

**CHAPTER 63 EO10 DRAFT - V.2, 11/16/2023**

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, and is applicable to all such citations in this chapter: **40 CFR Part 136** (Guidelines Establishing Test Procedures for the Analysis of Pollutants), as **amended through July 19, 2021**.

*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 § 136.3**;
- (2) An alternative method that has been previously approved pursuant to **40 CFR § 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**.

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

*d.* Method modifications shall follow the requirements of **40 CFR § 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 § 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 **subrule 63.3(4)** are excluded from this requirement.

**63.1(4)** 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) Monitoring activities and records.** 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(1)** Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity, in accordance with **40 CFR § 122.41(j)(1)**.

**63.2(2)** The permittee shall retain for a minimum of three years all paper and electronic records of monitoring activities and results in accordance with **40 CFR § 122.41(j)(2)**.

**63.2(3)** Any records of monitoring activities and results shall include the information specified in **40 CFR § 122.41(j)(3)**.

[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** of this chapter. Additional monitoring may be specified in operation permits in accordance with **subrule 63.3(5)**.

**63.3(2) Monitoring and sampling by inorganic waste dischargers.** The self-monitoring requirements to be incorporated in operation permits 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 operational control to meet the effluent limitations of the permit, as described in the **Supporting Document for**

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Permit Monitoring Frequency Determination, March 2022, located on the department's website. Grab samples shall be taken in accordance with 567–63 Table I(455B) Superscript 4, and composite samples shall be taken in accordance with 567–63 Table I(455B) Superscript 4a or 4c.

**63.3(3) Monitoring for significant industrial users (SIUs) of publicly owned treatment works (POTWs).** Monitoring for SIUs shall be determined as described in the Supporting Document for Permit Monitoring Frequency Determination, March 2022, located on the department's website. Monitoring results shall be submitted to the department in accordance with the reporting requirements in the operation permit. The monitoring program of a POTW with a department-approved pretreatment program 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 a 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 operation permits in accordance with subrule 63.3(5). The results of operational performance monitoring specified in an operation permit shall be submitted to the department in accordance with the permit requirements.

**63.3(5) Additional monitoring.**

(1) Additional monitoring may be specified in operation permits in accordance with this subrule, as follows:

1. For facilities discharging organic wastes,
2. As operational performance monitoring, or
3. For the purposes of whole effluent toxicity testing.

(2) Additional monitoring requirements in operation permits shall be 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.

**63.3(6) Modification of minimum monitoring requirements.** Monitoring requirements may be modified or reduced at the director's discretion or when requested by the permittee, in accordance with 567—paragraph 64.2(6) "e".

[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) Whole effluent toxicity testing requirements in permits.**

**63.4(1) Whole effluent toxicity (WET) testing.**

*a.* All major municipal and industrial dischargers shall be required to carry out whole effluent toxicity (WET) testing. Additional toxicity monitoring may be specified in operation permits for major or minor facilities in accordance with subrule 63.3(5).

*b.* All dischargers required to conduct WET tests shall conduct, at a minimum, one valid WET test annually. The testing requirements will be placed in the operation permit for each discharger required to conduct this testing. A "valid WET test" is one that meets the testing requirements in paragraph 63.4(2) "a".

*c.* Any WET test completed by the department or other agency and conducted according to the procedures stated or referenced in this rule may be used to determine compliance with an operation permit.

**63.4(2) Testing procedures.**

*a.* All WET tests shall be performed as follows:

- (1) Use a 24-hour composite sample of the effluent collected at the location stated in the operation permit;
- (2) Commence within 36 hours of sample collection;
- (3) Use 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;

(4) Use the water flea (*Ceriodaphnia dubia*) and the fathead minnow (*Pimephales promelas*);

(5) Be conducted as static pass/fail;

(6) Include the following for each organism: a 100% culture water control series, a 100% effluent series, and any additional dilution series specified in the operation permit;

(7) Last for 48 hours, at which time the mortality will be determined for all tests; and

(8) Be conducted by a laboratory certified in Iowa.

*b.* All WET test results, including results of any tests performed at a greater frequency than required in the operation permit, shall be submitted to the department within 30 days of test completion.

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**63.4(3)** If there is a positive toxicity test result in the diluted effluent sample from a valid WET test, the following requirements apply unless the exception in paragraph “d” of this subrule is applicable. For the purposes of this rule, “positive toxicity test result” means a statistically significant difference of mortality rate between the control and the diluted effluent test.

*a.* At a minimum, the discharger shall be required to conduct quarterly WET tests until three successive tests are determined not to be positive, after which the toxicity testing shall be resumed as specified in the operation permit.

*b.* If the discharger has two successive positive valid diluted WET test results or three positive test results out of five valid diluted tests, the discharger shall be required to conduct a toxicity reduction evaluation (TRE). A TRE is a stepwise process, similar to that found in EPA Document 600/2-88/062, which combines effluent toxicity tests and analysis of the chemical characteristics of the effluent to determine the cause of the effluent toxicity or the treatment methods which will reduce the effluent toxicity, or both.

