

## 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 No.: OKG58

Applicant: Operators of Discharging Facultative Municipal/Domestic Lagoons Located in the State of Oklahoma

Issuing Office:: Oklahoma Department of Environmental Quality  
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Permit Action: Renewal of a general permit for discharge of treated wastewater from facultative municipal/domestic lagoons.

## I. PURPOSE AND SCOPE OF PERMIT

The purpose of the General Wastewater Discharge Permit OKG58 (the permit) is to expedite the permitting process for municipal facultative lagoons that discharge generally small quantities (less than one million gallons per day) of treated wastewater with relatively low risk of water quality degradation to the receiving streams. The permit provides a uniform measure of environmental protection consistent with all the laws, rules and regulations of the Oklahoma Department of Environmental Quality (DEQ) and the Environmental Protection Agency (EPA).

Facilities that meet qualifying requirements specified in Section I.A and meet the restrictions for receiving waters specified in Section I.B may be granted an authorization by the DEQ to discharge under the permit.

### A. QUALIFYING REQUIREMENTS FOR WASTEWATER TREATMENT FACILITIES

1. The permit covers municipal/domestic wastewater facilities (SIC Code 4592 with a municipality sub-code) that utilize discharging facultative lagoons as their sole source of wastewater treatment and have design discharges of less than one million gallons per day.
2. The facilities must be designed in accordance with the organic loading, flow control, and depth requirements specified in OAC 252:656-11-2(b), and 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."
3. The facilities shall not receive discharges from significant industrial users, as defined at 40 CFR Part 403.3(v) or from Categorical industrial users (CIUs) for which pretreatment standards have been promulgated by EPA at 40 CFR Parts 405-499.
4. The facilities shall not be under a consent order (CO) for upgrade of the treatment plant.
5. The facilities must also have an approved year-round wasteload allocation of secondary treatment for a lagoon discharge to its respective receiving stream as listed in the State of Oklahoma Water Quality Management Plan (208 Plan). In accordance with OAC 252:606-5-2(2)(D), the secondary treatment limits for a lagoon discharge are five-day biochemical oxygen demand (BOD<sub>5</sub>) of 30 mg/l, and total suspended solids (TSS) of 90 mg/l.
6. Facilities which discharge to waterbodies included in the Oklahoma's 303(d) List of impaired waterbodies, or for which a Total Maximum Daily Load (TMDL) has been completed, for pathogens (fecal coliform, *E. coli* or *enterococci*) may be authorized under this permit. Such authorization shall be contingent on the lagoons being permitted and operated in compliance with OAC 252:656-11-2(b) and the discharge meeting *E. coli* limits established in this permit solely through detention time; should chlorination or other disinfection prove necessary to meet *E. coli* limits, the facility must apply for an individual discharge permit.
7. Facilities subject to site-specific ammonia or dissolved oxygen (DO) limitations on the effluent, as a result of a wasteload allocation or TMDL requirements, shall be excluded from coverage under this permit.
8. Discharges to sensitive waters for threatened and endangered species, as identified by the U.S. Fish and Wildlife Service in <http://www.fws.gov/southwest/es/oklahoma/spplist.htm>, shall not be covered under the 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 authorization.
9. New discharges to Culturally Significant Waters, which are defined at OAC 785:45-5-25(c)(7)(A) and listed in Appendix A of OAC 785:45, shall not be covered under this permit as consultation with the authorized tribal authority may be necessary in accordance with at OAC 785:45-5-25(c)(7)(B).

