

**TITLE 252. DEPARTMENT OF ENVIRONMENTAL QUALITY
CHAPTER 628. INDIRECT POTABLE REUSE FOR SURFACE WATER
AUGMENTATION**

Subchapter 1. General Provisions

252:628-1-2 [AMENDED]

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Subchapter 3. Benchmarks and Implementation for IPR Source Water Discharges

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252:628-9-4 [AMENDED]

Subchapter 11. IPR Receiving Waterbody Monitoring

252:628-11-1 [AMENDED]

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252:628-11-3 [AMENDED]

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SUBCHAPTER 1. GENERAL PROVISIONS

252:628-1-2. Definitions

In addition to the definitions contained in the Environmental Quality Code (27A O.S. Section 2-1-101 et seq.), the following words and terms, when used in this Chapter, shall have the following meaning, unless the context clearly indicates otherwise:

"**BOD₅**" means 5-day biochemical oxygen demand.

"**CBOD₅**" means 5-day carbonaceous biochemical oxygen demand.

"**Conservative parameter**" means a parameter which persists in the environment, having characteristics which are resistant to ordinary biological or biochemical degradation.

"**Constituents of Emerging Concern (CECs)**" means a group of synthetic or naturally occurring chemicals that are not currently regulated under the Clean Water Act (CWA) or Safe Drinking Water Act (SDWA) and are not commonly monitored in the environment. These constituents are to be evaluated in IPR Source Water treatment. Examples of CECs are chemicals in the following categories: prescription and nonprescription drugs, home care products, veterinary and human antibiotics, industrial and household products, sex and steroidal hormones, other endocrine disrupters, and engineered nanomaterials. Selected constituents may be surrogates for a broader list of constituents for use in evaluating overall levels in treated IPR Source Water or for reservoir evaluation.

"**CPI**" means Consumer Price Index. See Section 628-1-4(e) for additional information.

"**DEQ**" means the Oklahoma Department of Environmental Quality.

"**DMR**" means discharge monitoring report.

"**Disinfection**" means the selective destruction of pathogens in water.

"**Drought of Record**" means, for reservoirs, the month with the highest concentration of a given conservative parameter as predicted by hydrologic and mass balance considerations. For stream IPR projects, the drought of record means the lowest monthly average streamflow over a minimum 40 year period of record or other period of record as approved by DEQ.

"**HAB**" means harmful algal bloom.

"Hydrologic Mass Balance (HMB) Model" means a minimum monthly time-step model which uses hydrologic data over a period of record from 1950 to the present, or other period of record as required or approved by DEQ, and may be used to estimate the concentration of a conservative parameter in a reservoir or stream over time. Other models, with DEQ approval, may be substituted for an HMB Model.

"Industrial facilities" means those facilities that produce, treat or dispose of wastewater not otherwise defined as domestic wastewater, including the runoff and leachate from areas that receive pollutants associated with industrial or commercial storage, handling or processing.

"IPR" means Indirect Potable Reuse.

"IPR Source Water" means water originating from a municipal wastewater treatment facility that meets the benchmarks, treatment, and operational standards of this Chapter and has been permitted under an OPDES wastewater permit for release to a surface water source for a PWS system for the purpose of augmenting the flow to an existing PWS system intake.

"IPR Source Water Treatment" means any method, technique, or process which changes the physical, chemical, biological character, or composition of municipal secondary treated wastewater for the purpose of meeting the benchmarks, treatment, and operational standards contained herein for IPR Source Water.

"IPR Source Water Treatment Plant (IPR SWTP)" means any plant or other works used for the purpose of treating, stabilizing, or holding IPR Source Water.

"LMR" means lake and stream monitoring report.

"MOR" means monthly operating report.

"MQL" means minimum quantifiable level.

"Non-conservative parameter" means a parameter which undergoes significant short-term degradation or change in the environment other than by dilution.

"NTU" means Nephelometric Turbidity Unit.

"O&M" means Operation and Maintenance.

"Operator" means the individual who is properly certified by DEQ and who is responsible for the maintenance and operation of an IPR Source Water Treatment Plant.

