

CHAPTER 63
MONITORING, ANALYTICAL AND REPORTING REQUIREMENTS

[Prior to 7/1/83, DEQ Ch 18]

[Prior to 12/3/86, Water, Air and Waste Management[900]]

567—63.1(455B) Guidelines establishing test procedures for the analysis of pollutants. Only the procedures prescribed in this chapter shall be used to perform the measurements indicated in an application for an operation permit submitted to the department, a report required to be submitted by the terms of an operation permit, and a certification issued by the department pursuant to Section 401 of the Act.

63.1(1) Identification of test procedures, application for alternative test procedures, and method modifications.

a. The following is adopted by reference: 40 CFR Part 136 (Guidelines Establishing Test Procedures for the Analysis of Pollutants), as amended through August 28, 2017.

b. All parameters for which testing is required by a wastewater discharge permit, permit application, or administrative order, except operational performance testing, must be analyzed using one of the following:

- (1) An approved method specified in 40 CFR Section 136.3;
- (2) An alternative method that has been previously approved pursuant to 40 CFR Section 136.4 or 136.5; or
- (3) A method identified by the department, when no approved method is specified for the parameter in 40 CFR Part 136.

Samples collected for operational testing pursuant to 63.3(4) need not be analyzed by approved analytical methods; however, commonly accepted test methods should be used.

c. Applications for alternative test procedures shall follow the requirements of 40 CFR Section 136.4 or 136.5.

d. Method modifications shall follow the requirements of 40 CFR Section 136.6.

63.1(2) Required containers, preservation techniques and holding times. All samples collected in accordance with self-monitoring requirements as defined in an operation permit shall comply with the container, preservation techniques, and holding time requirements as specified in 40 CFR Section 136.3, Table II (Required Containers, Preservation Techniques, and Holding Times). Sample preservation should be performed immediately upon collection, if feasible.

63.1(3) All laboratories conducting analyses required by this chapter must be certified in accordance with 567—Chapter 83. Routine on-site monitoring for pH, temperature, dissolved oxygen, total residual chlorine, other pollutants that must be analyzed immediately upon sample collection, settleable solids, physical measurements such as flow and cell depth, and operational monitoring tests specified in 63.3(4) are excluded from this requirement. All instrumentation used for conducting any analyses required by this chapter must be properly calibrated according to the manufacturer's instructions.

[ARC 7625B, IAB 3/11/09, effective 4/15/09; ARC 2482C, IAB 4/13/16, effective 5/18/16; ARC 6191C, IAB 2/9/22, effective 3/16/22]

567—63.2(455B) Records of monitoring activities and results.

63.2(1) The permittee shall maintain records of all information resulting from any monitoring activities required in its operation permit and from any operational performance monitoring.

63.2(2) Any records of monitoring activities and results shall include for all samples:

- a.* The date, exact place and time of sampling.
- b.* The dates analyses were performed.
- c.* Who performed the analyses.
- d.* The analytical techniques or methods used, and
- e.* The results of such analyses.

63.2(3) The permittee shall retain for a minimum of three years all paper and electronic records of monitoring activities and results including all original strip chart recordings for continuous monitoring instrumentation and calibration and maintenance records. This retention includes but is not limited to

monitoring and calibration records from pH meters, dissolved oxygen meters, total residual chlorine meters, flow meters, and temperature readings from any composite samplers. The period of retention shall be considered to be extended during the course of any unresolved litigation or when requested by the director or the regional administrator.

[ARC 7625B, IAB 3/11/09, effective 4/15/09; ARC 2482C, IAB 4/13/16, effective 5/18/16]

567—63.3(455B) Minimum self-monitoring requirements in permits.

63.3(1) *Monitoring by organic waste dischargers.* The minimum self-monitoring requirements to be incorporated in operation permits for facilities discharging organic wastes shall be the appropriate requirements in Tables I and II. Additional monitoring may be specified in the operation permit based on a case-by-case evaluation of the impact of the discharge on the receiving stream, toxic or deleterious effects of wastewaters, industrial contribution to the system, complexity of the treatment process, history of noncompliance or any other factor which requires strict operational control to meet the effluent limitations of the permit, as described in the Supporting Document for Permit Monitoring Frequency Determination, March 2022, located on the department's website.

63.3(2) *Monitoring by inorganic waste dischargers.* The self-monitoring requirements to be incorporated in the operation permit for facilities discharging inorganic wastes shall be determined on a case-by-case evaluation of the impact of the discharge on the receiving stream, toxic or deleterious effects of wastewaters, complexity of the treatment process, history of noncompliance or any other factor which requires strict control to meet the effluent limitations of the permit, as described in the Supporting Document for Permit Monitoring Frequency Determination, March 2022, located on the department's website.

