# FINAL FACT SHEET
# AND SUPPLEMENTARY INFORMATION
# FOR GENERAL PERMIT ARG640000

For renewal of the General Permit for Water Treatment Plants with a Wastewater Discharge Located Within the State of Arkansas, Permit Number ARG640000.

Information in this part is organized as follows:



## 1 Background

Under 40 C.F.R. § 122.28, general permits may be written to cover categories of point sources having common elements, such as facilities that involve the same or substantially similar types of operations, that discharge the same types of waste, or that are more appropriately regulated by a general permit. Given the number of water treatment plants with wastewater discharges requiring NPDES permit coverage, DEQ has elected to renew the ARG640000 General Permit for Water Treatment Plants with a Wastewater Discharge located within the State of Arkansas.

The previous permit became effective on January 1, 2022, and will expire on December 31, 2026.

## 2 Wastewater Characterization

Water treatment plants (WTPs) may use either groundwater or surface water as their source water and processes can vary depending on the treatment the source water requires. Groundwater is most frequently treated to remove dissolved iron and manganese and typically

includes oxidation (e.g.: ozonation, addition of chlorine) to precipitate the iron and manganese followed by filtration to remove the iron and manganese oxides. Typical wastewater can be characterized as shown in Table 2.1:

| Table 2.1: Typical Wastewater Pollutant Concentrations | |
|---|---|
| **Pollutant** | **Concentration (mg/L)** |
| Total Iron | 100 – 200 |
| Total Manganese | 70 – 100 |
| Total Residual Chlorine (TRC) | 0.6 – 1 |

Surface water is most frequently treated by sedimentation basins followed by filtration to remove suspended solids. Precipitation, coagulation, and flocculation are frequently used to increase the effectiveness of filtration and sedimentation. Aluminum sulfate (alum) is the most common coagulant used by WTPs. Chlorine may be added before filtration as an oxidizing agent for precipitation, and to remove unwanted taste and color, and is frequently added after filtration for disinfection prior to distribution as drinking water. This chlorinated finish water is typically used to backwash the filters. Filter backwash from standard coagulation/flocculation processes associated with treating surface water can be characterized as shown in Table 2.2:

| Table 2.2: Filter Backwash from Standard Processes with Treating Surface Water Pollutant Concentrations | |
|---|---|
| **Pollutant** | **Concentration (mg/L)** |
| Suspended Solids, containing:<br>• Aluminum Hydroxide (additive): 25 to 50%<br>• Clay/Silt (source water): 35 to 50%<br>• Organic Matter (source water): 15 to 25% | 50 – 400 |
| Total Residual Chlorine (TRC, additive) | 0.1 – 1 |

These pollutant concentrations show the need for limits on wastewater discharge(s) from water treatment plants.

## 3 Significant Changes

3.1 The requirement to obtain a separate state construction permit was removed, and construction requirements were incorporated into the general permit in Part 1.

3.2 Monitoring requirements for listed parameters were for updated in Part 2 based on Chapter 5 of 2025 Edition of the State of Arkansas Continuing Planning Process (CPP).

3.3 Frequency reductions were updated in Part 3 based on Chapter 5 of 2025 Edition of the State of Arkansas Continuing Planning Process (CPP).

3.4 State Laws condition was removed from Part 4.

3.5 Penalties for Violations of Permit Conditions were updated in Part 4.

3.6 Anticipated Non-compliance reporting requirements were added to Part 7.

3.7 References to PC&EC rules were updated to indicate where the rules are codified in the Code of Arkansas Rules (CAR).

3.8 Several definitions in Part 8 were updated for clarity, or for consistency with Section 502 of the Clean Water Act, 40 C.F.R. § 122.2, or PC&EC rules including:

3.8.1 Act or CWA;
3.8.2 DEQ or Division (replaces ADEQ and Department);
3.8.3 Industrial Facility (removed);
3.8.4 In-situ temperature measurement;
3.8.5 Losing Stream Segment (removed);
3.8.6 Monitoring and Reporting;
3.8.7 Municipal Facility (removed);
3.8.8 Total Maximum Daily Load or TMDL; and
3.8.9 Visible Sheen (added)

## 4 Permit Coverage

This general permit authorizes facilities to discharge process wastewater from water treatment plants to waters of the state, except facilities that are excluded in Part 1.3 of the permit. If a treatment system is proposed, the treatment system shall be constructed in accordance with Part 1.4.4 through 1.4.6 of the permit.

4.1 Notice of Intent (NOI)

Dischargers seeking to be covered by the general permit must submit a written Notice of Intent that meets the criteria in 40 C.F.R. § 122.21. All deadlines for submission have been established to provide staff with sufficient time to review and process all requests for coverage.

In accordance with the NPDES Electronic Reporting Rule, DEQ is now requiring electronic submission of permitting documents for this general permit. Permittees who are unable to submit documents electronically must apply for a waiver, as detailed in 40 C.F.R. § 127.15 and Part 1.5 of the permit.

4.2 Construction Requirements

Any construction proposed under this general permit will require submission of DEQ Form 1, plans & specifications, and design calculations signed and stamped by a Professional Engineer (P.E.) licensed in the State of Arkansas, and the construction permit fee specified by Rule 9.402(A), now codified at 8 CAR § 12-303.