"OWQS" means the Oklahoma Water Quality Standards, contained at OAC ~~785:45~~ 252:730.

"pH" means the negative common logarithm of the hydrogen-ion activity in moles per liter, as determined using approved methods.

"Secondary treatment" means wastewater treatment to a level that will achieve the effluent limitations specified in OAC 252:606-5-2.

"Surface water" means waters of the state located upon the surface of the earth.

"Surrogate" means an individual chemical or measurement that provides an indication of treatment process performance and/or represents the presence of a broader range of similar chemicals.

"SWS-R" means waterbodies classified as sensitive public and private water supplies that may be augmented with reclaimed water for the purpose of indirect potable reuse.

"TDS" means total dissolved solids.

"TOC" means total organic carbon.

"TRC" means total residual chlorine.

"TRO" means total residual oxidant.

"TSS" means total suspended solids.

252:628-1-3. Applicability and general requirements

(a) **Applicability.** The requirements of this Chapter apply to an applicant proposing the use of IPR Source Water to augment an existing source for a Public Water Supply (PWS) system.

Permitted wastewater discharges existing as of the date of the initial promulgation of this rule are not considered IPR discharges subject to the rules in this Chapter.

(b) **Indirect Potable Reuse (IPR) for surface water (lake) augmentation.** This type of planned water reuse involves the discharge of treated wastewater to a surface waterbody by an entity for the purpose of augmenting a lake serving as a source for a PWS system. These rules apply to discharges to both SWS-R waterbodies and other reservoirs designated with the Public and Private Water Supply beneficial use in the Oklahoma Water Quality Standards (OWQS), or upstream of such reservoirs. Discharges to reservoirs designated as SWS-R by the ~~Oklahoma Water Resources Board (OWRB)~~DEQ shall be regulated in accordance with ~~OWRB~~DEQ anti-degradation policy.

(c) **Indirect Potable Reuse (IPR) for surface water (streams and rivers) augmentation.** Based on DEQ's evaluation of flow rates, travel times, distance to water intakes, and other factors, certain discharges of treated municipal wastewater to streams and rivers that serve as a source for a PWS system may also be determined to be IPR and subject to these rules.

(d) **Requirements.** In general, municipal wastewater effluent that has been treated to secondary standards will need advanced treatment in order to meet, at a minimum, the IPR effluent benchmarks in Subchapter 3 of this Chapter as well as the technology and operational standards described in Subchapters 5 and 7 of this Chapter. In addition, the applicant and their design engineer shall meet the certification and contingency planning requirements of this Subchapter.

(e) **Human Health Protection.** The goal of these rules is to manage the risk to public health, safety, and welfare from the discharge of IPR Source Water for surface water augmentation.

(f) **Potential Impacts.** The decision by an applicant to augment an existing source for a PWS system with IPR Source Water is a voluntary activity by the applicant. The applicant should undertake all measures, whether required in this rule or not, to ensure the protection of human health and the environment.

(g) **Certification.** Engineering reports and plans and specifications shall be signed and sealed by a professional engineer registered in the State of Oklahoma certifying that the submittal was prepared in accordance with good engineering practice. In addition to this certification, the responsible official for the applicant shall submit a cover letter stating that the project will meet the applicable requirements of this Chapter.

(h) **Contingency Plan.** The applicant shall submit to DEQ for approval a contingency plan describing the steps the applicant will take in the event of an adverse public health situation developing in the receiving waterbody as a result of the applicant's discharge, including but not limited to, harmful algal blooms and harmful concentrations of other pollutants. The plan shall evaluate steps for lake water quality restoration as well as provisions for supplying potable water to the citizens impacted by loss of the PWS system source. The applicant shall demonstrate the capability to respond to the temporary loss of a PWS system source due to IPR impacts.

