information from available sources, primarily the applicant's wastewater treatment plant employer; and

(C) is the result of satisfactory accomplishment of wastewater treatment plant work.

(d) In accordance with 327 IAC 8-12-3.2(e), a grade WT3, WT4, and WT5 operator shall be considered to have met the educational and experience requirements necessary to apply for the appropriate wastewater treatment certification to treat wastewater from a water treatment plant provided the operator is certified to operate that classification of water treatment plant.

327 IAC 5-22-7.3 Educational and experience requirements necessary for a certified operator

Sec 7.3. Educational and experience requirements necessary to become a certified

operator in each of the classes of wastewater treatment plants are as follows:

(1) Class I-SP and Class A-SO certified operator applicants must have attained the following: (A) A high school diploma or equivalent education.

(B) Six months of acceptable experience in a wastewater treatment plant.

(2) Class I and Class A certified operator applicants must have attained the following:

(A) A high school diploma or equivalent education.

(B) One year of acceptable experience at a wastewater treatment plant.

(3) Class II and Class B certified operator applicants must have attained the following: (A) A high school diploma or equivalent education.

(B) Three years of acceptable experience at a wastewater treatment plant.

(4) Class III and Class C certified operator applicants must have attained the following: (A) A high school diploma or equivalent education.

(B) Three years of acceptable experience at a wastewater treatment plant of one (1) or more of the following classes:

(i) Class II.
(ii) Class III.
(iii) Class IV.
(iv) Class B.
(v) Class C.
(vi) Class D.

(C) Two years of the three years' experience required by clause (B) must be in a position of responsible charge operator at a wastewater treatment plant of one (1) or more of the following classes:

(i) Class II.
(ii) Class III.
(iii) Class IV.
(iv) Class B.
(v) Class C.
(vi) Class D.

In Class III and Class C plants, the individual supervising and responsible for a major section of the plant or an operating shift may be credited with experience as responsible charge operator for the purpose of applying to take the certification examination.

(5) Class IV and Class D certified operator applicants must have attained the following:

(A) One (1) or more of the following educational degrees:

(1) A bachelor's degree with a major in an engineering, chemistry, or biological science curriculum.

(2) An associate's degree in a curriculum related to wastewater treatment.

(B) Five years of acceptable experience at a wastewater treatment plant of one (1) or more of the following classes:

(i) Class III.
(ii) Class IV.
(iii) Class C.
(iv) Class D.

(C) Two years of the five years' experience required by clause (B) must be in a position of responsible charge operator at a wastewater treatment plant of one (1) or more of the following classes:

(i) Class III.
(ii) Class IV.
(iii) Class C.
(iv) Class D.

In Class IV and Class D plants, the individual supervising and responsible for a major section of the plant or an operating shift may be credited with experience as responsible charge operator for the purpose of applying to take the certification examination.

327 IAC 5-22-7.5 Application of a wastewater treatment apprentice to become a certified wastewater treatment operator

Sec. 7.5. (a) A wastewater treatment apprentice shall fulfill the following requirements in order to become a wastewater treatment certified operator:

(1) Meet the educational and experience requirements in section 7.3 of this rule that are applicable to the class of wastewater treatment certified operator the wastewater treatment apprentice is applying to become.

(2) Fulfill the continuing education credit requirement in section 15(b) of this rule.

(3) Complete a certification application on a form approved by the commissioner that:

(A) Contains true and accurate information to the best of the wastewater treatment apprentice's knowledge; and

(B) is free of omissions and misrepresentations, either of which may result in rejection of the application or revocation of any certificate previously granted.

(4) Submit a completed certification application, with the necessary fee, to the commissioner not later than six years after the date of successfully completing the wastewater treatment certification examination.

If a wastewater treatment apprentice does not fulfill the requirements of this subsection and receive certification as a wastewater treatment operator, then the person must retake the commissioner's wastewater treatment certification examination in order to apply for the wastewater treatment operator certification under this section.

(b) The commissioner shall do the following:

(1) Review a certification application and supporting documents and make a decision concerning the eligibility of a wastewater treatment apprentice for wastewater treatment operator certification.

(2) Issue a wastewater treatment operator certificate designating competency in the appropriate wastewater treatment classification to each wastewater treatment apprentice who:

(A) Makes complete and timely application;

(B) meets the necessary requirements of education, experience, and continuing education; and

(C) has successfully completed a wastewater treatment class appropriate examination.

327 IAC 5-22-8 Certified operator classification eligible to operate class or classes of wastewater treatment plants

Sec. 8. A wastewater treatment certified operator may possess a current certification in one or more of the ten classes of certified operators and may operate classifications of

wastewater treatment plants as follows:

(1) A Class I-SP certified operator is certified to operate a Class I-SP wastewater treatment plant. (2) A Class A-SO certified operator is certified to operate a Class A-SO wastewater treatment plant.

(3) A Class I certified operator is certified to operate:

(A) Class I-SP;
(B) Class I;
(C) Class A-SO; and
(D) Class A;
wastewater treatment plants.

(4) A Class A certified operator is certified to operate:

(A) Class A-SO; and
(B) Class A;
wastewater treatment plants.

(5) A Class II certified operator is certified to operate:

(A) Class A-SO;
(B) Class A;
(C) Class I-SP;
(D) Class I; and
(E) Class II;
wastewater treatment plants.

(6) A Class B certified operator is certified to operate:

(A) Class A-SO;
(B) Class A; and
(C) Class B;
wastewater treatment plants.

(7) A Class III certified operator is certified to operate:

(A) Class A-SO;
(B) Class A;
(C) Class I-SP;
(D) Class I;
(E) Class II; and
(F) Class III;
wastewater treatment plants.

(8) A Class C certified operator is certified to operate:

(A) Class A-SO;
(B) Class A;
(C) Class B; and
(D) Class C;
wastewater treatment plants.

(9) A Class IV certified operator is certified to operate:

(A) Class A-SO;
(B) Class A;
(C) Class I-SP;
(D) Class I;
(E) Class II;
(F) Class III; and
(G) Class IV;
wastewater treatment plants.

(10) A Class D certified operator is certified to operate:

(A) Class A-SO;
(B) Class A;
(C) Class B;
(D) Class C; and
(E) Class D;

wastewater treatment plants.

327 IAC 5-22-9 Substitution of qualifications

Sec. 9. Certification education and experience qualifications required by section 7.3 of this rule may be fulfilled through substitutions based on the following table:

Acceptable Experience

Class	Education	Total Required Experience	Substitution of Education for Acceptable Experience	Substitution of Acceptable Experienced for Responsible Charge Experience	Substitution of Acceptable Experience for Education
A-SO and I-SP	High School Diploma or Equivalent	6 months	0	_____	See Note 2
A and I	High School Diploma or Equivalent	1 year	0	_____	See Note 2
B and II	High School Diploma or Equivalent	3 years	1 year See Note 1	_____	See Note 2
C and III	High School Diploma or Equivalent	3 years at Class B, II, or higher of which 2 years in responsible charge	1 year See Note 1	See Note 2	See Note 2
D and IV	College Degree or Equivalent See Note 1	5 years at Class C, III, or higher, of which 2 years in responsible charge	2 years See Note 1	See Note 2	See Note 2

Note 1: Substitution of education for acceptable experience (AE):
One college semester equals 16 college credit hours, 240 contact hours, 24 continuing education units (CEUs), one year of acceptable experience (AE), or six months of responsible charge experience (RCE).
One year of college equals 32 college credit hours, 480 contact hours, 48 CEUs, two years of AE, or one year of RCE. There is no substitution of education for responsible charge experience. The portion of education that is applied toward substitution for experience cannot be used for the education requirement.
Note 2: AE, RCE, and educational experience are interchangeable at the following ratios:
One year of AE equals two years of high school, six months of college, or six months RCE.
The portion of experience that is applied toward substitution for education cannot be used for the experience requirement.

327 IAC 5-22-10 Responsibilities of owner or governing body of a wastewater treatment plant

Sec. 10. The owner or governing body of a wastewater treatment plant shall be responsible for accomplishing the following:

(1) Provide adequate funding and oversight to ensure the proper: (A) operation;
(B) maintenance;
(C) management; and
(D) supervision;
of the designated facilities.

(2) Place each wastewater treatment plant under the direct supervision of one certified operator to be in responsible charge who:

(A) holds a current certification of a classification eligible for operation at the classification of wastewater treatment plant;

(B) makes process control or system integrity decisions about the overall daily operation, maintenance, management, and supervision of each wastewater treatment plant necessary to meet the performance requirements and limits of:

(i) The assigned permit;
(ii) local ordinances; and
(iii) other applicable regulatory requirements; and

(C) is responsible that written and electronic monitoring reports are prepared under his or her direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. The responsible charge operator certifies that based on his or her inquiry of the persons who manage the system, or those persons directly responsible for gathering the information, that the information submitted is, to the best of his or her knowledge and belief, true, accurate, and complete.

(3) Notify the commissioner of the name of the person designated according to subdivision (2) to be the certified operator in responsible charge.

(4) Submit written notification to the commissioner not later than 30 days after the occurrence of a change in one of the following:

(A) The person serving as the certified operator in responsible charge of the wastewater treatment plant.

(B) Conditions or circumstances that were used as the basis for the original classification of the wastewater treatment plant.

(5) The responsibilities of the owner or governing body described in this section may not be delegated.

