

FACT SHEET

FOR THE GENERAL PERMIT TO DISCHARGE WASTEWATER FROM MUNICIPAL LAGOONS TO WATERS OF THE UNITED STATES UNDER THE OKLAHOMA POLLUTANT DISCHARGE ELIMINATION SYSTEM (OPDES)

DEQ Permit Number: OKG58

Issuing Office: Oklahoma Department of Environmental Quality
Water Quality Division
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Applicant: Owner of Discharging Faculative Municipal/Domestic Lagoons located in the State of Oklahoma

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The State of Oklahoma Department of Environmental Quality (DEQ) has made a tentative determination to re-issue the general permit for the discharge from municipal/domestic lagoons. The DEQ is the permitting authority and this general permit will be enforceable under both federal and state laws, rules and regulations. Permit requirements are based on NPDES regulations (40 CFR, Parts 122, 124, and 403) and the Oklahoma Pollutant Discharge Elimination System Act (OPDES Act), Title 27A O.S., § 2-6-201 *et seq.* and the rules of the DEQ adopted there under {See OAC 252:606}.

I. PERMITTING BACKGROUND

The following is a chronology of permitting activities since issuance of the previous general permit.

March 1, 2006: Draft general permit and fact sheet sent to EPA for courtesy review.
July 1, 2001: Previously issued general permit became effective.
June 29, 2000: Previous general permit issued.

II. PURPOSE AND SCOPE

The purpose of this general wastewater discharge permit is to expedite the permitting process for municipal discharging lagoons that discharge generally small quantities of treated wastewater that have relatively low risks for causing water quality degradation to receiving streams. The general permit provides a uniform measure of environmental protection consistent with all the laws, rules and regulations of the DEQ and the Environmental Protection Agency (EPA).

Facilities that qualify for coverage under this general permit will need to obtain an Authorization to Discharge under this general permit.

The general permit covers municipal/domestic wastewater facilities (SIC Code 4952 with a municipality sub-code) that utilize discharging facultative lagoons as their sole source of wastewater treatment, have design discharges of less than one million gallons per day, and **do not** receive discharges from significant industrial users, as defined at 40 CFR 403.3(t). The facility must comply with DEQ's wastewater treatment lagoon construction requirements set forth in Water Pollution Control Facility Construction, OAC 252:656 Subchapter 11, subtitled "Lagoon Standards". The facility must also have an approved wasteload allocation, of secondary for a lagoon discharge, to its respective receiving stream as listed in the State of Oklahoma Water Quality Management (208) Plan. Secondary limits for a lagoon discharge are 5-day biochemical oxygen demand (BOD₅) of 30 mg/l, and total suspended solids (TSS) of 90 mg/l. Facilities subject to site-specific ammonia effluent limitations as a result of the Total Maximum Daily Load (TMDL) requirements shall be excluded from coverage under this permit.

This general permit shall not cover those facilities discharging to the following waters: Outstanding Resource Waters [OAC 785:45-5-25(c)(1)], High Quality Waters [OAC 785:45-5-25(c)(3)], Sensitive Public and Private Water Supplies [OAC 785:45-5-25(c)(4)], Appendix 'B' Waters [OAC 785:45-5-25(c)(2)] as defined in Oklahoma's Water Quality Standards, and receiving waters included in Oklahoma's '303(d) List' of impaired water bodies caused by "Organic Enrichment/DO" (Cause Code 1200) or "Nutrients" (Cause Code 900) for which a TMDL has not been performed, or the result of the TMDL indicates that discharge limits more stringent than secondary are required. Discharges to sensitive waters for threatened and endangered species, as identified to the DEQ by the U.S. Fish and Wildlife Service, shall not be covered under the general permit for new facilities, nor if it is an existing facility seeking to change its point of discharge or increase the permitted design flow from its previous permit.

Lagoon discharges to lakes are also excluded from this general permit.

III. EFFLUENT LIMITATIONS AND CONDITIONS

A. WATER QUALITY STANDARDS IMPLEMENTATION

1. DO and DO-Demanding Substances – Fish and Wildlife Propagation Use (OAC 785:45-5-12)

To qualify for coverage under this general permit, municipal/domestic wastewater facilities must be included in the “208” Plan with a wasteload allocation (WLA) of year-round secondary for a lagoon discharge of 30 mg/l BOD₅ and 90mg/l TSS. The WLA determines the limits by which the DO criteria of the receiving streams established in the Oklahoma water quality standards shall be protected. The process whereby a WLA for a facility gains inclusion in the “208” Plan requires that a TMDL be performed and submitted to the EPA for approval before being placed in the Plan. Accordingly, inclusion in the “208” Plan indicates that the effluent limits so derived for the facility are protective of the water quality standards of the receiving stream.