63.3(3) *Monitoring of significant industrial users of publicly owned treatment works.* Monitoring for significant industrial users as defined in 567—60.2(455B) shall be determined as described in the Supporting Document for Permit Monitoring Frequency Determination, March 2022, located on the department's website. Results of such monitoring shall be submitted to the department in accordance with the reporting requirements in the operation permit. The monitoring program of a publicly owned treatment works with a pretreatment program approved by the department may be used in lieu of the supporting document.

63.3(4) *Operational performance monitoring.* Operational performance monitoring for treatment unit process control shall be conducted to ensure that the facility is properly operated in accordance with its design. The results of any operational performance monitoring need not be reported to the department, but shall be maintained in accordance with rule 567—63.2(455B). Additional operational performance monitoring may be specified in the operation permit based on a case-by-case evaluation of the impact of the discharge on the receiving stream, toxic or deleterious effects of wastewaters, complexity of the treatment process, history of noncompliance or any other factor that requires strict control to meet the effluent limitations of the permit. The results of operational performance monitoring specified in the operation permit shall be submitted to the department in accordance with the reporting requirements in the operation permit.

63.3(5) *Modification of minimum monitoring requirements.* Monitoring requirements may be modified or reduced at the discretion of the director when requested by the permittee. Adequate justification must be presented by the permittee that the reduced or modified requirements will accurately reflect actual wastewater characteristics and will not adversely impact the operation of the facility. Requests for modification or reduction of monitoring requirements in an existing permit are considered waiver requests and must follow the procedures in 567—paragraph 60.4(2) "b." All reductions or modifications of monitoring incorporated into an operation or NPDES permit by amendment or upon reissuance of the permit are only effective until the expiration date of that permit.

63.3(6) *Impairment monitoring.* If a wastewater treatment facility is located in the watershed of an impaired water body that is listed on Iowa's most recent Section 303(d) list (as described in 40 CFR Section 130.7), additional monitoring for parameters that are contributing to the impairment may be included in the operation or NPDES permit on a case-by-case basis.

[ARC 7625B, IAB 3/11/09, effective 4/15/09; ARC 2482C, IAB 4/13/16, effective 5/18/16; ARC 6191C, IAB 2/9/22, effective 3/16/22]

567—63.4(455B) Effluent toxicity testing requirements in permits.

63.4(1) Effluent toxicity testing. All major municipal and industrial dischargers shall be required to carry out effluent toxicity testing. Minor dischargers may be required to conduct effluent toxicity tests based on a case-by-case evaluation of the impact of the discharge on the receiving stream or industrial contribution to the system. All dischargers required to conduct effluent toxicity tests shall conduct, at a minimum, one valid effluent toxicity test annually. The testing requirements will be placed in the operation permit for each discharger required to conduct this testing. Additional monitoring may be specified in the operation permit based on a case-by-case evaluation of the impact of the discharge on the receiving stream, toxic or deleterious effects of wastewaters, industrial contribution to the system, complexities of the treatment process, history of noncompliance or any other factor which requires strict operational control to meet the effluent limitations of the permit. Any effluent toxicity test completed by the department or other agency and conducted according to procedures stated or referenced in this rule may be used to determine compliance with an operational permit.

63.4(2) Testing procedures. Dischargers shall be required to conduct effluent toxicity tests in accordance with the following general requirements:

a. Effluent toxicity tests shall be performed using a 24-hour composite sample of the effluent collected at the location stated in the operation permit. All composite samples shall be delivered to the testing laboratory within a reasonable time (approximately 24 hours) after collection, and all tests must commence within 36 hours following sample collection. The results of all effluent toxicity tests, including any tests performed at a greater frequency than required in the operation permit, shall be submitted to the department within 30 days of completing the test.

b. All effluent toxicity tests shall be conducted using the test methods referenced in 40 CFR Part 136 and protocols described in the EPA document EPA-821-R-02-012, Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, 5th edition, October 2002. All effluent toxicity tests shall be conducted by a laboratory certified in Iowa.

c. All effluent toxicity tests shall be performed using the water flea (*Ceriodaphnia dubia*), and the fathead minnow (*Pimephales promelas*).

d. Effluent toxicity tests shall include, at a minimum, two different concentrations of effluent. One test shall consist of 100 percent effluent, and a second test shall be a diluted effluent sample as defined. A control test, consisting of 100 percent culture water for each respective organism shall also be used. The test shall last for 48 hours at which time the mortality will be determined for all tests.

e. All effluent toxicity tests shall be of the pass/fail type.