327 IAC 5-22-10.5 Certified operator in responsible charge

Sec. 10.5. (a) A certified operator may be designated as being in responsible charge of more than one wastewater treatment plant if the following requirements are met:

(1) The certified operator gives adequate supervision to each wastewater treatment plant under his or her responsible charge. As used in this section, “adequate supervision” means that time is spent on a regular basis, either on site at or through remote monitoring of the wastewater treatment plant to assure that:

(A) the certified operator is knowledgeable of the actual operations; and

(B) test reports and results are representative of the actual operational and

compliance conditions.

(2) The certified operator in responsible charge ensures the proper: (A) operation;
(B) maintenance;
(C) management; and
(D) supervision;
to each wastewater treatment plant under his or her responsible charge.

(3) Each wastewater treatment plant under the responsible charge of a single certified operator must be achieving the performance requirements and limits in the:
(A) Assigned permit;
(B) local ordinances; and
(C) other applicable regulatory requirements.

(b) If adequate supervision and achievement of the performance requirements described in subsection (a)(3) are not achieved, the commissioner may initiate enforcement action that could result in the following:

(1) Restrictions on the number of wastewater treatment plants under that certified operator's responsible charge.

(2) The suspension or revocation of the wastewater treatment plant operator's certificate.

(c) The commissioner may request submission of documentation of the following: (1) The:
(A) name;
(B) location; and
(C) classification;
of each wastewater treatment plant under the responsible charge of the certified operator.

(2) The amount of time that the certified operator in responsible charge spends at each wastewater treatment plant of responsibility identified under subdivision (1).

(d) The commissioner shall evaluate information required by this section and any other information pertinent to one or more of the wastewater treatment plants under the supervision of a certified operator in responsible charge of multiple wastewater treatment plants and may determine the following for each evaluated wastewater treatment plant:

(1) Whether the time provided for supervision is adequate.

(2) An amount of time that the certified operator in responsible charge shall be required to spend in the operation of each wastewater treatment plant.

(3) A reduction of the number of wastewater treatment plants over which the certified operator may have responsible charge.

327 IAC 5-22-11 Examination of applicants to become a wastewater treatment apprentice or certified wastewater treatment operator

Sec. 11. (a) A standardized examination prepared to reflect the duties and responsibilities required of each classification of wastewater treatment operator shall be:

(1) Used to test:
(A) knowledge;
(B) ability; and
(C) judgment;
of an applicant to become a certified wastewater treatment operator;

(2) conducted at least annually; and
(3) held at places and times established by the commissioner:
(A) with at least 60 days advanced announcement; and
(B) except in such cases as may be declared necessary exceptions by the commissioner.

(b) A person wishing to be examined for wastewater treatment apprenticeship or certification shall fulfill the following requirements:
(1) Complete an application on a form approved by the commissioner that:
(A) contains true and accurate information to the best of the applicant's knowledge; and
(B) is free of omissions and misrepresentations, either of which may result in rejection of the application or revocation of any certificate previously granted.
(2) Submit a completed application, with the necessary fee, to the commissioner not later than 45 days preceding the date of the examination.

(c) The commissioner shall:
(1) Review an application and supporting documents concerning the eligibility of an applicant for wastewater treatment certification examination; and
(2) issue a written notification in the form of an admission slip providing the time and place of the examination to be presented by an applicant deemed eligible for examination.

(d) A person who has been notified and scheduled to take an examination:
(1) May submit a written request to the commissioner for a postponement to take the examination one offering later than the examination granted by the commissioner if the:
(A) Postponement for a nonemergency reason is requested not later than 14 days before the examination date noticed to the applicant under subsection (c)(2);
(B) postponement request for an emergency reason is submitted as soon as conditions of the emergency warrant;
(C) applicant provides the commissioner an explicit description of extenuating circumstances necessitating the requested postponement; and
(D) applicant understands that only one postponement shall be allowed; or
(2) will be considered to have failed that examination if one of the following occurs: (A) The person:
(i) Does not attend the examination; and
(ii) has not requested a postponement according to subdivision (1).
(B) The person is caught cheating on an examination, an occurrence that will make an applicant ineligible to take any operator certification examination for a period of two years following the examination date of the incidence of cheating.

(e) Completed examinations shall be managed by the commissioner according to the following:
(1) Graded in a manner prescribed by the commissioner with a minimum result of 70% needed in order to pass the examination.
(2) The commissioner shall notify an applicant of the examination result:

(A) in writing; and
(B) not later than two months after the date of the examination.

(3) Examination papers shall be retained by the commissioner with an opportunity afforded to an applicant notified of having failed the examination for review of the graded examination until a date 90 days before the next scheduled examination if the applicant submits the following to the commissioner:
(A) A written request for review of the graded examination.
(B) A statement affirming the applicant's understanding that examination review does not include the right to copy, by any means, the examination or any portion of it.

(f) A person previously certified as a wastewater treatment operator under this rule but who has failed to meet the renewal requirements according to section 14 of this rule must fulfill the following:
(1) Qualify under this rule.
(2) Retake an examination.
(g) A person may receive wastewater treatment certification without taking an examination if the person seeking wastewater treatment operator's certification by reciprocal recognition or on a provisional basis according to section 13 of this rule files an application required by subsection (b) at the applicant's convenience, subject to applicable expiration dates delineated in this rule.

327 IAC 5-22-12 Wastewater treatment certification fees

Sec. 12. (a) Fees for wastewater treatment certification shall be as follows:

(1) Certification examination	$30
(2) Certified operator biennial renewal fee	$30

(b) An application fee will not be returned to an applicant who:
(1) Is deemed by the commissioner to be ineligible for wastewater certification examination;
(2) does not receive a minimum score of seventy percent (70%) according to section 11(e)(1) of this rule; or
(3) has violated section 11(d)(2)(B) of this rule by cheating on the operator certification examination.

327 IAC 5-22-13 Certification; reciprocity; provisional certificate

Sec. 13. (a) The commissioner shall issue a certificate designating competency in the appropriate certified operator's classification to each person who:
(1) Makes proper application if the applicant meets the necessary requirements of education and experience; and
(2) has successfully completed a class appropriate examination.
Upon successful completion of examination according to section 11 of this rule, the commissioner shall issue a certificate in the wastewater treatment operator classification for which the applicant was examined.

(b) The commissioner may issue a certificate by reciprocity as outlined in IC 13-18-11-9 if the following conditions are met:

(1) A person seeking reciprocal certification submits an application for such a certificate that includes the following:

(A) Proof of current certification.

(B) The classification of the applicant.

(2) A person from another state seeking a certificate by reciprocity earns the number of continuing education contact hours for future renewal periods in the time period required by section 15 of this rule though no continuing education contact hours shall be required at the time of conferring the reciprocal certification.

(c) The commissioner may issue a provisional wastewater treatment operator's certificate if the following occur:

(1) The governing body or owner of a wastewater treatment plant submits a written request specifying a reason necessitating the provisional certification, including one of the following:

(A) To fill a vacancy created by death.

(B) Resignation of the certified operator in responsible charge.

(C) Extended illness of the certified operator in responsible charge.

(D) Suspension or revocation of the certification of the operator in responsible charge.

(E) Similar cause as determined by the commissioner.

(2) The written request required by subdivision (1) provides the:

(A) Name;

(B) education; and

(C) experience;

of the person for whom the provisional certificate is requested.

(3) The provisional certificate nominee named under subdivision (2) submits, simultaneously with the request submitted under subdivision (1), an application as required by section 11(b) of this rule requesting examination and certification.

(4) The provisional certificate nominee named under subdivision (2) currently meets the educational and experience requirements for the appropriate class of certification.

(d) A provisional certificate shall be:

(1) Issued by the commissioner in the form of a letter that specifies the conditions of the certification; and

(2) valid for the shorter of the following lengths of time:

(A) The period between the date of application and 60 days following the next examination that is available to the provisional certificate nominee.

(B) One year.

327 IAC 5-22-14 Certificates and certification cards; renewal; duplicates

Sec. 14. (a) A wastewater treatment operator's certificate shall:

(1) Be issued after an applicant's successful completion of the classification appropriate examination;

(2) specify the:

(A) Month and year that the applicant qualified; and

(B) issuance date of the certificate;

(3) be permanent in nature but will be effective only when validated by a current

certification card; and
(4) not be valid if obtained through:
(A) Fraud;
(B) deceit; or
(C) the submission of inaccurate data on the examination application.

(b) A certificate, issued on the basis of the applicant's having been in responsible charge of a wastewater treatment plant before July 1, 1968, shall remain valid until one of the following occurs:
(1) A change in the classification of the wastewater treatment plant for one of the following reasons:
(A) Increased capacity.
(B) An increase in population served.
(C) A basic change in the method of wastewater treatment.
(D) Other change in conditions that requires a more difficult operation.
(2) The operator is no longer in direct responsible charge.

(c) A certification card shall:
(1) Be issued for a time period of not more than 25 months; and
(2) expire on the last day of June nearest the end of the biennial period following the certification card issuance.

Note: Because IC 13-18-11-6.5 has been changed to provide for a three year license cycle, IDEM is issuing new and renewal licenses for three year terms. This rule is in the process of being changed to reflect the three year cycle.

(d) A wastewater treatment certified operator needing a replacement or duplicate certificate must submit a written request to the commissioner, including the following information:
(1) The class of wastewater treatment operator.
(2) The name and classification of the wastewater treatment plant to be operated.
(3) The date of issuance of the original certificate, if known.
(4) The certificate number.