Final 30-day average effluent limits for BOD₅ and TSS to be imposed on the proposed general permit are consistent with the wasteload allocations for facilities listed in the “208” Plan. Concentration limits in the permit are granted accordingly. Mass loading limitations are calculated using the actual design flow of the facility or the flow, in million gallons per day (mgd), specified in the facility’s “208” Plan, whichever is less, and the following equation:

$$\text{Mass Loading, lbs/day} = 30\text{-day average concentration (mg/l)} \times \text{discharge flow (mgd)} \times 8.34$$

2. pH – Fish and Wildlife Propagation Use (OAC 785:45-5-12)

OAC 785:45-1-12(f)(3) states, "pH values shall be between 6.5 and 9.0 in waters designated for fish and wildlife propagation; unless pH values outside that range are due to natural conditions." This pH range is established in the general permit.

3. Toxic Substances – Fish and Wildlife Propagation (OAC 785:45-5-12) and Fish Consumption (OAC 785:45-5-20) Uses

Based on the nature of the wastewater being discharged from facilities as previously described, the wastewater which will be discharged through these lagoons should not contain substances listed in Toxic Substances (OAC 785:45-5-12(f)(6)) and Water Column Criteria to Protect for the Consumption of Fish Flesh (OAC 785:45-5-20(b)) at levels which would have a reasonable potential to exceed numerical criteria.

Priority pollutants, which are less likely to be present in the waste stream of a municipal/domestic lagoon, must be well mixed, stabilized, and should not cause significant impact on the receiving stream.

Where actual or potential exceedance of Oklahoma water quality criteria are determined to be the result of the facility’s discharge to the receiving water(s), the DEQ may determine that the facility is no longer eligible for coverage under the general permit, and require the facility to apply for an individual permit with additional chemical-specific limits or toxicity testing requirements, as necessary, to maintain the beneficial use of the receiving stream.

4. Oil and Grease – Fish and Wildlife Propagation Use (OAC 785:45-5-12)

OAC 785:45-5-12(f)(4) states, “All waters having the designated beneficial use of any subcategory of fish and wildlife propagation shall be maintained free of oil and grease to prevent a visible sheen of oil or globules of oil or grease on or in the water. Oil and grease shall not be present in quantities that adhere to

stream banks or coat bottoms of water courses or which cause deleterious effects to the biota.” A narrative condition prohibiting the discharge of any visible sheen of oil or globules of oil or grease will be included in the draft permit.

5. Bacterial Criteria – Public and Private Water Supplies (PPWS) (OAC 785:45-5-10) and Primary Body Contact Recreation (PBCR) (OAC 785:45-5-16) Uses

Per requirements of DEQ’s rules on water pollution control construction standards (OAC 252:656-11), the lagoon must have a minimum retention time of 120 days. With such a retention time, the coliform concentration in the effluent can be expected to be less than 200 colonies/100 ml. With this low level of coliform, no restriction on coliform is required for the protection of PPWS and PBCR uses of the receiving stream.

6. Toxicity from Halogenated Oxidants – Fish and Wildlife Propagation Use (OAC 785:45-5-12)

Facilities typically add halogens (e.g. chlorine, bromine, etc.) to meet bacterial limits. As stated previously, limits to meet bacterial criteria are not required in this general permit; therefore, facilities covered under this general permit will not need to add halogens, and permit limits to control toxicity from halogenated oxidants will not be required in this general permit.

7. Floatable Solids and Foam – Aesthetics Use (OAC 785:45-5-19)

There shall be no discharge of floating solids or visible foam in other than trace amounts.

8. Pretreatment Program

Although facilities receiving discharges from significant industrial users are excluded from coverage under this general permit, facilities authorized pursuant to this general permit shall be required to comply with the basic pretreatment requirements found at 40 CFR 403.

9. Biosolids/Sewage Sludge Requirements

Biosolids/sewage sludge disposal practices shall comply with the federal regulations for landfills, sludge, and solid waste disposal established at 40 CFR, Parts 257, 503 and the DEQ rules governing Sludge Management (OAC 252:515 and OAC 252:606) as applicable.

Biosolids/sewage sludge is self-contained within the lagoon system. The permittee shall give 120 days prior notice to DEQ of any change planned in the biosolids/sewage sludge disposal practice.

The permittee is required to maintain all records relevant to biosolids/sewage sludge disposal for the life of the permit. These records shall be made available to the DEQ upon request.

B. 303(d) LIST ASSESSMENT

The general permit shall not cover those facilities discharging to 303(d) List waters impaired by “Organic Enrichment/DO” (Cause Code 1200) or “Nutrients” (Cause Code 900) for which a TMDL has not been performed or the results of TMDL indicate that discharge limits more stringent than secondary are required. Considering the nature of the wastewater which can reasonably be expected to be discharged by the small municipal systems qualified for coverage under this permit (in accordance with Part I), discharges authorized pursuant to this general permit will not contribute significantly to impairment of 303(d) List waters for other causes.