63.4(3) If there is a positive toxicity test result in the diluted effluent sample from a valid effluent toxicity test, the following requirements apply unless the exception in paragraph “c” of this subrule is applicable.

a. At a minimum, the discharger shall be required to conduct quarterly effluent toxicity tests until three successive tests are determined not to be positive, after which the normal annual testing shall be resumed.

b. If the discharger has two successive positive valid diluted effluent toxicity test results or three positive test results out of five valid diluted effluent toxicity tests, the discharger shall be required to conduct a toxicity reduction evaluation (TRE). The discharger may be required to carry out instream monitoring or other analysis in conjunction with the TRE. At any time during the course of conducting a TRE there are three consecutive follow-up toxicity test results for the diluted sample which are not positive, the facility will be considered in compliance and work on the TRE may cease. Annual testing for effluent toxicity shall then resume. Nothing in these rules shall preclude the department from taking enforcement action beyond that described in these rules.

c. When the pretest chemical analysis for un-ionized ammonia nitrogen (NH₃-N) or total residual chlorine (TRC) on the diluted effluent sample exceeds the concentrations given below, a positive test result is likely to have been caused by high concentrations of NH₃ or TRC, and the test result will not be used to determine if follow-up testing is needed.

(1) Un-ionized Ammonia Nitrogen—0.9 mg/l

(2) TRC—0.1 mg/l
[ARC 6191C, IAB 2/9/22, effective 3/16/22]

567—63.5(455B) Self-monitoring and reporting for animal feeding operations.

63.5(1) The following self-monitoring requirements may be imposed on an animal-feeding operation in any operation permit issued for such an operation.

- a. Measurement of liquid level in a waste storage facility on a periodic basis.
- b. Measurement of daily precipitation, as appropriate.
- c. Sampling and analysis of groundwater as necessary to determine effects of wastewater application.
- d. Other measurements necessary to evaluate the adequacy of a waste disposal system.

63.5(2) Reports of the self-monitoring results shall be submitted to the appropriate regional field office of the department quarterly. The quarterly reports shall cover the periods January through March, April through June, July through September, and October through December. The quarterly report for each period shall be submitted by the tenth day of the month following the quarter being reported.

[ARC 7625B, IAB 3/11/09, effective 4/15/09]

567—63.6(455B) Bypasses and upsets.

63.6(1) Prohibition. Bypasses from any portion of a treatment facility or from a sanitary sewer collection system designed to carry only sewage are prohibited. The department may not assess a civil penalty against a permittee for a bypass if the permittee has complied with all of the following:

- a. The 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 downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
- c. The permittee submitted the information required in 63.6(2), 63.6(3), and 63.6(5).

63.6(2) Request for anticipated bypass. Except for bypasses that occur as a result of mechanical failure or acts beyond the control of the owner or operator of a waste disposal system (unanticipated bypasses), the owner or operator shall obtain written permission from the department prior to any discharge of sewage or wastes from a waste disposal system not authorized by a discharge permit. The director may approve an anticipated bypass after considering its adverse effects if the director determines that it will meet the conditions in 63.6(1).

- a. The request for a bypass shall be submitted to the appropriate regional field office of the department at least ten days prior to the expected date of the event.
- b. The request shall be submitted in writing and shall include all of the following:
 - (1) The reason for the bypass;
 - (2) The date and time the bypass will begin;
 - (3) The expected duration of the bypass;
 - (4) An estimate of the amount of untreated or partially treated sewage or wastewater that will be discharged;
 - (5) The location of the bypass;
 - (6) The name of any body of surface water that will be affected by the bypass; and
 - (7) Any actions the owner or operator proposes to take to mitigate the effects of the bypass upon the receiving stream or other surface water.

63.6(3) Notification of unanticipated bypass or upset and public notices. In the event that a bypass or upset occurs without prior notice having been provided pursuant to 63.6(2) or as a result of mechanical failure or acts beyond the control of the owner or operator, the owner or operator of the treatment facility or collection system shall notify the department by telephone as soon as possible but not later than 24 hours after the onset or discovery.

- a. Notification shall be made by contacting the appropriate field office.

b. Notification shall include information on as many items listed in subparagraphs 63.6(3) “*d*”(1) through (6) as available information will allow.

c. When the department has been notified of an unanticipated bypass, the department shall determine if a public notice is necessary. If the department determines that public notification is necessary, the owner or operator of the treatment facility or the collection system shall prepare a public notice.

d. A written submission describing the bypass shall also be provided within five days of the time the permittee becomes aware of the bypass. The written submission shall contain the following:

- (1) The reason for the bypass, including the amount and duration of any rainfall event that may have contributed to the bypass;
- (2) The date and time of onset or discovery of the bypass;
- (3) The duration of the bypass;
- (4) An estimate of the amount of untreated or partially treated sewage or wastewater that was discharged;
- (5) The location of the bypass; and
- (6) The name of any body of surface water that was affected by the bypass.