(e) The commissioner shall accomplish the following:
(1) Issue a renewal notification to each certified wastewater treatment plant operator stating the following:
(A) The expiration date of the certified operator's certification card.
(B) The amount of fee required for certification card renewal.
(2) Mail certification card renewal notifications:
(A) At least 30 days before the expiration of the certification card; and
(B) to the last known address filed with the commissioner.

(3) Renew a certification card if:
(A) The continuing education requirements of section 15 of this rule are met;
(B) a renewal fee is submitted on or before the first day of July of the biennial period for which a certification card is to be issued; and
(C) the notice is signed and returned by the certified operator to the commissioner.
(4) Reinstate certification if the certified operator:
(A) Submits payment of:
(i) Arrearage of fees; and

(ii) the current renewal fee;

(B) fulfills all arrearage of continuing education credit requirements; and

(C) is current in meeting continuing education credit requirements.

(5) Deny renewal of a certification card that is not renewed within the time limit established in this section and IC 13-18-11-6(c). A wastewater treatment plant operator who fails to renew a certificate for three successive years may not receive a renewal certificate without reexamination.

327 IAC 5-22-15 Continuing education requirements for wastewater treatment apprentices and certified operators

Note: Because IC 13-18-11-6.5 has been changed to provide for a three year license cycle, IDEM is issuing new and renewal licenses for three year terms. This rule is in the process of being changed to reflect the three year cycle. Additionally, the number of contact hours required for license renewal, as shown in Table 15 (d) below is being increased proportionally for the reissuance of a three-year license.

Sec. 15. (a) A wastewater treatment apprentice shall fulfill continuing education requirements in amounts specified in Table 15(b) during each two year period following the issuance of the apprentice classification and before achieving status as a certified wastewater treatment plant operator.

(c) Continuing education credits required for eligibility in the following classifications of wastewater treatment apprentices are listed in the following table:

(d)

Table 15(b)

Wastewater Treatment Apprentice Continuing Education Credits Required During Each Two Year Period of Apprenticeship:

Classification	
Apprentice I-SP	5 contact hours
Apprentice A-SO	5 contact hours
Apprentice I	10 contact hours
Apprentice A	10 contact hours
Apprentice II	10 contact hours
Apprentice B	10 contact hours
Apprentice III	20 contact hours
Apprentice C	20 contact hours
Apprentice IV	20 contact hours
Apprentice D	20 contact hours

(c) A certified wastewater treatment operator shall fulfill continuing education requirements in amounts specified in Table 15(d) during each two year period following the issuance of the certification card and before having that certification card renewed.

(d) Continuing education credits required for certification card renewal in the following classifications of certified wastewater treatment operators are listed in the following table:

Table 15(d)

Certified Wastewater Treatment Operator Classification	Continuing Education Credits Required for Renewal

Class I-SP	5 contact hours
Class A-SO	5 contact hours
Class I	10 contact hours
Class A	10 contact hours
Class II	10 contact hours
Class B	10 contact hours
Class III	20 contact hours
Class C	20 contact hours
Class IV	20 contact hours
Class D	20 contact hours

(e) Continuing education credits required according to Table 15(b) and Table 15(d) must adhere to a distribution of subject matter according to the following:

(1) A minimum of 70% of the required continuing education contact hours shall be obtained from the technical category of approved continuing education courses that address technical matters related directly to wastewater treatment plant and sewer system operations, maintenance, management, or supervision.

(2) Not more than 30% of the required continuing education contact hours shall be obtained from nontechnical subject matter of approved continuing education courses that enhance the performance of the certified operator's responsibilities but are not directly related to wastewater treatment plant and sewer system operations, maintenance, management, or supervision.

(f) A person having more than one wastewater treatment operator apprenticeship or certification may be given continuing education credit from a single approved continuing education course for each wastewater treatment apprenticeship or certification to which the subject matter is applicable.

327 IAC 5-22-16 Continuing education credit; criteria for approval

Sec. 16. (a) Continuing education contact hour credit shall be given only for completed course work that has been approved by the commissioner according to the following:

(1) A training provider has submitted an application and received continuing education course approval from the commissioner before publicly offering a wastewater treatment continuing education course. The application:

(A) Must be submitted on a form approved by the commissioner;

(B) should be submitted for advance approval not less than 60 days before the first date when the course is conducted, but must be submitted not later than 90 days after training completion in order to be considered for approval;

(C) must be accompanied by a written course outline or brochure; and

(D) must contain:

(i) The name, address, and telephone number of a course sponsor, training provider, or other contact person;

(ii) the name of the course;

(iii) specific topics that are included in the course presentations;

(iv) the amount of time devoted to each topic;

(v) the instructor's name and qualifications,

including: (AA) educational background;

(BB) professional experience; and
(CC) current professional affiliation;
(vi) the schedule, anticipated locations, and number of times the training is anticipated to be offered;
(vii) the method of training delivery, such as on-site lecture, electronic means, or other means as specified by the training course provider; and
(viii) the method of attendance verification for record keeping and reporting, such as the following:
(AA) Sign in and sign out sheets.
(BB) Electronic tracking.
(CC) Date stamping.
(DD) Other means as specified by the training course provider.

(2) The wastewater treatment continuing education course meets the following requirements: (A) The course deals with one or more of the following as determined by the commissioner:
(i) Technical matters related directly to wastewater treatment plant and sewer system operations, maintenance, management, or supervision.
(ii) General matters that enhance the performance of the certified operator's responsibilities but are not directly related to wastewater treatment plant and sewer system operations, maintenance, management, or supervision.
(B) Each instructor and speaker is qualified by academic work or practical experience to teach the proposed wastewater treatment continuing education course.

(b) A certified wastewater treatment operator may petition the commissioner for approval of a wastewater treatment continuing education course if the following procedures are met:

(1) An application of petition is submitted to the commissioner prior to course completion or as soon as practical afterwards but not later than 90 days after training completion in order to be considered for approval.
(2) The application must contain the information required by subsection (a)(1)(A), (a)(1)(C), and
(a)(1)(D).
(3) The certified operator must supply written proof of attendance at the wastewater treatment continuing education course within 90 days following course completion.
(c) Credit will not be granted for repeating the same training course within a renewal period. (d) A certified operator who is an instructor or speaker at a wastewater treatment continuing education course shall be credited the same number of contact hours as the students of the course for not more than one presentation of the training.

(e) Partial credit shall not be given to:
(1) Instructors;
(2) speakers; or
(3) students;
participating in less than a complete wastewater treatment continuing education course.

327 IAC 5-22-17 Continuing education credit; training provider responsibilities

Sec. 17. (a) A training provider shall generate records of each wastewater treatment continuing education course conducted that include the following:

(1) The date of the wastewater treatment continuing education course.

(2) The name of each person in attendance at the wastewater treatment continuing education course.

(3) The length of time of the course.

(4) The instructor's name.

(5) The course name and approval number.

(6) The name of the organization sponsoring the course.

(b) Records required by subsection (a) shall be maintained for a three year period following the presentation of each wastewater treatment continuing education course.

(c) A training provider must submit the information required by subsection (a) to the commissioner according to the following:

(1) On a form approved by the commissioner.

(2) Within 90 days of the conclusion of the wastewater treatment continuing education course.

327 IAC 5-22-18 Suspension or revocation of certification

Sec. 18. (a) The commissioner may suspend or revoke the wastewater treatment certificate of a wastewater treatment certified operator, following a hearing under IC 4-21.5, if it is found that the certified operator has violated any provision of IC 13-18-11-8.

(b) During the period of certification suspension or revocation, a wastewater treatment plant operator who has had his or her wastewater treatment operator's certificate suspended or revoked may not do the following:

(1) Be designated as the operator in responsible charge or as an operator in responsible charge for a work shift.

(2) Supervise maintenance activities.

(3) Supervise laboratory testing.

(4) Collect, prepare, or sign self-monitoring documentation, including, but not limited to, the following:

(A) Laboratory bench sheets.

(B) State monthly monitoring reports.

(C) State monthly reports of operation.

(D) Federal discharge monitoring reports.

(E) Noncompliance notifications.

(F) Bypass/overflow reporting forms.

(G) Other wastewater treatment plant self-monitoring documentation.

(5) Be a training provider or course instructor of a continuing education course.

(c) A wastewater treatment plant operator who has had his or her operator's certificate suspended may apply for reinstatement of the operator's certificate according to the following:

(1) The period of suspension has expired.

(2) A written request for reinstatement is submitted to the commissioner with proof of the following:

(A) All requirements of the suspension have been met.

(B) The number of continuing education units that would have been required

for the operator's classification during the period of the suspension of the operator's certificate have been met.

(d) A wastewater treatment plant operator who has had his or her operator's certificate revoked may apply to the commissioner for recertification after a five year period. If the commissioner allows recertification, the wastewater treatment plant operator must:

(1) Qualify under this rule; and

(2) take the certification exam for the classification requested for recertification.

Section 4: IC 13-18-11 Operator Certification Statute

Below is the complete text of the Indiana Code applying to wastewater operator certification. The requirements of this statute are subject to revision by the Indiana General Assembly at any time:

IC 13-18-11-2 Classification of treatment plants

Sec. 2. The commissioner shall classify all water treatment plants, wastewater treatment plants, and water distribution systems actually used or intended for use:

(1) with due regard to the:

(A) size;

(B) type;

(C) character of wastes or water to be treated; and

(D) other physical conditions affecting those plants and systems; and

(2) according to the:

(A) skill;

(B) knowledge; and

(C) experience;

that the operator in responsible charge must have to successfully supervise the operation of those facilities so as to protect the public health.