**B. RESTRICTIONS FOR RECEIVING WATERS**

This permit shall not cover facilities that discharge to the following waters:

1. Outstanding Resource Waters and/or Scenic Rivers [OAC 785:45-5-25(c)(1)],
2. High Quality Waters [OAC 785:45-5-25(c)(3)],
3. Sensitive Public and Private Water Supplies [OAC 785:45-5-25(c)(4)],
4. Appendix B Waters [OAC 785:45-5-25(c)(2)] that are also designated as Outstanding Resource Waters as defined in Appendix A of OAC 785:45.
5. Waterbodies included in the Oklahoma's 303(d) List of impaired waterbodies caused by DO (Cause Code 322), phosphorous (Cause Code 462), or ammonia (Cause Code 91); for which a TMDL has not been performed, or the result of the TMDL indicates that discharge limits more stringent than secondary treatment are required.
6. Lakes that are defined at OAC 785:45-1-2 and meet the requirements specified at OAC 785:45-5-3.

**II. 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 permit, municipal/domestic wastewater facilities must be included in the 208 Plan with a year-round secondary treatment wasteload allocation (WLA) for a lagoon discharge of 30 mg/l BOD<sub>5</sub> and 90 mg/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 water quality model or Total Maximum Daily Load (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.

The monthly average effluent limits for BOD<sub>5</sub> and TSS to be imposed on the proposed 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 for a qualifying facility are calculated using the actual design flow of the facility or the flow specified in the facility's 208 Plan in million gallons per day (mgd), whichever is less, and the following equation:

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

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

OAC 785:45-5-12(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 implemented in the 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 from municipal facilities as previously described, the treated

wastewater which will be discharged from the municipal wastewater lagoon treatment systems is not expected to contain toxic substances listed at OAC 785:45-5-12(f)(6) and OAC 785:45-5-20(b) at levels which would have a reasonable potential to exceed numerical criteria for toxic substances and water column criteria for the protection of fish flesh.

As stated in Section II.A.3, municipal/domestic lagoon treatment facilities receiving discharges from significant industrial users are excluded from coverage under this permit. Thus, priority pollutants are less likely to be present in the waste streams of these municipal/domestic lagoon treatment facilities and the effluent from these treatment facilities 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 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 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**

In accordance with OAC 252:690-3-78 and OAC 252:690-3-86, the bacteria limits do not apply to discharging lagoons in compliance with OAC 252:656-11-2(b) unless Water Quality Standards are violated. For discharges of treated municipal wastewater to waterbodies that are listed in the Oklahoma's 303(d) List as impaired for bacteria or for which a TMDL has been completed for pathogens, the following bacteriological limits shall be applied.

- In accordance with OAC 252:690-3-86(a)(2), the draft permit will have an *E. coli* monthly average limit (MAL) of 126 Most Probable Number (MPN)/100 ml, expressed as a geometric mean, and a daily maximum limit (DML) of 406 MPN/100 ml for streams, in effect for the "recreational period" of May 1 through September 30.
- Additionally, in accordance with OAC 252:690-3-86(b), the draft permit will have an *E. coli* MAL of 630 MPN/100 ml, expressed as a geometric mean, and a DML of 2030 MPN/100 ml in effect for the "non-recreational period" from October 1 through April 30.
- In accordance with OAC 252:690-3-89(a)(3), the draft permit will have a bacteria monitoring frequency of twice per week during the months of May through September and once per week during the months of October through April.

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

Lagoon systems that satisfy the construction standards set forth in OAC 252:616-11-2(b) can achieve compliance with bacterial criteria by providing sufficient detention time. Therefore, additional disinfection is not required. However, for discharges to receiving waterbodies listed in the Oklahoma's 303(d) List as impaired for bacteria or for which a TMDL has been completed for pathogens, installation

of disinfection unit shall be required if the discharge monitoring results show that bacteria limits are violated. In such case, the facility does not qualify for coverage under this permit and shall be required to obtain coverage under an individual permit.

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

In accordance with OAC 785:45-5-9(b), a narrative condition prohibiting the discharge of floating solids or visible foam in other than trace amounts will be included in the permit.

#### **8. Pretreatment Program**

Municipal/domestic lagoon treatment 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 Part 403.