63.6(4) *Monitoring, disinfection, and cleanup.* The owner or operator of the treatment facility or collection system shall perform any additional monitoring, sampling, or analysis of the bypass or upset requested by the regional field office of the department and shall comply with the instructions of the department intended to minimize the effect of a bypass or upset on the receiving water of the state. The following requirements for disinfection and cleanup apply to all bypasses:

a. The department may require temporary disinfection depending on the volume and duration of the bypass, the classification of the stream affected by the bypass, and the time of year during which the bypass occurs; and

b. The department may require cleanup of any debris and waste materials deposited in the area affected by the bypass. In conjunction with the cleanup, the department may require lime application to the ground surface or disinfection of the area with chlorine solution.

63.6(5) *Reporting of subsequent findings and additional information requested by the department.* All subsequent findings and laboratory results concerning a bypass shall be submitted in writing to the appropriate regional field office of the department as soon as they become available. Any additional information requested by the department concerning the steps taken to minimize the effects of a bypass shall be submitted within 30 days of the request.

63.6(6) *Upset.* An upset is an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.

a. An upset constitutes an affirmative defense to the assessment of a civil penalty for noncompliance with technology-based effluent limitations if the requirements of paragraph “*b*” of this subrule are met.

b. A permittee that wishes to establish an affirmative defense of upset shall demonstrate, through properly signed operation logs or other relevant evidence, that:

- (1) An upset occurred and that the permittee can identify the cause(s) of the upset;
- (2) The permitted facility was at the time of upset being properly operated;
- (3) The permittee submitted notice of upset in accordance with 63.6(3); and
- (4) The permittee completed any remedial measures required by the department, including monitoring, sampling, or analysis of the upset requested by the department and any instructions from the department calculated to minimize the effect of the upset on the receiving water of the state.

c. In any enforcement action proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

[ARC 7625B, IAB 3/11/09, effective 4/15/09 (See Delay note at end of chapter); ARC 2482C, IAB 4/13/16, effective 5/18/16]

567—63.7(455B) Submission of records of operation.

63.7(1) *Electronic reporting.* Except as provided in this rule and subrules 63.3(4) and 63.5(2), records of operation required by NPDES permits shall be submitted electronically to the department within 15 days following the close of the reporting period specified in 567—63.8(455B) and in accordance with monitoring requirements derived from this chapter and incorporated in the NPDES permit. Records of operation required by operation permits shall be submitted to the department within 15 days following the close of the reporting period specified in 567—63.8(455B) and in accordance with monitoring requirements derived from this chapter and incorporated in the operation permit.

63.7(2) *Temporary or permanent paper submittal of records of operation.* Upon satisfaction of the following criteria and written approval from the department, temporary or permanent paper submittal of records of operation may be allowed in lieu of electronic reporting.

a. Written request for paper submittal.

(1) To obtain an approval for temporary or permanent paper submittal of records of operation, a permittee must submit a paper copy of a written request to the NPDES Section, Iowa Department of Natural Resources, 502 East Ninth Street, Des Moines, Iowa 50319. The written request for paper submittal must include the following:

1. Facility name;
2. Individual NPDES permit number or general permit authorization number;
3. Facility address;
4. Owner name and contact information;
5. Name and contact information of the person submitting records of operation (if different than the owner); and
6. Reason for the request, including a justification of why electronic submission is not feasible at this time.

(2) Requests for paper submittal that do not contain all of the above information will not be considered. Electronic (email) requests for paper submittal will not be considered.

b. Temporary paper submittal.

(1) The department will approve or deny a request for temporary paper submittal of records of operation within 60 days of receipt of the request. Paper submittal requests shall be approved or denied at the discretion of the director.

(2) All approvals for temporary paper submittal will expire five years from department approval. After an approval for temporary paper submittal expires, the permittee must submit all records of operation electronically, unless another approval is obtained.

(3) Approved temporary paper submittals are nontransferable.

c. Permanent paper submittal.

(1) The department will approve or deny a request for permanent paper submittal of records of operation within 60 days of receipt of the request. Permanent paper submittal approvals shall only be granted to facilities and entities owned or operated by members of religious communities that choose not to use certain modern technologies (e.g., computers, electricity). Permanent approvals for paper submittal shall not be granted to any other facilities or entities.