IC 13-18-11-3 Plant operators

Sec. 3. The commissioner shall certify persons as to their qualifications to supervise successfully the operation of:

(1) water treatment plants;

(2) water distribution systems; and

(3) wastewater treatment plants.

IC 13-18-11-4 Certification of operators; department to administer examination at least once per year; authorization for third party examinations

Sec. 4. (a) The commissioner shall issue certificates attesting to the competency of operators. A certificate must indicate the classification of works, plant, or system that the operator is qualified to supervise.

(b) If the successful passage of a certification examination is generally required for the issuance of a particular certificate under this chapter, the department will administer the certification examination to candidates at least once per year.

(c) The commissioner may authorize an independent third party to administer certification examinations in addition to the examinations administered by the department under

subsection (b). A third party administering an examination under this subsection may require a candidate taking the examination to pay the third party a fee in addition to paying the department the fee required by section 5 of this chapter.

IC 13-18-11-5 Application; fees

Sec. 5. The commissioner shall prescribe and provide an application form for use by applicants in applying for the appropriate certificate issued under this chapter. An applicant must deposit a fee of $30 at the time of making application for certification.

IC 13-18-11-6.5 Triennial renewal of certificate

Sec. 6.5. (a) A wastewater treatment plant operator, water treatment plant operator, or water distribution system operator certified under this chapter may renew the operator's certificate triennially by:

(1) paying a renewal fee of $30; and

(2) meeting any continuing education requirements established under rules adopted by the board.

(b) The:

(1) fee is due and payable; and

(2) proof of compliance with the continuing education requirements must be submitted to the department; on or before the renewal date established under rules adopted by the board.

(c) A person who fails to renew a certificate under this section within one year after the date of the certificate expires may not receive a renewal certificate without reexamination.

IC 13-18-11-7 Notice of expiration

Sec. 7. (a) The commissioner shall notify each person certified as a wastewater treatment plant operator, water treatment plant operator, or water distribution system operator under this chapter of the following:

(1) The date of the expiration of the operator's certificate.

(2) The amount of the required fee for renewal for three years.

(3) The continuing education required for renewal of the operator’s certificate for three years

(b) The commissioner shall provide the notice at least one month in advance of the date of expiration of the person's certificate.

IC 13-18-11-8 Suspension or revocation

Sec. 8. (a) The commissioner may suspend or revoke the certificate of an operator issued under this chapter, following a hearing under IC 13-15-7-3 and IC 4-21.5, if any of the following conditions are found:

(1) The operator has practiced fraud or deception in any state or other jurisdiction.

(2) Reasonable care, judgment, or the application of the operator's knowledge or ability was not used in the performance of the operator's duties.

(3) The operator is incompetent or unable to properly perform the operator's duties.

(4) A certificate of the operator issued:

(A) under this chapter; or

(B) by any other state or jurisdiction for a purpose comparable to the purpose for which a certificate is under this chapter; has been revoked.

(5) The operator has been convicted of a crime related to a certificate of the operator issued:

(A) under this chapter; or

(B) by any other state or jurisdiction for a purpose comparable to the purpose for which a certificate is under this chapter.

(b) A hearing and further proceedings shall be conducted in accordance with IC 4-21.5-7.

IC 13-18-11-9 Issuance of certificates to operators from other states and territories; reciprocity

Sec. 9. The commissioner may, upon receipt of an application and payment of the fee, issue a certificate without examination in a comparable classification to any person who holds a certificate in any state or territory of the United States if:

(1) the requirements for certification of operators under which the person's certificate was issued:

(A) do not conflict with this chapter; and

(B) are of a standard not lower than that specified by this chapter and the rules adopted under this chapter; and

(2) the state or territory in which the person holds a certificate grants reciprocal privileges to certified operators of Indiana.

IC 13-18-11-10 Plant operators; certificates of competency; exceptions

Sec. 10. (a) Certificates in appropriate classification shall be issued upon application and payment of the fee to operators of wastewater treatment plants who, on July 1, 1968, hold certificates of competency attained by examination under the voluntary certification program administered by:

(1) the Indiana Water Pollution Control Association; or

(2) the Indiana Section, American Water Works Association.

However, application for a certificate under this subsection must be made not later than July 1, 1969.

(b) Certificates of proper classification shall be issued upon payment of the fee without examination to each person certified by the governing body or owner to have been in direct responsible charge of the wastewater treatment plant on July 1, 1968. A certificate issued under this subsection is valid only for that particular wastewater treatment plant, which the certificate must indicate.

IC 13-18-11-11 Plant supervision by certified plant operator; exceptions

Sec. 11. (a) All water or wastewater treatment plants and water distribution systems, whether publicly or privately owned, must be under the supervision of an operator whose competency is certified to by the commissioner in a classification corresponding to the classification of the plant or distribution system to be supervised. However, this section does not prohibit a governmental agency, a corporation, or an individual from continuing to employ in that capacity a person in responsible charge of the operations of the works if the person is certified under section 10 of this chapter.

(b) A certified operator may supervise more than one plant or system if it can be

shown that adequate supervision to ensure safe and effective operation is provided for all plants and systems supervised.

IC 13-18-11-12 Plant operators; vacancies; provisional certification

Sec. 12. (a) When a vacancy in a position of operator occurs due to death, resignation, extended illness, or a similar cause, the vacancy may be filled for a period not exceeding one year by an operator with a provisional certification.

(b) On written request of the governing body or owner of a wastewater or public water system, the commissioner may issue a provisional certification under subsection (a) to a person with the required education and experience qualifications, until the person has had an opportunity to qualify by examination and be certified under this chapter.

IC 13-18-11-13 Rules

Sec. 13. The board shall adopt rules under IC 4-22-2 and IC 13-14-9 that are necessary to carry out the intent of this chapter. The rules must include the following:

(1) Provisions establishing the basis for classification of water treatment plants, water distribution systems, and wastewater treatment plants.

(2) Provisions establishing qualifications of applicants and procedures for examination of candidates.

(3) Provisions concerning fees for certification examinations.

(4) Other provisions that are necessary for the administration of this chapter.

IC 13-18-11-14 Plant operation by certified operators

Sec. 14. (a) A person, firm, or corporation, whether municipal or private, may not operate a water or wastewater treatment plant or a water distribution system unless the commissioner has certified the operator in responsible charge under this chapter.

(b) A person may not perform the duties of an operator in responsible charge of works described in subsection (a) without being certified under this chapter.

IC 13-18-11-15 Fees; deposit

Sec. 15. All fees collected under this chapter shall be deposited with the treasurer of state.

IC 13-18-11-16 Violations

Sec. 16. A person who violates this chapter commits a Class C infraction. Each day of violation of this chapter constitutes a separate infraction.

Chapter IV: NPDES Permit Program and Wetlands Information

Wastewater, stormwater and wetlands are managed through IDEM's Office of Water Quality. If you treat or process wastewater; if you are responsible for controlling stormwater run-off at your work site, place of business or in your community; or if you have project plans that involve working in water or wetlands, you may need a permit from IDEM's Office of Water Quality. Working with IDEM to obtain the correct permit will help you stay in compliance with environmental regulations. Failing to apply for an IDEM permit or operating without the correct type of permit are violations which may subject you to enforcement action. Please visit the links here to learn about the various water permit programs we manage and contact our staff to discuss specific requirements. NPDES and stormwater:
http://www.in.gov/idem/cleanwater/2429.htm
Wetlands: https://www.in.gov/idem/wetlands/index.htm

Chapter V: Reporting

Self-Monitoring Report Forms

Note: The operator exam DMR/MRO practice worksheet and accompanying documents will aid in correct completion of the monthly reports. These are located in Appendices A, B, C, and D of this document, beginning on page 71. There will be exam questions based on this type of material.

Self-Monitoring Reports

NPDES Permits require submittal of self-monitoring reports. These reports may include Discharge Monitoring Reports (DMR), Monthly Monitoring Reports (MMR), Monthly Reports of Operation (MRO), Combined Sewer Overflow Monthly Report of Operation (CSO MRO) and Combined Sewer Overflow Discharge Monitoring Reports (CSO DMR). These are generally submitted monthly but may be at different time intervals according to the NPDES permit.

MRO and MMR forms are available in Excel format from IDEM. These Excel spreadsheet forms will do most of the calculations automatically. Use of this format is dependent on the user having access to a computer with Microsoft Excel installed. Those who use IDEM's Excel MRO forms should check our web site for the updated forms developed for each calendar year.

DMRs specific to each facility are submitted electronically to IDEM. The following link (http://www.in.gov/idem/5157.htm) will take you to the web page where these forms are located. You will need to scroll down to Office of Water Quality/Wastewater Facility:

1. Instructions for completion of the Monthly Monitoring Report (MMR)
2. MMR – Industrial Plant
3. MRO – Activated Sludge Type Wastewater Treatment Plant
4. MRO – Trickling Filter or RBC Wastewater Treatment Plant
5. MRO – Sequencing Batch Reactor Wastewater Treatment Plant
6. MRO – Package Type Wastewater Treatment Plant
7. MRO – Lagoon Type Wastewater Treatment Plant
8. MRO – Vertical Loop Reactor
9. CSO MRO – CSO Monthly Report of Operations and instructions

Overflow Reporting

The following is a summary of the reporting requirements regarding overflows from combined sewers during dry weather and from sanitary sewer systems.