SUBCHAPTER 3. BENCHMARKS AND IMPLEMENTATION FOR IPR SOURCE WATER DISCHARGES

252:628-3-2. Other rules apply

(a) The IPR benchmarks established by this Subchapter apply in addition to other rules for wastewater discharges, including OAC ~~785:45~~252:730, OAC ~~785:46~~252:740, OAC 252:301, OAC 252:606 and OAC 252:690. For parameters which are subject to both the IPR benchmarks established by this Subchapter and effluent limitations developed in accordance with OAC 252:606 and OAC 252:690, the more stringent effluent limitations and monitoring requirements shall apply.

(b) IPR Source Water discharges shall maintain existing and designated beneficial uses; shall not cause or contribute to a violation of narrative and numeric criteria; and shall be consistent with anti-degradation policy established in the OWQS.

(c) IPR Source Water discharges to SWS-R waterbodies shall not consume more than the portion of the assimilative capacity determined and allocated to the discharger in accordance with OAC 785:45252:730, OAC 785:46252:740, OAC 252:606 and OAC 252:690.

(d) IPR Source Water discharges to lakes shall be at least as protective as Oklahoma's Discharges to State Lakes policy as described in Oklahoma's Continuing Planning Process (CPP) document.

252:628-3-6. IPR benchmarks for additional conservative parameters

(a) **Additional conservative parameters.** Refer to Appendix A of this Chapter for the list of additional conservative parameters.

(b) **Effluent limitations for TDS.** Effluent limitations for TDS shall be set so the maximum ambient concentration will not exceed the greater of 700 milligrams per liter or two (2) standard deviations above the mean background TDS value of the receiving waterbody prior to IPR Source Water discharge. The calculated permit limit shall be applied as a monthly average permit limit in the OPDES discharge permit. The daily maximum permit limit shall be established as 1.5 times the monthly average permit limits. Background levels may be established from any combination of scientifically defensible data, including historical data, segment averages, and baseline monitoring.

(c) **Permit reopener for TDS.** Should receiving water monitoring for TDS indicate that the receiving waterbody has exceeded the greater of 700 milligrams per liter or two (2) standard deviations above the mean background TDS value prior to IPR discharge, the permit may be reopened and modified to reduce effluent limitations or increase frequency of effluent monitoring.

(d) **Effluent limitations for additional conservative parameters other than TDS.** Effluent limitations for additional conservative parameters other than TDS shall be calculated to meet action levels established in accordance with Subchapter 11 of this Chapter. The calculated permit limits shall be applied as monthly average permit limits in the OPDES discharge permit. Daily maximum permit limits shall be established as 1.5 times the monthly average permit limits.

(e) **Mixing zones.** Complete mixing of effluent and receiving water shall be used to determine appropriate effluent limitations for additional conservative parameters, unless superseded by mixing zones or dilution factors established in OAC 785:46252:740. An HMB model or other DEQ-approved model shall be used for implementation purposes.

(f) **Effluent monitoring requirements.** The following effluent monitoring requirements apply:

(1) IPR Source Water discharges shall be monitored for additional conservative parameters monthly.

(2) DEQ may increase the monitoring frequencies listed in (f)(1) of this Section for a period not to exceed two years during the initial permit cycle for the purpose of establishing the pattern and extent of variation for a given parameter.

252:628-3-7. IPR benchmarks for nutrients, chlorophyll-a, and algal biomass

(a) **Water quality standards.** IPR Source Water discharges shall not cause or contribute to an exceedance of narrative or numerical OWQS for nutrients, dissolved oxygen or chlorophyll-a. The evaluation of potential OWQS impacts shall be made using DEQ-approved effluent and receiving waterbody modeling.

(b) **Eutrophication.** IPR Source Water discharges shall not cause or contribute to excessive growth of algal biomass, periphyton, phytoplankton, cyanobacteria, or aquatic macrophyte communities, which impairs any existing or designated beneficial use.