#### **9. Biosolids/Sewage Sludge Requirements**

Biosolids/sewage sludge is self-contained within the lagoon system. Biosolids/sewage sludge shall not be removed from this facility nor shall the facility be closed until a Biosolids/Sludge Management Plan, Sludge Disposition Plan, or Closure Plan, if applicable, has received written approval by DEQ. Such a plan shall be submitted to DEQ in approvable form, at least 120 days prior to the earliest planned date of sludge removal or closure of the facility.

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

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 permit shall not cover those facilities discharging to 303(d) List waterbodies impaired by DO (Cause Code 322), phosphorus (Cause Code 462), or ammonia (cause code 91), for which a TMDL has not been performed or the results of a TMDL indicate that discharge limits more stringent than secondary treatment are required. Considering the nature of the wastewater which can reasonably be expected to be discharged by the small municipal systems that qualify for coverage under this permit (in accordance with Part I), discharges authorized pursuant to this permit are not expected to significantly contribute to impairment of 303(d) List waterbodies for other causes.

### **C. ANTIDegradation Requirements**

To satisfy this requirement, the 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 as indicated in Section I.A of this fact sheet.

### **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 a facultative lagoon, DEQ has concluded that the issuance of authorization of coverage under this permit to an existing discharging facility is not likely to adversely affect any endangered or candidate

species or critical habitats. The effluent limitations established in this permit ensure protection of aquatic life and maintenance of the receiving water designated for aquatic habitat.

#### E. RE-OPENER CLAUSE

The permit may be re-opened for modification or revocation and reissuance to require additional monitoring and/or effluent limitations where actual or potential exceedances of state water quality criteria are determined to be the result of the permittee's discharge to the receiving water, or a revised TMDL is established for the receiving water, or when required as technology advances. Modification or revocation and reissuance of the permit shall follow regulations listed at 40 CFR Part 124.5.

### III. SUMMARY OF PROPOSED PERMIT EFFLUENT LIMITATIONS

#### A. EFFLUENT LIMITATIONS

The following effluent limits and monitoring requirements are effective on the effective date and last through the expiration date of the permit and are applicable to discharges of treated municipal wastewater from facultative municipal/domestic lagoon systems from outfalls as described in the authorizations.

##### 1. Effluent Concentration Limitations and Reporting Requirements

Effluent Characteristics		Discharge Limitations			
		Mass Loading (lbs/day)	Concentration (mg/l unless otherwise specified)		
			Monthly Avg.	Weekly Avg.	Daily Max.
<b>Flow</b> (mgd) [STORET: 50050]	Year round	---	Report	---	Report
<b>Biochemical Oxygen Demand - 5 Day</b> (BOD <sub>5</sub> ) [STORET: 00310]	Year round	( <sup>1</sup> )	30.0	45.0	---
<b>Total Suspended Solids</b> (TSS) [STORET: 00530]	Year round	( <sup>1</sup> )	90.0	135.0	---
<b><i>E. coli</i></b> (MPN/100 ml) ( <sup>2</sup> ) [STORET: 051040]	May - Sep	---	126 ( <sup>3</sup> )	---	406
	Oct - Apr	---	630 ( <sup>3</sup> )	---	2,030
<b>pH</b> (standard units) [STORET: 00400]	Year round	---	6.5 – 9.0		

(<sup>1</sup>) Mass loading limitations are calculated using the actual design flow of the facility or the design flow specified in the facility's 208 Plan, whichever is less; and the following equation:

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

(<sup>2</sup>) Bacteriological limitations apply only if the facility discharges to a receiving waterbody included in the Oklahoma's 303(d) List of bacteria impaired waterbodies, or for which a TMDL has been completed for pathogens (*E. coli* or *enterococci*).

(<sup>3</sup>) Monthly data for *E. coli* is reported as geometric mean of all samples in that month.

## 2. Monitoring Requirements and Sample Types

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 permit.