Any release of raw sewage from a sanitary collection system prior to a treatment plant constitutes a sanitary sewer overflow (SSO). Every system in the state is vulnerable to, and has the potential to, have an SSO. Most SSOs occur as a result of pipe blockages or breaks, excessive infiltration and inflow, or power failures. SSOs threaten public health, public and private property, and surface and ground waters. All SSOs are prohibited and must be promptly reported to the Indiana Department of Environmental Management (IDEM), Office of Water Quality.

Should a combined sewer overflow not caused solely by rainfall or an SSO release occur, the facility is required to notify IDEM's Office of Water Quality within 24 hours of becoming aware of the event and in writing within five days of the event. The information provided must include the location, duration, estimated volume and cause of discharge as well as the remedial action taken to eliminate it. The best way to comply with both reporting requirements is to email the

Bypass/Overflow Incident Report to wwreports@idem.IN.gov within 24 hours of becoming aware of the event. If the discharge is resulting in a fish kill or other severe environmental damage, the release must be immediately reported to the spill response line (the phone number (888-233-7745) is found on the State Form 48373). All overflows must also be reported on the monthly reports.

In most cases, diversion from combined sewers though permitted CSO outfalls solely caused by rainfall are only reported on the monthly reports of operations and the CSO discharge monitoring report forms.

This link (http://www.in.gov/idem/5157.htm) will take you to the web page where the following forms are located:

1. Bypass/Overflow Incident Report (Form 48373):
https://forms.in.gov/Download.aspx?id=5462

2. Noncompliance 24-Hour Notification Report (Form 52415):
https://forms.in.gov/Download.aspx?id=6423

Chapter VI: Associated Topics for Wastewater Treatment

Section One:

This link goes directly to the "Rules" area of IDEM's web site and provides information regarding IDEM rule changes or proposed rule changes which may affect NPDES permit holders: IDEM: Legal Counsel: Title 327 - Water Pollution Control Division (in.gov)

Section Two: Laboratory QA/QC Manual Available Online

There is a Quality Assurance/Quality Control manual available for use by NPDES permittees. The manual is available online at IDEM's website, the specific web address is: http://in.gov/idem/cleanwater/files/wastewater_comp_qaqc_manual.doc

This manual is available as a guidance document for laboratory personnel. The manual contains quality assurance and quality control information, detailed methods for the basic parameters that are reportable with a National Pollutant Discharge Elimination System (NPDES) permit, checklists, and sample bench sheets. This manual should be considered a tool, which a wastewater laboratory can utilize to generate quality data.

The principal parameters monitored and reported for municipal permits include Total Suspended Solids, pH, Carbonaceous Biochemical Oxygen Demand and may also include Total Residual Chlorine, and/or Nitrogen as Ammonia, and/or Total Phosphorus. Other municipal permit parameters will include, but are not limited to, *Escherichia coli* (*E.coli*), certain metals and oil and grease.

It is an old axiom that the result of any test procedure can be no better than the sample on which is it performed. Obtaining good results will depend to a great extent upon five major activities:

1. Collecting representative samples
2. Proper sample handling and preservation
3. Adhering to adequate chain-of-custody and sample identification
4. Adequate quality assurance and quality control
5. Properly analyzing the sample

These areas are equally important for insuring the NPDES reported data is of the highest validity and quality.

Monitoring and reporting effluent discharges under a (NPDES) permit requires the use of specific test methods. These approved method numbers can be found in the latest edition of the CODE OF FEDERAL REGULATIONS, PROTECTION OF THE ENVIRONMENT, 40, Part 136. Only these methods are allowed for reporting purposes on the Discharge Monitoring Report (DMR) and the Monthly Report of Operations (MRO). Not every approved method is contained in the IDEM QA/QC Manual. Most of the methods identified by number can be found in *Standard Methods for the Examination of Water and Wastewater.* Whatever approved method is utilized in the laboratory should be part of a written SOP and kept in every wastewater laboratory.

The Sacramento Book: Operation of Wastewater Treatment Plants, Volume 2 (page 502 in the 7th edition) (Book 2 on the IDEM Wastewater Operator Certification Book List web page) states that the proper preservation method for BOD is to refrigerate at 4 degrees C, while 40 CFR 436 calls for 6 degrees C. Note that 40 CFR 436 is the definitive source of this information and if a question concerning

proper refrigeration temperature should appear on your exam, the correct answer will be 6 degrees C.

Certain test methods may be specified for certain parameters in the NPDES permit. The methods specified will be capable of detecting that parameter at the limits imposed in the permit. If a method is not specified and doubt arises as to the acceptability of the method, call IDEM's Office of Water Quality, Compliance Evaluation Section.

Section Three: Safety and Security

EPA Water Protection Task Force
Alert #IV: What Wastewater Utilities Can Do Now to Guard Against Terrorist and Security Threats

October 24, 2001

What is the Water Protection Task Force?

In October 2001, EPA established a Water Protection Task Force to ensure that activities to protect and secure water supply infrastructure are comprehensive and carried out expeditiously. The members of this group have proven expertise in different areas of water protection. As needed they will be sending alerts on issues related to protecting water infrastructure nationwide.

What is this alert?

One consequence of the events of September 11th is a heightened concern among citizens in the United States over the security of their critical wastewater infrastructure. The nation's wastewater infrastructure consisting of approximately 16,000 publicly owned wastewater treatment plants, 100,000 major pumping stations, 600,000 miles of sanitary sewers and another 200,000 miles of storm sewers, is one of America's most valuable resources, with treatment and collection systems valued at more than $2 trillion. Taken together, the sanitary and storm sewers form an extensive network that runs near or beneath key buildings and roads, and is continuous to many communication and transportation networks. Significant damage to the nation's wastewater facilities or collection systems would result in: loss of life, catastrophic environmental damage to rivers, lakes and wetlands, contamination of drinking water supplies, long term public health impacts, destruction of fish and shellfish production, disruption to commerce, the economy and our normal way of life.

Although many wastewater utilities have already taken steps to increase security, the following recommendations provide many straightforward, commonsense actions to increasing security and reducing threats from terrorism. Many of these actions are recommended by the Association of Metropolitan Sewer Agencies, the Water Environment Federation, and other leading professional organizations. The recommendations include:

I. Guarding against Unplanned Physical Intrusion

- Lock all doors and set alarms at your office, pumping stations, treatment plants, and vaults, and make it a rule that doors are locked and alarms are set;
- Limit access to facilities and control access to pumping stations, chemical and fuel storage areas, giving close scrutiny to visitors and contractors;
- Post guards at treatment plants, and post "Employee Only" signs in restricted areas;
- Control access to storm sewers;
- Secure hatches, metering vaults, manholes and other access points to the sanitary

collection system;
- Increase lighting in parking lots, treatment bays, and other areas with limited staffing;
- Control access to computer networks and control systems, and change the passwords frequently;
- Do not leave keys in equipment of vehicles at any time.

II. Making Security a Priority for Employees

- Conduct background security checks on employees at hiring and periodically thereafter;
- Develop a security program with written plans and train employees frequently;
- Ensure all employees are aware of communications protocols with relevant law enforcement, public health, environmental protection, and emergency response organizations;
- Ensure that all employees are fully aware of the importance of vigilance and the seriousness of breaches in security, and make note of unaccompanied strangers on the site and immediately notify designated security officers or local law enforcement agencies;
- Consider varying the timing of operational procedures if possible so if someone is watching the pattern changes;
- Upon the dismissal of an employee, change passcodes and make sure keys and access cards are returned;
- Provide Customer Service staff with training and checklists of how to handle a threat if it is called in.

III. Coordinating Actions for Effective Emergency Response

- Review existing emergency response plans, and ensure they are current and relevant;
- Make sure employees have necessary training in emergency operating procedures;
- Develop clear protocols and chains-of-command for reporting and responding to threats along with relevant emergency management, law enforcement, environmental, public health officials, consumers and the media. Practice the emergency protocols regularly;
- Ensure key utility personnel (both on and off duty) have access to crucial telephone numbers and contact information at all times. Keep the call list up to date;
- Develop close relationships with local law enforcement agencies, and make sure they know where critical assets are located. Request they add your facilities to their routine rounds;
- Work with local industries to ensure that their pretreatment facilities are secure;
- Report to county or State health officials any illnesses among the employees that might be associated with wastewater contamination;
- Report criminal threats, suspicious behavior, or attacks on wastewater utilities immediately to law enforcement officials and the relevant field office of the Federal Bureau of Investigation.

IV. Investing in Security and Infrastructure Improvements

- Assess the vulnerability of collection system, major pumping stations, wastewater treatment plants, chemical and fuel storage areas, outfall pipes, and other key infrastructure elements;
- Assess the vulnerability of the stormwater collection system. Determine where large pipes run near or beneath government buildings, banks, commercial districts, industrial facilities, or are contiguous with major communication and transportation networks;

- Move as quickly as possible with the most obvious and cost-effective physical improvements, such as perimeter fences, security lighting, tamper-proofing manhole covers and valve boxes, etc.;
- Improve computer system and remote operational security;
- Use local citizen watches;
- Seek financing for more expensive and comprehensive system improvements.

While wastewater utilities are the key to improving security of our wastewater treatment plants and collection systems, EPA, other Federal agencies, and both industry and managerial trade associations also provide help and support. EPA is working with AMSA and other groups to develop training courses and technical materials for wastewater utilities and State personnel on assessing vulnerabilities and improving security. EPA is working collaboratively with the Association of Metropolitan Water Agencies and other groups to develop an Information Sharing and Analysis Center to bolster coordinated notification and response to threats and vulnerabilities at both water and wastewater facilities. A number of technical projects are underway to help increase security of the nation's critical wastewater infrastructure.