- (c) **Mixing zones.** No mixing zones or dilution factors shall be allowed for establishing effluent limitations for nitrate (as N) and nitrite (as N). Mixing zones or dilution factors shall be designated on a case-by-case basis for establishing effluent limitations for other nutrients, unless superseded by mixing zones or dilution factors established in OAC ~~785:46~~252:740.
- (d) **Total nitrogen.** Total nitrogen shall not exceed 8 milligrams per liter as a monthly average or 12 milligrams per liter daily maximum. More stringent effluent limitations representing enhanced nutrient removal technologies for nitrogen may be established where DEQ-approved modeling demonstrates that the IPR Source Water discharge may cause or contribute to an increase in ambient receiving waterbody concentrations of nitrogen to levels that would violate paragraph (a) or (b) of this Section, or of nitrate (as N) to levels that would exceed 10 milligrams per liter.
- (e) **Total phosphorus.** Total phosphorus shall not exceed 0.2 milligrams per liter monthly average or 0.3 milligrams per liter daily maximum. More stringent effluent limitations representing enhanced nutrient removal technologies for phosphorus may be established where DEQ-approved modeling demonstrates that the IPR Source Water discharge may cause or contribute to an increase in ambient receiving waterbody concentrations of phosphorus to levels that would violate paragraph (a) or (b) of this Section.
- (f) **Chlorophyll-a.** The following requirements apply:
- (1) **SWS-R Waterbodies.** IPR Source Water discharges shall not cause or contribute to an increase in ambient receiving waterbody concentrations to levels that would exceed the aggregate long-term average concentration of chlorophyll-a at a depth of 0.5 meters below the waterbody surface of 0.010 milligrams per liter. Effluent limitations for nutrients to ensure compliance with this criterion shall be developed based on DEQ-approved modeling of the discharge and receiving waterbody.
 - (2) **Non-SWS-R Waterbodies.** IPR Source Water discharges shall not cause or contribute to an exceedance of narrative or numerical water quality standards for nutrients or chlorophyll-a. Effluent limitations for nutrients to ensure compliance with these criteria shall be developed based on DEQ-approved modeling of the discharge and receiving water.
- (g) **Effluent monitoring requirements.** The following effluent monitoring requirements apply:
- (1) Nutrient parameters which are included in the permit shall be monitored at a frequency of weekly during the period of May through October and twice a month during the period of November through April; and
 - (2) DEQ may increase the monitoring frequencies listed in (g)(1) of this Section for a period not to exceed two years during the initial permit cycle for the purpose of establishing the pattern and extent of variation for a given parameter.
- (h) **Harmful algal blooms.** In the event HABs occur at an area of the receiving waterbody influenced by the IPR Source Water discharge, the permittee shall immediately cease discharge via the IPR Source Water outfall, and notify DEQ within 24 hours.
- (1) A written report evaluating the size and extent of the HABs, the potential causes for the HABs, and the steps taken to eliminate the HABs shall be submitted to DEQ within ten (10) days.
 - (2) Discharge via the IPR Source Water outfall may resume after corrective action is completed, if necessary, the HABs are eliminated and written approval is received from DEQ.

SUBCHAPTER 9. PERMITTING REQUIREMENTS FOR IPR SOURCE WATER

252:628-9-4. Feasibility study

- (a) Applicants shall submit to DEQ three (3) copies and receive approval of the feasibility study for the proposed new IPR SWTP prior to the submittal of the IPR SWTP engineering report.

Applicants shall also submit a letter in which the applicant endorses the content of each feasibility study submitted to DEQ.

- (b) The feasibility study shall include, at a minimum:
- (1) An evaluation of the applicant's needs, preferably sourced from the applicant's local Strategic Water Supply Plan, or other similar document;
 - (2) A description of water reuse and reclamation opportunities;
 - (3) A description of potential alternatives (including reuse and non-reuse) with comparisons as appropriate of cost effectiveness, operational complexity, environmental impact, reliability, and flexibility;
 - (4) A discussion of the potential of the project for water supply diversification, such as lowered demand on groundwater supplies in time of drought;
 - (5) For waterbodies and watersheds designated as SWS-R, a discussion of the project's potential impact on water quality and the environment, including but not limited to a discussion regarding antidegradation requirements, criteria to protect beneficial uses, and assimilative capacity as described in OAC 785:45 252:730, OAC 785:46 252:740; and
 - (6) A discussion of any legal, regulatory, jurisdictional, and partnership concerns regarding the project.