### Effluent Monitoring Requirements

Effluent Characteristics	Design Capacity (mgd)						
	0 - < 0.1		0.1 - < 0.5		0.5 - < 1.0		
	Frequency	Sample Type	Frequency	Sample Type	Frequency	Sample Type	
Flow	2/week	Instantaneous	5/week	Instantaneous	7/week	Totalized	
BOD <sub>5</sub>	1/month	Grab	2/month	Grab	3/month	3-hour composite	
TSS	1/month	Grab	2/month	Grab	3/month	3-hour composite	
<i>E. coli</i>	May - Sep	2/week	Grab	2/week	Grab	2/week	Grab
	Oct - Apr	1/week	Grab	1/week	Grab	1/week	Grab
pH	2/week	Grab	2/week	Grab	2/week	Grab	

## 3. Other Year Round Requirements

- 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 on or in the water. Oil and grease shall not be present in quantities that adhere to stream bank and coat bottoms of water courses or which cause deleterious effects to the biota.
- 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. OTHER PERMIT CONDITIONS AND REQUIREMENTS

1. Compliance with final effluent limitations is required on the effective date of authorization(s) issued under this permit.
2. Permittees are required to operate the treatment facility at maximum efficiency at all times, monitor the discharge as directed in the individual authorization, and report the results monthly in accordance with Part III of the permit.
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.

## C. REPORTING OF MONITORING RESULTS

Monitoring results shall be reported in accordance with the provisions of Part III.B.5 of the permit. Monitoring results obtained during the previous month shall be summarized and electronically reported on an electronic

Discharge Monitoring Report (eDMR) form due to the Oklahoma Department of Environmental Quality, Water Quality Division, Wastewater Compliance Tracking Section no later than the 15<sup>th</sup> day of the month following the completed monthly test. If no discharge occurs during the reporting period, an eDMR form stating "No Discharge" shall be electronically submitted according to the above schedule. Instructions on how to register as a Preparer or Signatory for eDMRs, as well as how to prepare and submit eDMRs, can be found on DEQ's website at <http://www.deq.state.ok.us/wqdnew/ereporting/index.html>. Assistance is also available by contacting DEQ at (405) 702-8100 or email [deqreporting@deq.ok.gov](mailto:deqreporting@deq.ok.gov).

#### **IV. SUMMARY OF CHANGES FROM PREVIOUS PERMIT**

There are no changes to the effluent limitations from the previous General Permit OKG58.

#### **V. REVIEW BY OTHER AGENCIES AND FINAL DETERMINATION**

A public notice which includes a link to the DEQ webpage where the draft permit may be viewed will be sent to various federal and state agencies upon posting the draft permit in the DEQ webpage. If comments are received from these agencies or other state or federal agencies with jurisdiction over fish, wildlife, or public health, the permit may be denied or additional conditions may be included in accordance with regulations promulgated at 40 CFR 124.59.

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

#### **VI. ADMINISTRATIVE RECORD**

The following sources were used to prepare the OKG58 General Permit and constitute a part of its administrative record for the OKG58 General Permit.

##### **A. DEQ RECORDS**

General Permit OKG58 and fact sheet for Wastewater Discharge Municipal/Domestic Lagoons.

##### **B. FEDERAL CLEAN WATER ACT CITATIONS**

Sections 204(b), 301, 303(d), 306, 307, 308 and 502(4).

##### **C. FEDERAL RULES AND REGULATIONS**

40 CFR Parts 122, 124, 257, 403 and 503.

##### **D. STATE LAW, STANDARDS, AND RULES AND REGULATIONS**

Oklahoma Pollutant Discharge Elimination System (OPDES) Act, 27A O.S. §2-6-201 *et seq.*  
OAC 252:606, Discharge Standards (DEQ)  
OAC 252:656, Construction Standards (DEQ)  
OAC 252:690, Water Quality Standards Implementation (DEQ).  
OAC 785:45, Oklahoma Water Quality Standards (OWRB).  
Oklahoma Continuing Planning Process Document (CPP).