Appendix A

Completing the Discharge Monitoring Report (DMR)/Monthly Report of Operations (MRO)

WORKSHEET

The following discussion and questions relate to issues encountered each month by the operator who completes the monthly reports of sampling results submitted to IDEM through NetDMR, and using IDEM's Excel MRO forms. Similar questions are included on the Operator Exam.

Examples of a NetDMR data entry page, IDEM MRO and permit page to be used in this exercise are found immediately following this worksheet as Appendix B, Appendix C and Appendix D.

This exercise details how to complete the NetDMR data entry page (Appendix B) using information from the MRO (Appendix C). These rules would apply to most parameters.

Note #1: About "permit requirement" values which are preprinted on the DMRs: These permit requirements or limits are found in Part I of each NPDES permit. Some parameters will have summer and winter limits which differ. The sample permit page (Appendix D) shows the limits applicable to this exercise.

Note #2: About how many digits to record in NetDMR: When recording the values on the DMR from the MRO only record the value in the same number of digits that is contained in the permit. For example, if the permit limit is 17.8 and the actual test result written on the MRO is 11.473, then you will enter on the DMR a value with the same number of digits as the permit limit, in this case record 11.5 (apply all standard rules of "rounding").

Using the MRO (Appendix C), complete the information needed on the NetDMR data entry page for the parameter "Solids, total suspended" (TSS). There are four blanks to fill out.

- First look at the QUANTITY OR LOADING row at the top of the DMR (Appendix B). Under the column titled "Value 1," the number to be recorded is the TSS Monthly Average value. The "permit requirement" (effluent limit) for the month is already entered; it shows "19.5 Mo. Ave." Using the MRO (Appendix C) find the column for "**Susp. Solids – lbs./day**". Following that column to the bottom "**Avg**" is the calculated average of all measurements taken for the month. Record that value on the DMR in "Box 1" on the example page. (Check Note#2 for guidance on rounding).
- The next QUANTITY OR LOADING value to record for TSS is the maximum weekly average. The "permit requirement" for the month is already entered, it shows "29.3". Using the MRO find the column for "**Susp. Solids – lbs./day Weekly Average**", there are four weekly averages calculated. Record the highest value on the DMR in "Box 2". (Check Note#2).
- Moving next to QUALITY OR CONCENTRATION. The value to record on the NetDMR data entry page (Box 3 in the example page) is the Monthly Average value. The "permit requirement" for the month is already entered, it shows "30". Using the MRO find the column for "**Susp Solids – mg/L**". Following that column to the bottom "**Avg**" is the calculated average of all measurements taken for the month. Record that value on the DMR in "Box 3". (Check Note#2).
- The last QUALITY OR CONCENTRATION value to record is the maximum weekly average. The "permit requirement" for the month is already entered; it shows "45". Using the MRO find the column for "**Susp. Solids – mg/L Weekly Average**". Record the highest value on the DMR in "Box 4". (Check Note#2)

Based on the above discussion and Appendices B, C, and D, the following are sample questions as they might appear on the exam (although in the exam, all questions are multiple choice):

1. Do any of the four values recorded on the DMR exceed the permit limits?

Answer: Yes, the Quantity or Loading Maximum Weekly Average value exceeded the permit requirement.

2 What would the number of exceedances or "NO.EX" value for TSS be? (Box 5 on the DMR)

Answer: The number recorded on the DMR for Maximum Weekly Average would be the highest of the weekly averages which have been calculated on the MRO. Since the number already appearing in that box is a violation that counts as one. However if other weekly averages exceed the permit requirement, they should also be included in the number of exceedances to be recorded in Box 5. In this case the MRO shows another weekly average also exceeded the permit requirement. Therefore, the number of exceedances or NO.EX for that parameter would be "2".

3. The DMR already shows a "Frequency of Analysis" as "Twice every week", which can be written as "2/7". In this case, what frequency of analysis should be written on the DMR?

Answer: Use the MRO to find out how often analysis was actually done each week for TSS, which may or may not be the same as the permit requirement since it is common to sample more frequently than required by the permit, especially if high results are being seen and you are trying to diagnose what is wrong. The standard NPDES sampling week begins on Sunday and ends on Saturday. The example MRO shows that five samples were analyzed each week. So the correct Frequency of Analysis number for this month should be written on the DMR is "5/7".

4. What is the TSS weekly average in mg/L for the week that includes February 11th?

Answer: Since the NPDES sampling week begins on Sunday and ends on Saturday, the week beginning on Sunday the 10th and ending on Saturday the 16th, the MRO has calculated a weekly average of 14.

5. The last row on the sample DMR asks for "Flow, total". What is the total flow in February?

Answer: You could take the time to total the values in the first column of the MRO, however the total flow has already been calculated for you by the MRO form on the right side in the MONTHLY REMOVAL SUMMARY box at the bottom of the MRO. The flow on the MRO is already in "million gallons" just as should be recorded on the DMR. The total flow for February is 2.618 million gallons.

6. With regard to Effluent Flow, the "Avg" for the month is 0.09028 MGD, how many gallons is this?

Answer: Multiply 0.09028 MGD by 1,000,000, result: 90,280 gallons.

Appendix B: Sample NetDMR data entry page

Home | My Account | Request Access | Help | Logout

User:valentaj, Permittee User

NetDMR Network Discharge Monitoring Report

Indiana DEM

Edit DMR

Collapse Header

Permit

Permit ID: IN00

Permittee: WWTP

Facility: WWTP

Permitted Feature: 001 - External Outfall

Major:

Permittee Address:

Facility Location:

Discharge: ACTIVATED SLUDGE - TO RIVER

Report Dates & Status

Monitoring Period: From 04/01/22 to 04/30/22

Status: Ready for Data Entry

DMR Due Date: 05/28/22

Principal Executive Officer

First Name:

Title:

Last Name:

Telephone:

No Data Indicator (NODI)

Form NODI:

Parameter Code	Parameter Name	NODI	Quantity or Loading Value 1	Quantity or Loading Value 2	Quantity or Loading Units	Quality or Concentration Value 1	Quality or Concentration Value 2	Quality or Concentration Value 3	Quality or Concentration Units	# of Ex.	Freq. of Analysis	Smpl. Type
00300	Oxygen, dissolved [DO]	Smpl.				-			mg/L		01/01	G8
1 - Effluent Gross												
Season: 2		Req.				>= 4.0 Daily Average Minimum			Milligrams per Liter		Daily	GRAB-8
NODI:		NODI										
00400	pH	Smpl.				-		-	SU		01/01	GR
1 - Effluent Gross												
Season: 0		Req.				>= 6.0 Daily Minimum		<= 9.0 Daily Maximum	Standard Units		Daily	GRAB
NODI:		NODI										
00530	Solids, total suspended	Smpl.	- Box 1	- Box 2	lb/d		- Box 3	- Box 4	mg/L Box 5		01/01	24
1 - Effluent Gross												
Season: 2		Req.	19.5 Monthly Average	<= 29.3 Maximum Weekly Average	Pounds per Day		<= 30.0 Monthly Average	<= 45.0 Maximum Weekly Average	Milligrams per Liter		Daily	COMP24
NODI:		NODI										
00610	Nitrogen, ammonia total [as N]	Smpl.	-	-	lb/d		-	-	mg/L		01/01	24
1 - Effluent Gross												

Appendix C: Sample MRO

MONTHLY REPORT OF OPERATION
ACTIVATED SLUDGE TYPE WASTEWATER
TREATMENT PLANT

State Form 10829 (R4 / 02-19)

Name of Facility	Permit Number	For Month Of:	Year
Exampleville	IN0000000	April	2022

Appendix C Sample MRO

		FINAL EFFLUENT															
		Flow		BOD				Total Suspended Solids				Ammonia				Phosphorus	
Day Of Month	Day of Week	Effluent Flow Rate (MGD)	Effluent Flow Weekly Average	CBOD5 - mg/l	CBOD5 - mg/l Weekly Average	CBOD5 - lbs/day	CBOD5 - lbs/day Weekly Average	Susp. Solids - mg/l	Susp. Solids - mg/l Weekly Average	Susp. Solids - lbs/day	Susp. Solids - lbs/day Weekly Average	Ammonia - mg/l	Ammonia - mg/l Weekly Average	Ammonia - lbs/day	Ammonia - lbs/day Weekly Average	Phosphorus - mg/l	Phosphorus - lbs/day
1	Fri	0.171															
2	Sat	0.16															
3	Sun	0.07						8		4.673							
4	Mon	0.09						5		3.755							
5	Tue	0.07															
6	Wed	0.065															
7	Thu	0.06						6		3.004							
8	Fri	0.062						7		3.622							
9	Sat	0.06	0.0681					8	8.2	4.006	4.124						
10	Sun	0.056						9		4.206							
11	Mon	0.063						11		5.783							
12	Tue	0.06						15		7.511							
13	Wed	0.06															
14	Thu	0.063						18		9.463							
15	Fri	0.062						17		8.796							
16	Sat	0.059	0.06043						14		7.1517						
17	Sun	0.056															
18	Mon	0.15						35		43.81							
19	Tue	0.16															
20	Wed	0.14						45		52.57							
21	Thu	0.11						35		32.13							
22	Fri	0.08						33		22.031							
23	Sat	0.065	0.10871					36	36.87	19.527	34.014						
24	Sun	0.065						36		19.527							
25	Mon	0.17						29		41.141							
26	Tue	0.146						37		45.08							
27	Wed	0.09						39		29.291							
28	Thu	0.077	0.1096					33	34.8	21.205	31.249						
		0.078															
Avg		0.09028						23.1		19.057							
Max		0.171	0.1096					45	36.8	52.574	34.014						
Min		0.056	0.06043					5	6.8	3.0042	3.812						
Data		28	4	0	0	0	0	20	4	20	4	0	0	0	0	0	0

MONTHLY REMOVAL SUMMARY				
Percent Removal	BOD5	S.S.	Ammonia	Phosphorus
Primary Treatment	NA	NA		
Secondary Treatment	NA	NA		
Tertiary Treatment	NA	NA		
Overall Treatment	NA	NA	NA	NA

Total Monthly Flow:
(million gallons) 2.618

Percent Capacity
(actual flow/design) 116%

Page 3 of 6

Appendix D: Sample Permit Page

TREATMENT FACILITY DESCRIPTION

The permittee currently operates a Class I, 0.078 MGD extended aeration treatment facility consisting of screening, two aeration tanks, two final clarifiers, ultraviolet light disinfection, post aeration, an effluent flow meter and an aerobic digester.