SUBCHAPTER 11. IPR RECEIVING WATERBODY MONITORING

252:628-11-1. General provisions

(a) **Purpose.** The rules of this Subchapter provide protocols which shall be used to monitor ambient water quality in sources for Public Water Supply (PWS) systems being augmented with IPR Source Water. The goals of the waterbody monitoring are as follows:

- (1) To protect public health and the environment by monitoring for changes in the receiving waterbody;
- (2) To protect the beneficial uses of the receiving waterbody by performing trend monitoring on parameters that are evaluated in use attainment assessments; and
- (3) To evaluate modeling outcomes for all waterbodies and to monitor the assimilative capacity for SWS-R waterbodies.

(b) **Testing Procedures.** Testing procedures for the monitoring of IPR receiving waterbodies shall be in accordance with OAC ~~785:46 1-4~~252:740-1-4.

(c) **Quantitative data.** Data collected for the monitoring of IPR receiving waterbodies shall use analytical methods listed at 40 CFR Part 136 or other EPA-approved methods. Where there is no approved analytical method listed, the applicant shall fully describe the method used for DEQ review and obtain written approval prior to utilizing these data. All data submitted shall be defensible analytical data. Reporting and recordkeeping shall be in accordance with Subchapter 7 of this Chapter.

(d) **Measurable levels and data characterization.** Measurable levels for the monitoring of IPR receiving waterbodies shall be less than or equal to the MQLs established in Appendix B of OAC 252:690. Where there is no established MQL, the applicant shall fully describe the method and MQL used for DEQ review and obtain approval prior to utilizing these data. Where a monitored parameter has an established MQL, DEQ shall include a provision in the permit requiring measurable levels be less than or equal to the MQL. Data shall be characterized as outlined in OAC 252:690-3-2.

(e) **Agency discretion to consider additional data.** An agency with jurisdiction may consider other relevant data meeting the requirements of this Subchapter in addition to that required by the rules in this Subchapter for any particular parameter.

(f) **Parameter Groups.** There are ten parameter groups, as described in this Subsection. The permittee shall monitor the waterbody for specific parameters subject to DEQ approval.

(1) **In-Situ.** In-situ parameters include dissolved oxygen (DO), temperature, pH, electro-conductivity (EC), and oxidation/reduction potential (ORP);

(2) **Nutrients.** Nutrient parameters include total nitrogen (TN), nitrite (as N), nitrate (as N), total Kjeldahl nitrogen (TKN), ammonia, total phosphorus (TP), and dissolved reactive phosphorus, also known as ortho-phosphorus (OP);

(3) **Algal biomass and related products.** Algal biomass and product parameters include chlorophyll-a, pheophyton, phytoplankton, phycocyanin, and cyanotoxins. Taxonomy and phytoplankton density are also included;

(4) **Minerals.** Minerals include TDS, chloride, and sulfate. Alkalinity is included in this parameter group for monitoring purposes;

(5) **Metals.** Metals include inorganic toxics listed in Appendix G of OAC ~~785:45~~ 252:730, inorganic chemicals included in the National Primary Drinking Water Regulations, and metals included in the National Secondary Drinking Water Regulations. Hardness is included in this parameter group for monitoring purposes;

(6) **Microorganisms.** Microorganism parameters include E. coli, total coliform, viruses, giardia, cryptosporidium, and legionella;

(7) **Toxics.** Toxics include the organic toxics listed in Appendix G of OAC ~~785:45~~ 252:730 and organic chemicals included in the National Primary Drinking Water Regulations;

(8) **Constituents of Emerging Concern.** CECs are defined in Subchapter 1 of this Chapter. For monitoring purposes, CECs are sorted into functional groups represented by at least one surrogate;

(9) **Other drinking water parameters.** National primary drinking water regulations list maximum contaminant levels (MCLs) or action levels for disinfection byproducts, inorganic chemicals, organic chemicals, microorganisms, and radionuclides. Maximum residual disinfection levels (MRDLs) are listed for disinfectants. For monitoring purposes, the drinking water parameters are those parameters listed in the National Primary Drinking Water Regulations that are not addressed in one of the other nine parameter groups; and

(10) **Total Organic Carbon.** TOC is the amount of carbon found in an organic compound.