(2) Approved permanent paper submittals are nontransferable.

d. Paper copies of records of operation. All permittees who have received temporary or permanent paper submittal approvals must submit paper copies of all records of operation to the department within 15 days following the close of the reporting period specified in 567—63.8(455B) and in accordance with monitoring requirements derived from this chapter and incorporated in the NPDES permit.

63.7(3) *Electronic reporting pursuant to NPDES general permits.*

a. General Permits 1, 2, 3, 4, and 5. Both electronic and paper reporting options are available to permittees covered under General Permits 1, 2, 3, 4, and 5. Electronic reporting using the options available on the department's website is strongly encouraged, but paper records of operation will be accepted. Paper submittal approval can be obtained by permittees covered under General Permits 1, 2, 3, 4, and 5 according to the procedures in 63.7(2).

b. Electronic reporting requirements for General Permits 8 and 9. Permittees covered under General Permits 8 and 9 are required to report electronically using the department's online database, unless a paper submittal approval is obtained according to the procedures in 63.7(2).

63.7(4) Episodic paper submittal of records of operation. In accordance with the following requirements, episodic paper submittal of records of operation may be allowed in lieu of electronic reporting. The department shall provide notice, individually or through means of mass communication, regarding when episodic paper submittal is allowed, the facilities and entities that qualify for episodic paper submittal, and the likely duration of episodic paper submittal. The department shall determine if and when episodic paper submittal is warranted.

a. Episodic paper submittal is only allowed under the following circumstances:

(1) Large scale emergencies involving catastrophic circumstances beyond the control of a permittee, such as forces of nature (e.g., hurricanes, floods, fires, earthquakes) or other national disasters.

(2) Prolonged electronic reporting system outages (i.e., outages longer than 96 hours).

b. Permittees are not required to request episodic paper submittal. If the department determines that episodic paper submittal is warranted, a permittee shall submit paper copies of all records of operation to the department within 15 days following the close of the reporting period specified in 567—63.8(455B) and in accordance with monitoring requirements derived from this chapter and incorporated in the NPDES permit.

c. Episodic paper submittal is not transferable and cannot last more than 60 days.

63.7(5) Instances of noncompliance. The permittee shall report all instances of noncompliance not reported under 567—63.12(455B) at the time monitoring reports are submitted.

63.7(6) Relevant facts. If a permittee becomes aware that it failed to submit any relevant facts in any report to the director, the permittee shall promptly submit such facts or information.

[ARC 7625B, IAB 3/11/09, effective 4/15/09; ARC 6191C, IAB 2/9/22, effective 3/16/22]

567—63.8(455B) Frequency of submitting records of operation. Except as provided in subrules 63.3(4) and 63.5(2), or as specified in an NPDES general permit issued in accordance with 567—64.4(455B), records of operation required by these rules shall be submitted at monthly intervals. The department may vary the interval at which records of operation shall be submitted in certain cases. Variation from the monthly interval shall be made only under such conditions as the department may prescribe in writing to the person concerned.

[ARC 7625B, IAB 3/11/09, effective 4/15/09; ARC 6191C, IAB 2/9/22, effective 3/16/22]

567—63.9(455B) Content of records of operation. Records of operation shall include the results of all monitoring specified in or authorized by this chapter and incorporated in the operation permit. The results of any monitoring not specified in the operation permit performed at the compliance monitoring point and analyzed according to 40 CFR Part 136 shall be included in the calculation and reporting of any data submitted in accordance with this chapter and the operation permit.

[ARC 7625B, IAB 3/11/09, effective 4/15/09]

567—63.10(455B) Records of operation forms. Records of operation forms shall be those provided by the department unless a permittee has obtained approval from the department to use an alternative reporting form.

[ARC 6191C, IAB 2/9/22, effective 3/16/22]

567—63.11(455B) Certification and signatory requirements in the submission of records of operation. All records of operation as required by these rules shall include certification which attests that all information contained therein is representative and accurate. Each record of operation shall contain the signature of a duly authorized representative of the corporation, partnership or sole proprietorship, municipality, or public facility which has proprietorship of the wastewater treatment or disposal system as specified in 567—subrule 64.3(8). For electronic submissions of records of operation, a signed paper copy of the record that was submitted electronically must be maintained at the facility for a minimum of three years.