The collection system is comprised of 100% separate sanitary sewers by design with no overflow or bypass points.

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The permittee is authorized to discharge from the outfall listed below in accordance with the terms and conditions of this permit. The permittee shall take samples and measurements at a location representative of each discharge to determine whether the effluent limitations have been met. Refer to Part I.B of this permit for additional monitoring and reporting requirements.

1. Beginning on the effective date of this permit, the permittee is authorized to discharge from Outfall 001, which is at Latitude: 20.7076. Longitude: -156.2565. The discharge is subject to the following requirements:

TABLE 1

	Quantity or Loading			**Quality or Concentration**			**Monitoring Requirements**	
Parameter	Monthly Average	Weekly Average	Units	Monthly Average	Weekly Average	Units	Measurement Frequency	Sample Type
Flow [1]	Report	Report	MGD	----	----	----	5 X Weekly	24-Hr. Total
$CBOD_5$								
Summer [2]	13.0	19.5	lbs./day	20	30	mg/l	2 X Weekly	24-Hr. Composite
Winter [3]	16.3	26.0	lbs./day	25	40	mg/l	2 X Weekly	24-Hr. Composite
TSS								
Summer [2]	15.6	23.4	lbs./day	24	36	mg/l	2 X Weekly	24-Hr. Composite
Winter [3]	19.5	29.3	lbs./day	30	45	mg/l	2 X Weekly	24-Hr. Composite
Ammonia-nitrogen								
Summer [2]	0.8	1.2	lbs./day	1.2	1.8	mg/l	2 X Weekly	24-Hr. Composite
Winter [3]	1.2	1.9	lbs./day	1.9	2.9	mg/l	2 X Weekly	24-Hr. Composite

Appendix E

For information only – NOT included on the wastewater exam
Information concerning BIOSOLIDS Management

327 IAC ARTICLE 6.1: Application of Biosolid, Industrial Waste Product, and Pollutant-Bearing Wastewater. Items numbered 1 through 27 concern terms defined in this rule.

1) A land application permit regulates the disposal of any biosolid, contaminant that is an industrial waste product, or pollutant-bearing water by application upon or incorporation into the soil, per 327 IAC 6.1-1-1(b).

2) "Aerobic digestion" or "aerobic process" is the biochemical decomposition of organic matter into carbon dioxide and water by microorganisms in the presence of oxygen, per 327 IAC 6.1-2-2.

3) "Agricultural land" means land used for the production of a food crop, production of a feed crop, production of a fiber crop, production of trees for harvest, pasture for animals, per.327 IAC 6.1-2-3.

4) "Anaerobic digestion" or "anaerobic process" is the biochemical decomposition of organic matter into methane gas and carbon dioxide by microorganisms in the absence of oxygen, per 327 IAC 6.1-2-4.

5) "Annual pollutant loading rate" means the maximum amount of an inorganic pollutant that can be applied to any land during a 365 day period, per 327 IAC 6.1-2-5.

6) "Beneficial use" means the use of a material for fertilizing or soil conditioning properties to:
(a) Provide nutrients for growing plants or crops;
(b) Increase organic matter;
(c) Provide pH adjustment capabilities; OR
(d) Provide other benefits to the soil or crops as shown to the satisfaction of the commissioner through an approved research or demonstration project under 327 IAC 6.1-4-19, per 327 IAC 6.1-2-6

7) "Biosolid" means solid, semisolid, or liquid residue generated during the treatment of domestic sewage in a treatment works. Examples include the following:
(a) Scum or solids removed in primary, secondary, or advanced wastewater treatment processes.
(b) A material derived from biosolid.
(c) An industrial waste product that contains domestic sewage or material under (a) or (b) above. Biosolid does not include ash generated during the firing of biosolid in a biosolid incinerator or grit and screenings generated during preliminary treatment of domestic sewage in a treatment works. Source: 327 IAC 6.1-2-7.

8) "Disinfection" means the destruction, neutralization, inhibition, inactivation or removal of pathogenic microorganisms by chemical, physical or biological means, per 327 IAC 6.1-2-15.

9) “Freeboard” means the distance between the top of the stored biosolid, industrial waste product, or pollutant-bearing water and the overflow level of the storage structure, per 327 IAC 6.1-2-24.

10) “Incorporated into the soil” is the mixing of the biosolid or industrial waste product with the surface soil using standard agricultural practices such as tillage, per 327 IAC 6.1-2-27.

11) “Industrial waste product” is:
(a) Material that is not considered biosolid or pollutant-bearing water under this article.
(b) Material that is generated as waste in the production process and may be disposed of through:
    (1) Surface application;
    (2) Injection; OR
    (3) Incorporation into the soil.
(c) Material that meets the following criteria:
    (1) Is a solid waste as defined under 329 IAC 10-2-174.
    (2) Does not include material from any processes listed in 329 IAC 10-3-1.
    (3) Is used for a beneficial use as defined under 327 IAC 6.1-2-6;
As defined at 327 IAC 6.1-2-30.

12) “Injection” means the direct, uniform placement of biosolid, industrial waste product, or pollutant-bearing water beneath the surface of the soil using equipment specifically for this purpose, per 327 IAC 6.1-2-31.

13) “Land application” is the beneficial use of a biosolid, industrial waste product, or pollutant-bearing water by:
(a) Spraying or spreading onto the land surface;
(b) Injection below the land surface; OR
(c) Incorporation into the soil;
As defined at 327 IAC 6.1-2-32.

14) “Land with a high potential for public exposure” is any land that:
(a) Does not have restricted access;
(b) is easily accessible to the public; OR
(c) Is used by the public during normal work or recreational activities.
As defined at 327 IAC 6.1-2-34(a).

15) “Pasture” means land on which animals feed directly on vegetation, such as legumes, grasses, stubble, or stover, per 327 IAC 6.1-2-38.

16) “Pathogenic organisms” are disease-causing organisms, including the following:
(a) Certain bacteria.
(b) Protozoa.
(c) Viruses.
(d) Viable helminth ova.
(e) Fungi.
(f) Other disease-causing organisms;

As defined at 327 IAC 6.1-2-39.

17) “pH” means the logarithm of the reciprocal of the hydrogen ion concentration, as defined at 327 IAC 6.1-2-44.

18) “Set aside” or “idle” is agricultural land upon which no crop is grown during a crop season, as defined at 327 IAC 6.1-2-49.

19) “Staging” is the temporary placement of a dewatered biosolid or industrial waste product in a pile for less than 24 hours at the site where the dewatered biosolid or industrial waste product will be land applied, as defined at 327 IAC 6.1-2-51.

20) “Stockpiling” is defined by 327 IAC 6.1-2-54 as the temporary placement of a dewatered biosolid or industrial waste product in a pile for more than 24 hours but less than five working days at the land application site in accordance with an approved management plan.

21) “Storage” is defined by 327 IAC 6.1-2-55 as containment of biosolid, industrial waste product, or pollutant-bearing water for a period of two years or less at the following:
(a) Treatment plant.
(b) Generating facility.
(c) Approved off-site storage structure or earthen lagoon.

22) “Unstabilized solids” are defined by 327 IAC 6.1-2-58 as organic materials in biosolid that have not been treated in:
(a) An aerobic treatment process; OR
(b) An anaerobic treatment process.

23) “Vector attraction,” is defined at 327 IAC 6.1-2-59 as the characteristic of biosolid that attracts:
(a) Rodents;
(b) Flies;
(c) Mosquitoes; or
(d) Other organisms capable of transporting infectious agents.

24) “Volatile solids” are defined at 327 IAC 6.1-2-60as the amount of the percent total solids in biosolid or pollutant-bearing water lost when the biosolid or pollutant-bearing water is combusted at 550°C in the presence of excess oxygen.

25) “Wetlands” are defined at 327 IAC 6.1-2-62 as those areas that are inundated or saturated by surface water or ground water at a frequency and duration to support and that, under normal circumstances, do support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include the following:
(a) Swamps.
(b) Marshes.
(c) Bogs.
(d) Similar areas.

26) “Windrow composting” is defined at 327 IAC 6.1-2-63 as a process where biosolid is composted in long rows that are aerated by convective air movement and diffusion and turned periodically as required in 327 IAC 6.1-4-14 by mechanical means to expose the organic matter to ambient oxygen.