252:628-11-2. Sampling plans

(a) **General.** The applicant shall submit sampling plans for baseline monitoring, OPDES permit monitoring, and OPDES permit renewal monitoring for DEQ approval. Sampling plans shall consider the environmental and spatial variability of the waterbody, including limnological, hydrologic, seasonal, and temporal variation. The sampling plans shall also consider both the internal and external loading and nutrient cycling.

(b) **Baseline characterization.** The provisions of this Subsection shall be used to establish a baseline characterization of the IPR receiving waterbody before the IPR Source Water discharge begins.

(1) **Baseline characterization sampling plan.** The permittee shall submit a baseline characterization sampling plan to DEQ for review and approval. The plan shall meet the minimum requirements outlined in this Subchapter.

(2) **Duration.** The baseline characterization of the waterbody shall include data collected for a minimum of one (1) year. Length of monitoring plan may be adjusted by DEQ based on location and parameter.

(3) **Frequency.** Sampling frequency for each parameter is subject to DEQ approval and shall be identified in the sampling plan. Sampling frequency may be adjusted by DEQ based on

location and parameter. Each sampling event shall occur at least once per month so that a scientifically defensible data set will be generated after one (1) year. At least ten (10) data points per monitoring site are required for a baseline data set to be considered complete.

(4) **Spatial.** Sampling locations for each parameter are subject to DEQ approval.

(5) **Baseline waterbody monitoring list.** The list of parameters monitored to establish a baseline shall be robust enough to establish a scientifically defensible baseline for all factors of concern in the receiving waterbody. The required parameters for baseline characterization are subject to DEQ approval. Additional information can be found in Subchapter 7 of this Chapter.

(6) **SWS-R Waterbodies.** Baseline sampling of SWS-R waterbodies shall meet the requirements of OAC ~~785:46-13~~252:740-13.

(c) **OPDES waterbody monitoring requirements.** The provisions of this subsection shall be used to establish OPDES permit waterbody monitoring requirements.

(1) **Monitoring requirements.** The permittee shall submit a waterbody monitoring plan to DEQ for review and approval. The approved monitoring plan shall be part of the OPDES permit. The plan shall meet the minimum requirements outlined in this Subchapter. Monitoring shall be adequate to characterize the accumulation and concentration of conservative substances.

(2) **Frequency.** Sampling frequency for each parameter is subject to DEQ approval.

(3) **Spatial.** Sampling location for each parameter is subject to DEQ approval.

(4) **OPDES waterbody monitoring list.** The OPDES permit establishes waterbody monitoring requirements. The parameters subject to the routine OPDES waterbody monitoring may be a reduced list, utilizing surrogates and parameters likely to be present in discharge. Monitored parameters are subject to DEQ approval. Additional information can be found in Subchapter 7 of this Chapter.

(5) **SWS-R Waterbodies.** OPDES sampling of SWS-R waterbodies shall meet the requirements of OAC ~~785:46-13~~252:740-13.

(d) **OPDES permit renewal sampling requirements.** The provisions of this subsection shall be used to establish monitoring requirements for renewal of the OPDES permit.

(1) **Monitoring requirements.** The permittee shall submit a sampling plan to DEQ for approval. The sampling plan shall address the sampling requirements for permit renewal and these requirements shall be included in the permit. Sampling results shall be included with the OPDES renewal application. The sampling requirements may be updated during the OPDES permit renewal process with DEQ approval.

(2) **Frequency.** OPDES permit renewal sampling occurs once every five years during OPDES permit renewal.

(3) **Spatial.** Sampling locations are subject to DEQ approval.

(4) **OPDES permit renewal monitoring list.** The waterbody shall be monitored for a more comprehensive list of parameters during the OPDES permit renewal cycle, occurring once every five years. The sampled parameters are subject to DEQ approval. Additional information can be found in Subchapter 7 of this Chapter.