[ARC 7625B, IAB 3/11/09, effective 4/15/09]

567—63.12(455B) Twenty-four-hour reporting. All permittees shall report any permit noncompliance that may endanger human health or the environment including, but not limited to, violations of maximum daily limits for any toxic pollutant (listed as toxic under 307(a)(1) of the Act) or hazardous substance (as designated in 40 CFR Part 116 pursuant to 311 of the Act). Information shall be provided orally to the appropriate regional field office of the department within 24 hours from the time the permittee becomes aware of the circumstances. In addition, a written submission that includes a description of noncompliance and its cause; the period of noncompliance including exact dates and times; whether the noncompliance has been corrected or the anticipated time it is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent a reoccurrence of the noncompliance must be provided to the regional field office within 5 days of the occurrence.

[ARC 7625B, IAB 3/11/09, effective 4/15/09]

567—63.13(455B) Planned changes. The permittee shall give notice to the appropriate regional field office of the department 30 days prior to any planned physical alterations or additions to the permitted facility. Notice is required only when:

1. Notice has not been given to any other section of the department;
2. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source as defined in 567—60.2(455B);
3. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices; or
4. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in the permit.

[ARC 7625B, IAB 3/11/09, effective 4/15/09]

567—63.14(455B) Anticipated noncompliance. The permittee shall give notice to the appropriate regional field office of the department of any activity which may result in noncompliance with permit requirements. Notice is required only when previous notice has not been given to any other section of the department.

[ARC 7625B, IAB 3/11/09, effective 4/15/09]

567—63.15(455B) Other noncompliance. The permittee shall provide a written description of all instances of noncompliance not reported under rule 567—63.12(455B) or 567—paragraph 64.7(4) “c” at the time discharge monitoring reports (DMRs) are submitted. The written description shall contain the information listed in rule 567—63.12(455B).

[ARC 2482C, IAB 4/13/16, effective 5/18/16]

567—63.16(455B) Sampling procedures for monitoring wells. The following steps shall be taken prior to monitoring well sampling.

63.16(1) Measure depth from top of well head casing to water table.

63.16(2) Calculate quantity of water to be flushed from well using the formula:

Gallons to be pumped = $0.221 d^2 h$, where:

d = well diameter in inches

h = depth in feet of standing water in well prior to pumping

63.16(3) Pump well.

63.16(4) Measure depth from well head casing to water table after pumping.

63.16(5) Wait for well to recharge to or near static water level prior to sampling.

[ARC 6191C, IAB 2/9/22, effective 3/16/22]

Table I Minimum Self-Monitoring in Permits for Organic Waste Dischargers
Controlled Discharge Wastewater Treatment Plants

Wastewater Parameter	Sampling ⁵ Location	Sample Type ⁴	Frequency by P.E. ^{1,5,6}			
			< 100	101-500	501-1,000	>1,001
Flow ²	Raw	24-Hr Total	1/Week	Daily	Daily	Daily
	Final	Instantaneous	2/Week During Drawdown	Daily During Drawdown		
BOD ₅	Raw	24-Hr Composite	–	–	–	1/3 Months
CBOD ₅ ³	Final	Grab	1/Drawdown ⁷	Twice during drawdown		
Total Suspended Solids (TSS) ³	Raw	24-Hr Composite	–	–	–	1/3 Months
	Final	Grab	1/Drawdown ⁷	Twice during drawdown		
Ammonia Nitrogen	Final	Grab	1/Drawdown	Twice during drawdown		
<i>E. coli</i>	Final	Grab	1/Drawdown	1/Drawdown	Twice During Drawdown	
pH ⁸	Raw	Grab	–	–	–	1/3 Months
	Final	Grab	1/Drawdown	1/Drawdown	Twice During Drawdown	1/Week During Drawdown
Cell Depth ⁹	Each Cell	Measurement	1/Week	1/Week	1/Week	2/Week
Total Residual Chlorine (TRC) ¹⁰	Final	Grab	1/Drawdown	1/Drawdown	Twice during drawdown	