*c.* The discharger may be required to carry out instream monitoring or other analyses in conjunction with the TRE. If 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 discharger will be considered as in compliance and work on the TRE may cease. WET testing shall then resume as specified in the operation permit. Nothing in these rules shall preclude the department from taking enforcement action beyond that described in these rules.

*d.* When the pretest chemical analysis for un-ionized ammonia nitrogen (NH<sub>3</sub>-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 NH<sub>3</sub>-N 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 department Field Office 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 subrules 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 subrule 63.6(1).

*a.* The request for a bypass shall be submitted to the appropriate regional department Field Office at least

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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 **subrule 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 regional department 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.* Upon notification, the department shall determine if a public notice for an unanticipated bypass 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 to the appropriate regional department Field Office 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 department Field Office and shall comply with department instructions intended to minimize the effect of a bypass or upset on the receiving water of the state. In addition, the department may require the following:

- a.* 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;
- b.* Cleanup of any debris and waste materials deposited in the area affected by the bypass; or
- c.* Lime application to the ground surface or disinfection of the affected 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 department Field Office 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.** **40 CFR § 122.41(n)** is adopted by reference.

[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.**

*a.* 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 **subrule 63.7(5)** and in accordance with monitoring requirements derived from this chapter and incorporated in the NPDES permit.

*b.* 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 **subrule 63.7(5)** and in accordance with monitoring

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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 department's NPDES Section. 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. Paper submittal requests shall be approved or denied at the director's discretion.

(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. 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 **subrule 63.7(5)** 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.** Both electronic and paper reporting options are available to permittees covered under General Permit No. 5. Paper records of operation are accepted under General Permit No. 4.

**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 permittee control, 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 **rule 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) Submission frequency.** 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—subrule 64.3(2)**, records of operation required by these

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rules shall be submitted at monthly intervals. The department may vary the submission frequency in certain cases. Variation from the monthly interval shall be made only under such conditions as the department may prescribe in writing to the permittee.

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

**567—63.8(455B) Records of operation; content, forms, certification, and signature.**

**63.8(1) Content.** Records of operation shall include the results of all monitoring specified in or authorized by this chapter or 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]

**63.8(2) Forms.** Records of operation forms shall be those provided by the department unless a permittee has obtained department approval to use an alternative reporting form. Properly completed reporting forms and all attachments shall be submitted in accordance with department instructions.

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

**63.8(3) Certification and signatory requirements.** All records of operation required by these rules shall include certification which attests that all information contained therein is representative and accurate. Each record of operation, including those for operation permits, shall be signed in accordance with 40 CFR § 122.22. 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—63.9(455B) Other reporting and notice.**

**63.9(1) Twenty-four-hour reporting.** Pursuant to 40 CFR § 122.41(l)(6), all permittees shall report any permit noncompliance that may endanger human health or the environment. Information shall be provided orally to the appropriate regional department Field Office within 24 hours from the time the permittee becomes aware of the circumstances. In addition, a written submission containing the information required in 40 CFR § 122.41(l)(6)(i) must be provided to the appropriate regional department Field Office within 5 days of the occurrence.

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

**63.9(2) Planned changes.** Pursuant to 40 CFR § 122.41(l)(1), a permittee shall give notice to the appropriate regional department Field Office 30 days prior to any planned physical alterations or additions to the permitted facility.

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

**63.9(3) Anticipated noncompliance.** Pursuant to 40 CFR § 122.41(l)(2), a permittee shall give advance notice to the appropriate regional department Field Office of any activity which may result in noncompliance with permit requirements.

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

**63.9(4) Other noncompliance.** Pursuant to 40 CFR § 122.41(l)(7), a permittee shall provide a written description of all instances of noncompliance not reported under subrule 63.9(1) or 567—subrule 64.6(4) at the time records of operation are submitted. The written description shall contain the information required in 40 CFR § 122.41(l)(6)(i).

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

**63.9(5) Notice exemption.** Notice under this subrule is only required when previous notice has not been given to any other section of the department.

**63.9(6) Other information.** Pursuant to 40 CFR § 122.41(l)(8), 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.

**63.9(7) Applicability.** The other reporting and notice requirements in this rule apply to all NPDES permits and apply as specified in operation permits.

**567—63.10(455B) Sampling procedures for monitoring wells.** The following steps shall be taken prior to monitoring well sampling.

**63.10(1)** Measure depth from top of well head casing to water table.

**63.10(2)** Calculate quantity of water to be flushed from well using the formula:

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Gallons to be pumped = 0.221 d(squared)h, where:

d = well diameter in inches

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

**63.10(3)** Pump well.

**63.10(4)** Measure depth from well head casing to water table after pumping.

**63.10(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 <sup>5</sup> Location	Sample Type <sup>4</sup>	Frequency by PE <sup>1,5,6</sup>			
			< 100	101-500	501-1,000	>1,001
Flow <sup>2</sup>	Raw	24-Hr Total	1/Week	Daily	Daily	Daily
	Final	Instantaneous	2/Week During Drawdown	Daily During Drawdown		
BOD <sub>5</sub>	Raw	24-Hr Composite	--	--	--	1/3 Months
CBOD <sub>5</sub> <sup>3</sup>	Cell Contents	Grab	At least two weeks prior to drawdown <sup>3</sup>			
	Final	Grab	1/Drawdown <sup>7</sup>	Twice during drawdown		
Total Suspended Solids (TSS) <sup>3</sup>	Cell Contents	Grab	At least two weeks prior to drawdown <sup>3</sup>			
	Raw	24-Hr Composite	--	--	--	1/3 Months
	Final	Grab	1/Drawdown <sup>7</sup>	Twice during drawdown		
Ammonia Nitrogen	Final	Grab	1/Drawdown	Twice during drawdown		
<i>E. coli</i>	Final	Grab	Twice During Drawdown			
pH <sup>8</sup>	Raw	Grab	--	--	--	1/3 Months
	Final	Grab	1/Drawdown	1/Drawdown	Twice During Drawdown	1/Week During Drawdown
Cell Depth <sup>9</sup>	Each Cell	Measurement	1/Week	1/Week	1/Week	2/Week
Total Residual Chlorine (TRC) <sup>10</sup>	Final	Grab	1/Drawdown	1/Drawdown	Twice during drawdown	

#### Explanation of Superscripts

- 1 - The PE (population equivalent) 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 PE shall be computed using 0.167 pounds of BOD<sub>5</sub> per capita per day.
- 2 - Facilities serving a PE 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 PE greater than 100 are required to provide continuous flow measurement of the raw waste but need only provide manual flow measurement of the final effluent. Acceptable flow measurement and recording techniques shall be those described in the [Iowa Wastewater Facilities Design Standards, effective Month 2024](#).
- 3 - The sampling that is required at least two weeks prior to lagoon drawdown (pre-discharge sampling) shall be collected at a point near the outlet structure and 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 CBOD<sub>5</sub> and TSS 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 CBOD<sub>5</sub> or TSS, the permittee must contact the appropriate regional department Field Office for guidance before beginning to discharge.

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## 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. 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, unless otherwise noted in **b**. 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 a POTW with a SIU, 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 and five days before the drawdown ends.
- 6 - If a facility has a PE greater than 3000 or a SIU, additional monitoring may be required.
- 7 - One-cell controlled discharge lagoon facilities with a PE less than 100 will be required to perform final effluent sampling for CBOD<sub>5</sub> and TSS twice during drawdown in accordance with superscript #5.
- 8 - pH can be monitored using electrometric measurement or an automated electrode, pursuant to **40 CFR Part 136**.
- 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 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 <sup>3,11</sup>	Frequency by PE <sup>1,6</sup>					
			≤ 100	101-500	501-1,000	1,001-3,000	3,001-15,000	> 15,001
Flow <sup>2</sup>	Raw or Final	24-Hr Total	1/week	Daily	Daily	Daily	Daily	Daily
BOD <sub>5</sub>	Raw	24-Hr Comp.	1/6 Months	1/3 Months	1/Week	1/Week	2/Week	2-5/Week <sup>5</sup>
CBOD <sub>5</sub>	Final	24-Hr Comp.	1/3 Months	1/Month	1/Week	1/Week	2/Week	2-5/Week <sup>5</sup>
Total Suspended Solids (TSS)	Raw	24-Hr Comp.	1/6 Months	1/3 Months	1/Month	1/2 Weeks	1/Week	2-5/Week <sup>5</sup>
	Final	24-Hr Comp.	1/3 Months	1/3 Months	1/Month	1/2 Weeks	1/Week	2-5/Week <sup>5</sup>
Ammonia Nitrogen <sup>10</sup>	Final	24-Hr Comp.	1/Month	1/Month	1/Week	1/Week	2/Week	2-5/Week <sup>5</sup>
TKN <sup>8</sup>	Raw	24-Hr Comp.	—	—	—	—	1/Month	1/Month
Total Nitrogen <sup>9</sup>	Final	24-Hr Comp.	—	—	—	—	1/3 Months	1/2 Months
Total Phosphorus <sup>9</sup>	Final	24-Hr Comp.	—	—	—	—	1/3 Months	1/2 Months



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pH <sup>12</sup>	Raw	Grab	—	—	1/Week	1/Week	2/Week	2-5/Week <sup>5</sup>
	Final	Grab	1/3 Months	1/Month	1/Week	1/Week	2/Week	5/Week
<i>E. coli</i> <sup>4,7</sup>	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
Temperature	Raw	Grab	—	—	1/Week	1/Week	2/Week	2-5/Week <sup>5</sup>
	Final	Grab	1/3 Months	1/Month	1/Week	1/Week	2/Week	2-5/Week <sup>5</sup>
Total Residual Chlorine (TRC) <sup>13</sup>	Final	Grab	1/Week	1/Week	2/Week	2/Week	3/Week	5/Week

## 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 – 5/week.
- 6 - The requirements for SIUs 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:
  - a. Samples must be spaced over one calendar month.
  - b. No more than one sample can be collected on any one day.
  - c. There must be a minimum of two calendar days between each sample.
  - d. 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)<sup>(1/N)</sup>, 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.

[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]

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

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<sup>1</sup> 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.