(e) **Lake and stream monitoring reports.** OPDES waterbody monitoring sampling plan shall include a proposed LMR form for DEQ approval. The LMR form shall provide all relevant information. LMR forms shall be completed and submitted in accordance with Subchapter 7 of this Chapter.

252:628-11-3. Data requirements

(a) **General.** Scientific data from the waterbody shall be used as prescribed in this Section. Data

shall be collected and analyzed in a manner consistent with testing procedures provided in OAC ~~785:46-252:740~~ or practices that are institutionally recognized and appropriate for the parameter of concern and documented in accordance with OAC ~~785:46-15-3(g)~~252:740-15-3(g). All relevant existing data available for a waterbody shall be used in the analysis, subject to the spatial, temporal, and other requirements of this Section.

(b) **Spatial coverage.** Subject to DEQ approval, IPR monitoring sites shall include:

(1) All drinking water intake structures located on the receiving waterbody. Some parameters may be sampled from a raw water tap at the water treatment plant. Other parameters shall be sampled in the receiving waterbody at a point near the intake. Intake structure sampling site requirements for individual parameters are subject to DEQ approval.

(2) Any additional drinking water intake structures within five (5) miles downstream of the discharge point.

(3) IPR Source Water discharge areas.

(4) Beneficial Use Monitoring Program (BUMP) monitoring stations, if applicable. Waivers for individual BUMP monitoring stations may be granted at DEQ's discretion.

(5) Other sites as assigned. If the receiving water does not have BUMP monitoring stations, or the BUMP monitoring stations are not adequate for IPR receiving water monitoring requirements, DEQ shall assign additional monitoring sites. Alternatively, the permittee may propose monitoring sites, subject to DEQ approval.

(c) **Temporal coverage.** Monitoring frequency for all parameters shall address seasonal variability and critical periods, subject to DEQ approval. At a minimum, nutrients and algal biomass shall have a monitoring frequency of once every two weeks during the critical season of May through October and once per month during the remainder of the year. DEQ may increase the monitoring frequency of nutrients and algal biomass in the event of a harmful algal bloom in the receiving waterbody.

(d) **Additional data requirements.** The following data requirements apply.

(1) **In-Situ.** Daily diurnal 1-meter profiles shall be required for water temperature and dissolved oxygen during periods of thermal stratification and daily diurnal surface measurements shall be required during periods of complete mix. Because periods of thermal stratification may vary seasonally and can be reservoir specific, both baseline sampling and IPR receiving waterbody monitoring may be used to determine the approximate beginning date of stratification setup, or if lakes are polymictic, the multiple stratification/mixing periods that may setup during a particular season. Validation profiles shall be measured periodically during periods of complete mix.

(2) **Nutrients.** Nutrient monitoring shall be adequate to characterize both external and internal loading and nutrient cycling.

(3) **Algal biomass and related products.** Algal biomass monitoring and taxonomy shall be adequate to characterize algal growth and community shifts during critical periods.

(e) **Quality assurance.** Quality of data shall be assured as outlined in OAC ~~785:46-15-3(g)~~252:740-15-3(g).

252:628-11-4. SWS-R requirements

(a) **Assimilative capacity.** The permittee shall determine assimilative capacity and propose allowable consumption, if any, as outlined in OAC ~~785:45-5-25(e)(8)(C)~~252:730-5-25(c)(8)(C) and OAC ~~785:46-13~~252:740-13. Monitoring for assimilative capacity in SWS-R waterbodies shall meet the requirements outlined in OAC ~~785:46-13~~252:740-13. The IPR receiving waterbody monitoring program shall include monitoring the assimilative capacity.

(b) **Chlorophyll-a.** The long-term average concentration of chlorophyll-a shall not exceed 0.010

milligrams per liter (mg/L), as outlined in OAC ~~785:45-5-10(7)~~252:730-5-10(7). The IPR receiving waterbody monitoring program shall include monitoring chlorophyll-a levels, with greater frequency during critical periods.