C. ANTIDegradation Requirements

To satisfy this requirement, the general permit shall not cover those facilities discharging to the following waters: outstanding resource waters; high quality resource waters; sensitive public and private water supplies; and Appendix 'B' waters [OAC 785:45-5-25(c) (2) (see Part I. Purpose and Scope above).

D. PROTECTION OF ENDANGERED AND THREATENED SPECIES AND CRITICAL HABITAT

Based on the characteristics of the wastewater, which is mostly from domestic sources, and the type of treatment being facultative lagoon, the DEQ has concluded that issuance of this general permit is not likely to adversely affect any endangered or candidate species or critical habitats. The effluent limitations established in this general permit ensure protection of aquatic life and maintenance of the receiving water designated as aquatic habitat.

IV. SUMMARY OF PROPOSED PERMIT EFFLUENT LIMITATIONS

A. EFFLUENT LIMITATIONS

Effluent limits and reporting requirements are as follows:

Effluent Characteristic	Discharge Limitations		
	Mass Loading (lbs/day)	Concentration (mg/l)	
	Monthly Avg.	Monthly Avg.	Weekly Avg.
Flow [50050]	N/A	Report mgd	Report mgd
Biochemical Oxygen Demand - 5 Day (BOD ₅) [00310]	*	30	45
Total Suspended Solids (TSS) [00530]	*	90	135
pH [00400]	N/A	6.5 – 9.0 standard units	

* Mass loading limitations are calculated using the actual design flow of the facility or the design flow specified in the facility '208 Plan', whichever is less.

$$\text{Mass Loading Limit} = \text{monthly average concentration limit (mg/l)} \times \text{design flow (mgd)} \times 8.34$$

There shall be no discharge of floating solids or visible foam in other than trace amounts.

There shall be no discharge of any visible sheen of oil or globules of oil or grease.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the discharge from the final treatment unit.

All monitoring and reporting requirements shall also be in compliance with Part III of this permit.

B. MONITORING REQUIREMENTS

Frequency of testing and sample type for each individual authorization will be based on the actual design flow and requirements set forth in OAC 252:606 Appendix A, Table 1-1, which is reproduced below as it pertains to this general permit:

Parameter and Sample Site	Design Capacity (mgd)					
	0 - < 0.1		0.1 - < 0.5		0.5 - < 1.0	
	Frequency	Sample Type	Frequency	Sample Type	Frequency	Sample Type
Flow-effluent	2/week	Instantaneous	5/week	Instantaneous	7/week	Totalized
BOD ₅ – Influent & effluent	1/month	Grab	2/month	Grab	3/month	3 hr Comp
TSS- effluent	1/month	Grab	2/month	Grab	3/month	3 hr Comp
pH – Each cell & Effluent	2/week	Grab	2/week	Grab	2/week	Grab

C. OTHER PERMIT CONDITIONS AND REQUIREMENTS

1. Compliance with final effluent limitations is required on the effective date of the authorization under this general permit.
2. The permittee is required to operate the treatment facility at maximum efficiency at all times, to monitor the discharge as directed in the individual authorization, and report the results monthly in accordance with Part III of the permit. The monitoring results will be available to the public. Monitoring frequencies will be set in accordance with the provisions of OAC 252:606
3. The permit prohibits the introduction of any industrial or commercial pollutant, including oxygen-demanding pollutants (e.g., BOD), released at a flow rate and/or pollutant concentration, which will cause interference with the permitted treatment facility.

VII. SUMMARY OF CHANGES FROM PREVIOUS PERMIT

A narrative condition prohibiting the discharge of any visible sheen of oil or globules of oil or grease is added.

Frequency of testing and sample type requirements for dissolved oxygen, alkalinity, and temperature, as appeared in the previous general permit but not required as parts of effluent limitations and monitoring requirements of the general permit, are now deleted from this general permit. However, for operation controls of the lagoon treatment system, monitoring for these parameters is required and is covered in OAC 252:606.

Some standard permit conditions and requirements (e.g., definition, monitoring, reporting, penalties...) might have been changed from the previous permit. See revised Permit Part III and IV.

VIII. REVIEW BY OTHER AGENCIES AND FINAL DETERMINATION

A draft general permit and draft public notice will be sent to the District Engineer, Corps of Engineers, State Historical Preservation Office and to the Field Supervisor of the U.S. Fish and Wildlife Service upon the publication of the notice. If comments are received from these agencies or other State or Federal agencies with jurisdiction over fish, wildlife, or public health, additional conditions may be included in accordance with regulations promulgated at 40 CFR, Part 124.59.

The public notice describes the procedures for the formulation of final determinations.