Explanation of Superscripts

- 1 - The P.E. shall be computed on the basis of the original engineering design criteria for the facility and any modifications thereof. Where such design criteria are not available, the P.E. shall be computed using 0.167 pounds of BOD₅ per capita per day.
- 2 - Facilities serving a population equivalent less than 100 are not required to provide continuous flow measurement but are required to provide manual flow measurement at the specified frequency. Facilities serving a population equivalent greater than 100 are required to provide continuous flow measurement of the raw waste but need only provide manual flow measurement on the final effluent. Acceptable flow measurement and recording techniques shall be those described in “Iowa Wastewater Facilities Design Standards,” Chapter 14 (14.7.2).
- 3 - In addition to the sampling required above, a grab sample of the lagoon cell contents collected at a point near the outlet structure shall be analyzed at least two weeks prior to an anticipated discharge to demonstrate that the wastewater is of such quality to meet the effluent limitations in the permit. The permittee must have the sample analyzed for 5-day carbonaceous biochemical oxygen demand (CBOD₅) and total suspended solids (TSS). The results must be compared with the 30-day average effluent limits. If the results are less than the 30-day average limits, the permittee may isolate the final cell and draw down the lagoon cell. If the pre-discharge sample results exceed the 30-day average effluent limits for either CBOD₅ or TSS, the permittee must contact the local DNR Field Office for guidance before beginning to discharge.
- 4 - Sample types are defined as:
 - “Grab Sample” means a representative, discrete portion of sewage, industrial waste, other waste, surface water or groundwater taken without regard to flow rate.
 - “24-Hour Composite” means:
 - a. For facilities where no significant industrial waste is present, a sample made by collecting a minimum of six grab samples taken four hours apart and combined in proportion to the flow rate at the time each grab sample was collected. (Generally, grab samples should be collected at 8 a.m., 12 p.m. (noon), 4 p.m., 8 p.m., 12 a.m. (midnight), and 4 a.m. on weekdays (Monday through Friday) unless local conditions indicate another more appropriate time for sample collection.)

- b. For facilities where significant industrial waste is present, a sample made by collecting a minimum of 12 grab samples taken two hours apart and combined in proportion to the flow rate at the time each grab sample was collected. (Generally, grab samples should be collected at 8 a.m., 10 a.m., 12 p.m. (noon), 2 p.m., 4 p.m., 6 p.m., 8 p.m., 10 p.m., 12 a.m. (midnight), 2 a.m., 4 a.m., and 6 a.m. on weekdays (Monday through Friday) unless local conditions indicate another more appropriate time for sample collection.)
 - c. An automatic composite sampling device may also be used for collection of flow-proportioned or time-proportioned composite samples.
- 5 - Raw wastewater samples shall be taken continuously (year-round) at the specified frequency. Final effluent wastewater samples shall be taken only during the drawdown period. The first final effluent sample shall be taken the third day after the drawdown begins, and subsequent samples shall be taken at the specified frequencies. For final effluent samples that are required to be taken twice during drawdown, the first sample shall be taken the third day after the drawdown begins, and the second sample shall be taken between three (3) and five (5) days before the drawdown ends.
 - 6 - If a facility has a P.E. greater than 3000 or a significant industrial contributor, additional monitoring may be required.
 - 7 - One-cell controlled discharge lagoons with a P.E. less than 100 will be required to perform final effluent sampling for 5-day carbonaceous biochemical oxygen demand (CBOD₅) and total suspended solids (TSS) twice during drawdown in accordance with superscript #5.
 - 8 - pH can be monitored using a colorimetric comparator or a meter.
 - 9 - Cell Depth monitoring is required to be conducted year-round (not exclusively during drawdown periods). It may be applied to lagoon cells at continuous discharge wastewater treatment facilities on a case-by-case basis.
 - 10 - TRC can be monitored using a colorimetric comparator or a meter. TRC monitoring is only required for facilities with TRC effluent limitations.

[ARC 7625B, IAB 3/11/09, effective 4/15/09 (See Delay note at end of chapter); ARC 2482C, IAB 4/13/16, effective 5/18/16; ARC 6191C, IAB 2/9/22, effective 3/16/22]

Table II Minimum Self-Monitoring in Permits for Organic Waste Dischargers
Continuous Discharge Wastewater Treatment Plants

Wastewater Parameter	Sampling Location	Sample Type ^{3,11}	Frequency by P.E. ^{1,6}						
			≤ 100	101-500	501-1,000	1,001-3,000	3,001-15,000	15,001-105,000	> 105,000
Flow ²	Raw or Final	24-Hr Total	1/week	Daily	Daily	Daily	Daily	Daily	Daily
BOD ₅	Raw	24-Hr Comp.	1/6 Months	1/3 Months	1/Week	1/Week	2/Week	2-5/Week ⁵	Daily
CBOD ₅	Final	24-Hr Comp.	1/3 Months	1/Month	1/Week	1/Week	2/Week	2-5/Week ⁵	Daily
Total Suspended Solids (TSS)	Raw	24-Hr Comp.	1/6 Months	1/3 Months	1/Month	1/2 Weeks	1/Week	2-5/Week ⁵	Daily
	Final	24-Hr Comp.	1/3 Months	1/3 Months	1/Month	1/2 Weeks	1/Week	2-5/Week ⁵	Daily
Ammonia Nitrogen ¹⁰	Final	24-Hr Comp.	1/Month	1/Month	1/Week	1/Week	2/Week	2-5/Week ⁵	Daily
TKN ⁸	Raw	24-Hr Comp.	—	—	—	—	1/Month	1/Month	1/2 Weeks
Total Nitrogen ⁹	Final	24-Hr Comp.	—	—	—	—	1/3 Months	1/2 Months	1/2 Months
Total Phosphorus ⁹	Final	24-Hr Comp.	—	—	—	—	1/3 Months	1/2 Months	1/2 Months