27) “Within-vessel” is defined at 327 IAC 6.1-2-64 as biological stabilization of biosolid under controlled aerobic conditions in a closed vessel or an enclosed structure.

28) How many days prior to the land application of sludge should a municipality apply for the renewal of an existing or for a new land application permit?

A permit application must be submitted at least 180 days prior to the proposed commencement of the operation, as required by 327 IAC 6.1-3-1(b)

29) What is the maximum duration of a land application permit?

Except as specifically provided for elsewhere in this article or by Indiana statute, permits may be issued by the commissioner for any period of time not to exceed five years as specified by IC 13-15-3. Source: 327 IAC 6.1-3-4

30) What is the procedure to transfer a permit issued under 327 IAC 6.1?

(a) The permittee notifies the commissioner of the proposed transfer at least 45 days prior to the date of the proposed transfer of the permit; AND
(b) A written agreement is submitted to the commissioner containing the information specified in 327 IAC 6.1-3-5(a)(2)(B). Source: 327 IAC 6.1-3-5(a)

31) Application of a biosolid or industrial waste product must not be conducted within 300 feet of any waters of the state except by subsurface injection or incorporation by the end of the day. Source: 327 IAC 6.1-4-6(a)

32) Application of a biosolid or industrial waste product must not be conducted within 300 feet of residence, except by subsurface injection. Source: 327 IAC 6.1-4-6(a)

33) Application of a biosolid or industrial waste product must not be conducted within 50 feet of any well. Source: 327 IAC 6.1-4-6(a)

34) Application of a biosolid or industrial waste product must not be conducted within 200 feet of a potable water well or drinking water spring. Source: 327 IAC 6.1-4-6(a)

35) Application of a biosolid or industrial waste product must not be conducted within 50 feet of the property line of any public building or public or nonpublic school.
Source: 327 IAC 6.1-4-6(a)

36) Liquid biosolid or industrial waste product may be applied by surface application on slopes that are no greater than eighteen per cent (18%). Source: 327 IAC 6.1-4-6(c)

37) Site restrictions for the land application of biosolid or industrial waste product must not be applied to land unless there is a minimum depth of Twenty inches of soil

overlying bedrock. Source: 327 IAC 6.1-4-6(d)

38) A farmer must wait fourteen months after application of a biosolid on land used for the production of food before harvesting a food crop if the harvested part (1) touches the ground where the biosolid has been applied; and (2) has no harvested parts below the soil surface. Source: 327 IAC 6.1-4-7(a)

39) Grazing of animals on land that has received biosolid is prohibited for thirty days after the application of biosolid. Source: 327 IAC 6.1-4-7(e)

40) Except for a Class A biosolid under section 13(b) of this rule, public access to land with a HIGH potential for public exposure shall be restricted for one year after application; and public access to land with a LOW potential for public exposure shall be restricted for thirty days after application of biosolid to that land. Source: 327 IAC 6.1-4-7(g) & (h)

41) A biosolid or industrial waste product may only be applied to land that is frozen or snow- covered if:
(a) A biosolid or industrial waste product does not enter a wetland or other waters of the state; and
(b) A management plan has been submitted and approved by the commissioner including the following:
(1) Setbacks;
(2) Application rates;
(3) Site characteristics;
(4) Supervision and operational oversight; AND
(5) Other applicable information. Source: 327 IAC 6.1-4-7(l)

42) During inclement weather when biosolids or industrial waste products cannot be land applied, what must a facility do with the biosolids or industrial waste products that are continually being produced?

Each facility that holds a land application permit is required to have a minimum of (ninety) 90 days effective storage capacity for biosolid or industrial waste product unless the commissioner approves an equivalent method of meeting the requirement.
Source: 327 IAC 6.1-4-8(a)

43) A biosolid or industrial waste product for land application may be stored for no more than two years. Source: 327 IAC 6.1-4-8(d)

44) There are nine heavy metals that must be monitored during land application activities. Mercury has the most stringent ceiling concentration limit of these nine metals. Source: 327 IAC 6.1-4-9

45) Pounds per acre per 365-day period is the unit used to express the maximum annual metal loading rates for sites where biosolid or industrial waste product is land applied. Source: 327 IAC 6.1-4-9(d)

46) Maximum crop and annual loading rates are determined for biosolid or industrial

waste product to be applied on the basis of Plant Available Nitrogen (PAN) in the product, existing nitrogen in the soil, and the nitrogen removal rate for the proposed crop to be grown on the land application site. Source: 327 IAC 6.1-4-10(b)(A)

47) The allowable nitrogen application rate for a land application site must be adjusted to account for application of fertilizers, manure and the presence of Residual available nitrogen in the soil from previous applications of biosolid, industrial waste product or pollutant-bearing water. Source: 327 IAC 6.1-4-10(b)(B)

48) The land application rule, 327 IAC 6.1, establishes standards for monitoring and analysis requirements. Prior to land application, representative samples of biosolid or industrial waste product must be analyzed for percent total solids, total metals, polychlorinated biphenyls (PCBs), applicable pathogen density requirements, and applicable vector attraction reduction requirements at the frequency listed in Table 6 in 327 IAC 6.1-4-16(f). Source: 327 IAC 6.1-4-16(e)

49) A nutrient sample (i.e. percent total solids, total nitrogen, ammonia N, nitrate N, phosphorus and potassium) is to be analyzed from a composite taken as land application activities take place. This composite is to represent activities during a period not to exceed thirty days. Source: 327 IAC 6.1-4-16(j)

50) The person who prepares the biosolid or industrial waste product must record information regarding application rates and site conditions daily, or as specified by the permit. These records must be:
(a) Retained by the person who prepares the biosolid or industrial waste product for a minimum of five years or longer if required by the commissioner or permit; AND
(b) Accessible to department representatives at the facility or other location clearly identified in writing to the commissioner. Source: 327 IAC 6.1-4-17

51) Activities and analyses related to land application of biosolid or industrial waste product must be:
(a) Reported within 30 days of the last day of each calendar month for the term of the permit, AND
(b) Submitted on forms and in a format prescribed by the commissioner.
Source: 327 IAC 6.1-4-18(a)

52) Alternative uses of permitted biosolid at a permittee domestic sewage treatment works may be authorized only when:
(a) The biosolid is dewatered.
(b) No more than one (1) dry ton of a biosolid may be used during any 12 month period.
(c) A biosolid may not be used on land with a high potential for public exposure.
(d) Application of a biosolid must be in accordance with the permit.
Source: 327 IAC 6.1-4-20

53) For a biosolid to be eligible for marketing and distribution, the following criteria must be met:
(a) The Class A pathogen requirements in 327 6.1-4-13(b).
(b) Compliance with at least one (1) of the vector attraction reduction requirements in 327 IAC 6.1-4-15- (b)(1) through 327 IAC 6.1-4-15(b)(8) or an equivalent vector

attraction reduction requirement as determined by the commissioner.
(c) The pollutant concentrations are less than the concentrations in Table 1 in 327 IAC 6.1-4-9(a) and Table 3 in 327 IAC 6.1-4-9(c).
(d) The biosolid must be dewatered.
(e) The biosolid must not contain a concentration of polychlorinated biphenyls (PCBs) of two milligrams per kilogram or greater on a dry weight basis.
Source: 327 IAC 6.1-5-1

54) Processes to significantly reduce pathogens (PSRP) vary according to type of process, i.e. – aerobic digestion, air drying, anaerobic digestion, composting and lime stabilization; -and- Type of pathogen, i.e. – Class A and Class B. Source: 327 IAC 6.1-4-14

55) Land application or injection of pollutant of pollutant-bearing water must be conducted under the supervision of:
(a) A certified wastewater treatment plant operator; OR
(b) A person with at least one (1) year of experience in land application management practices and procedures. (Notice must be submitted to the commissioner of any change in supervisor of the activity.) Source: 327 IAC 6.1-7-1(a)

56) The supervisor of a domestic sewage treatment works requiring disinfection equipment dependent upon electricity for operation shall submit documentation, for approval by the commissioner, demonstrating an ability to provide an alternative power source sufficient to operate pathogen reduction equipment for to a degree that pathogen limitations detailed below can be achieved:
(a) Upon the reduction, loss, or failure of power to the disinfection equipment, cease land application of domestic wastewater and cease discharge to a domestic wastewater storage structure used for land application of domestic wastewater for a period of 72 hours; OR
(b) Provide an effective alternate method of disinfection, sufficient to a degree that pathogen limitations detailed above are achieved, approved by the commissioner, that does not require electricity for proper operation. Source: 327 IAC 6.1-7-7(2) & (3)

57) Requests for approval of construction and use of a lagoon must be:
(a) Submitted at least 180 days prior to the intended date of construction.
(b) Plans, specifications, and sufficient information to indicate compliance with the requirements of 327 IAC 6.1 must accompany the request for approval. The applicant shall submit additional information as may be required by the commissioner to make a determination.
(c) A registered professional engineer licensed to practice in Indiana must certify plans and specifications for lagoons. Source: 327 IAC 6.1-8-2

58) An off-site storage structure must be maintained and operated to prevent any nuisance or health hazards as outlined in 327 IAC 6.1-8-7. Source: 327 IAC 6.1-8-7

59) In the event an off-site storage structure ceases to be operated or used for more than two years, it is the responsibility of the person who signed the statement submitted in accordance with 327 IAC 6.1-8-1(e) to abandon the off-site storage structure properly. Source: 327 IAC 6.1-8-8