(c) **Technical evaluation report.** The permittee shall technically evaluate the IPR receiving waterbody at least once every five years to determine the attainment or nonattainment of beneficial uses, as outlined in OAC ~~785:45-5-25(e)(8)(D)~~252:730-5-25(c)(8)(D). The IPR receiving waterbody monitoring program shall include the collection of data necessary to complete the technical evaluation report.

252:628-11-5. Action levels

(a) **General.** At a minimum, action levels shall protect beneficial uses and the criteria developed to protect them and consider rules regarding use of assimilative capacity in SWS-R waterbodies as outlined in OAC ~~785:45-5-25~~252:730 and OAC ~~785:46-13~~252:740-13.

(b) **Statistical significance.** Some action levels, such as the action levels for CECs, are based on a statistically significant increase. Determination of statistical significance is subject to DEQ approval. The determination of statistical significance may be determined by methods listed in this subsection, or by other DEQ-approved methods.

(1) **The Student's t Test.** The student's t test can be used to determine if two sets of data are significantly different from each other. A 95% confidence level shall be used when using the student's t test to determine statistical significance.

(2) **Multiple range tests.** Multiple range tests can be used to test for significant difference for a group of ranked means. Tests may include least significant difference or multiple t test, Student-Newman-Keuls test, Tukey's test based on allowances, and Duncan's multiple range test. A significance level of 5% shall be used.

(3) **Distribution free methods.** For parameters that will likely not be normally distributed, distribution free methods shall be used to determine statistical significance. Options include the Mann-Whitney test, Mood's Median test, and the Kruskal-Wallis test.

(c) **Reporting.** Permittee shall report results from statistical significance tests on the LMR forms as required by the permit.

(d) **Actions and action levels by parameter group.** The following requirements apply.

(1) **In-Situ.** Actions and action levels shall be determined by DEQ.

(2) **Nutrients.** The actions and action levels for nutrients are as follows:

(A) **Accumulation of phosphorus.** Actions and action levels shall be determined by DEQ; and

(B) **Accumulation of nitrogen.** Actions and action levels shall be determined by DEQ.

(3) **Algal biomass.** Actions and action levels shall be determined by DEQ.

(4) **Minerals.** The following requirements apply for minerals.

(A) **Total Dissolved Solids.** Requirements shall be placed in the permit to prevent the maximum ambient concentration exceeding the greater of 700 milligrams per liter or two (2) standard deviations above the mean background TDS value of the receiving waterbody prior to IPR Source Water discharge. Background levels can be established from any combination of scientifically defensible data, including historical data, segment averages, and baseline monitoring. Potential actions to control TDS shall include one or more of the following:

(i) Cease discharge;

(ii) Reduce discharge;

(iii) Increase treatment; and

(iv) Other appropriate action as approved by DEQ.

- (B) **Chloride and sulfate.** Actions and action levels shall be determined by DEQ.
- (5) **Metals.** Actions and action levels shall be determined by DEQ.
- (6) **Microorganisms.** There are no action levels for this parameter group.
- (7) **Toxics.** Actions and action levels shall be determined by DEQ.
- (8) **Constituents of Emerging Concern.** When a statistically significant accumulation is identified at any monitoring site in the waterbody, the following actions may be required at DEQ's discretion:
- (A) Investigate implications for public health and the environment. Permittee shall submit findings to DEQ.
 - (B) Increase effluent and/or waterbody monitoring frequency. Increased monitoring requirements shall be reflected in the OPDES permit. Additionally, the permittee shall not be eligible for reduced waterbody monitoring for the parameter of concern at the permit renewal.
 - (C) Pursue additional source delineation and submit findings to DEQ.
 - (D) Notification of PWS systems and any other entities as appropriate using the waterbody of the detected increase.
 - (E) Other appropriate action as approved by DEQ.
- (9) **Other drinking water parameters.** Actions and action levels shall be determined by DEQ.
- (10) **Total Organic Carbon.** There are no action levels for this parameter group.