Wastewater Parameter	Sampling Location	Sample Type ^{3,11}	Frequency by P.E. ^{1,6}						
			≤ 100	101-500	501-1,000	1,001-3,000	3,001-15,000	15,001-105,000	> 105,000
pH ¹²	Raw	Grab	—	—	1/Week	1/Week	2/Week	2-5/Week ⁵	Daily
	Final	Grab	1/3 Months	1/Month	1/Week	1/Week	2/Week	5/Week	Daily
<i>E. coli</i> ^{4,7}	Final	Grab	5 samples, 1/3 Months	5 samples, 1/3 Months	5 samples, 1/3 Months	5 samples, 1/3 Months	5 samples, 1/3 Months	5 samples, 1/3 Months	5 samples, 1/3 Months
Temperature	Raw	Grab	—	—	1/Week	1/Week	2/Week	2-5/Week ⁵	Daily
	Final	Grab	1/3 Months	1/Month	1/Week	1/Week	2/Week	2-5/Week ⁵	Daily
Total Residual Chlorine (TRC) ¹³	Final	Grab	1/Week	1/Week	2/Week	2/Week	3/Week	5/Week	Daily

Explanation of Superscripts

1 - See Superscript #1, Table I.

2 - See Superscript #2, Table I. Both raw and final flow monitoring may be required if the raw and final wastewater flows may be different for any reason.

3 - See Superscript #4, Table I.

4 - Analysis is required only when the facility discharges directly to a stream designated as Class A1, A2, or A3 or there is a reasonable potential for the discharge to affect a stream designated as Class A1, A2, or A3.

5 - The frequency of sample collection and analysis shall be increased by 1/week according to the following: 15,001 to 30,000 – 2/week; 30,001 to 45,000 – 3/week; 45,001 to 75,000 – 4/week; 75,001 – 105,000 – 5/week.

6 - The requirements for significant industrial users shall be those specified in the permit for final effluent monitoring.

7 - Bacteria Monitoring. All facilities must collect and analyze a minimum of five *E. coli* samples in one calendar month during each three-month period (quarter) during the appropriate recreation season associated with the receiving stream designation as specified in 567—subrule 61.3(3). For sampling required during the recreational season, March 15 to November 15, the three-month periods are March – May, June – August, and September – November. For year-round sampling, the three-month periods are January – March, April – June, July – September, and October – December. For each three-month period, the operator must take five samples during one calendar month, resulting in 15 samples in one year for sampling required during the recreation season and 20 samples per year for sampling required year-round.

The following requirements apply to the individual samples collected in one calendar month:

- Samples must be spaced over one calendar month.
- No more than one sample can be collected on any one day.
- There must be a minimum of two days between each sample.
- No more than two samples may be collected in a period of seven consecutive days.

The geometric mean must be calculated using all valid sample results collected during a month. The geometric mean formula is as follows: Geometric Mean = (Sample one x Sample two x Sample three x Sample four x Sample five...Sample N)^{1/N}, which is the Nth root of the result of the multiplication of all of the sample results where N = the number of samples. If a sample result is a less than value, the value reported by the lab without the less than sign shall be used in the geometric mean calculation.

8 - Additional Total Kjeldahl Nitrogen (TKN) monitoring may be required if the facility has one or more significant industrial users or has effluent ammonia violations.

9 - Total nitrogen (as N) is defined as Total Kjeldahl Nitrogen (as N) plus nitrate (as N) plus nitrite (as N). Nitrate + nitrite can be analyzed together or separately. Total phosphorus shall be reported as P. Analyses must be performed by a laboratory certified in Iowa.

10 - Ammonia nitrogen monitoring is only required for facilities with ammonia nitrogen effluent limitations.

11 - For aerated lagoons, 24-hour composite samples are not required on the final effluent; grab samples are acceptable.

12 - See Superscript #8, Table I.

13 - See Superscript #10, Table I.

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These rules are intended to implement Iowa Code section 455B.173.

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¹ April 15, 2009, effective date of Items 27 and 33 to 38 of ARC 7625B delayed 70 days by the Administrative Rules Review Committee at its meeting held April 8, 2009; at its meeting held April 28, 2009, the Committee voted to lift the delay, effective April 29, 2009.