Authorization to construct a water treatment facility does not provide coverage for stormwater discharges related to construction activities subject to the requirements in 40 C.F.R. § 122.26. These activities must also meet the construction stormwater requirements referenced in Part 1.4.4.3 of the permit.

4.3 Water Quality Requirements

In accordance with 40 C.F.R. § 122.44(d), the permit is required to include any requirements necessary to achieve State Water Quality Standards as established under 8 CAR Part 21 in accordance with Section 303 of the Clean Water Act.

## 5 Monitoring Requirements

The requirements for sample type and sampling frequency are based on the previous permit, the 2025 Edition of the CPP, and review of the average effluent discharge based on DMRs for all permitted facilities.

Some monitoring frequencies in this permit have been updated to be in accord with the 2025 Edition of the CPP. For existing facilities discharging under a type 103 outfall, TRC monitoring frequency has been increased from once/week to three/ week. This was determined based on DMR data submitted during the permit term from all permitted facilities which indicated that the long-term average effluent concentration was well over the effluent limit concentration for TRC. This analysis supported a decision to increase the monitoring frequency for this parameter to be in compliance with the CPP.

The permittee may apply for a reduction in the monitoring frequency for Aluminum, Iron, Manganese, TRC, or TSS, under conditions outlined in Section 3.5 of the permit.

## 6 Other Conditions

6.1 Geographic Area and Covered Facilities

The general permit, when issued, will authorize discharges from water treatment plants with a wastewater discharge throughout the State of Arkansas. The permit will be applicable only to facilities which discharge to waters of the state and are, therefore, subject to the requirements of Section 301 and Section 402 of the Clean Water Act.

6.2 Timing of Requests

Requests for coverage shall be submitted as follows:

6.2.1 For new dischargers without construction expected, at least 30 days prior to the first proposed discharge;
6.2.2 For new dischargers with construction expected, at least 90 days prior to the first proposed discharge;
6.2.3 For dischargers covered under an existing ARG640000 permit, no later than 30 days prior to the effective date of this permit, or
6.2.4 For existing facilities applying for new coverage, at least 30 days prior to the first proposed discharge.

6.3 Expiration Date

In accordance with 40 C.F.R. § 122.46(a), the general permit will expire five (5) years from the effective date of the permit. An expired permit will continue in effect until such time that the permit is renewed or a new permit is issued.

6.4 Individual Permits

The Director of DEQ may require the issuance of individual permits according to the criteria in 40 C.F.R. § 122.28(b)(3).

## 7 Development and Basis for Permit Conditions

Conditions in Parts 2 through 7 are incorporated in the permit based on 40 C.F.R. § 122.41, 40 C.F.R. § 122.43, 40 C.F.R. § 122.62, 40 C.F.R. § 124.5, 40 C.F.R. § 136, 40 C.F.R. § 122.44(d), 40 C.F.R. § 122.44(l), the State of Arkansas Continuing Planning Process (CPP), PC&EC Rule 2, PC&EC Rule 3, and PC&EC Rule 6 in order to provide and ensure compliance with all applicable requirements of the CWA, rules, and regulations.

The following is an explanation of the derivation of the conditions of the permit and the reasons for them.

7.1 Justification for Limitations and Conditions of the Permit

**Outfall Type 101: Facilities with a Daily Average Waste Discharge Flow ≤ 0.5 MGD**

| Effluent Characteristics | Discharge Limitations | Monitoring Requirements | |
|---|---|---|---|
| | Concentration (mg/l, unless otherwise specified) | Frequency | Sample Type |

| | Monthly Avg. | Daily Max. | | |
|---|---|---|---|---|
| Flow | Report (MGD) | Report (MGD) | five/week | instantaneous/ totalizing/ calculated |
| Total Suspended Solids (TSS) | 20.0 | 30.0 | once/quarter | grab |
| Iron (Dissolved) | 1.0 | 2.0 | once/quarter | grab |
| Manganese (Dissolved) | 1.0 | 2.0 | once/quarter | grab |
| Aluminum (Dissolved) | 1.0 | 2.0 | once/quarter | grab |
| Total Residual Chlorine (TRC) | 0.011 (Inst. max.) | | once/quarter | grab |
| pH | Minimum 6.0 s.u. | Maximum 9.0 s.u. | once/quarter | grab |

**Outfall Type 102: New Facilities with Average Waste Discharge Flow 1 > 0.5 but ≤ 1.0 MGD**

| **Effluent Characteristics** | **Discharge Limitations** | | **Monitoring Requirements** | |
|---|---|---|---|---|
| | Concentration (mg/l, unless otherwise specified) | | Frequency | Sample Type |
| | Monthly Avg. | Daily Max. | | |
| Flow | Report (MGD) | Report (MGD) | once/day | instantaneous/ totalizing/ calculated |
| Total Suspended Solids (TSS) | 20.0 | 30.0 | three/month | grab |
| Iron (Dissolved) | 1.0 | 2.0 | once/month | grab |
| Manganese (Dissolved) | 1.0 | 2.0 | once/month | grab |
| Aluminum (Dissolved) | 1.0 | 2.0 | once/month | grab |
| Total Residual Chlorine (TRC) | 0.011 (Inst. Max.) | | three/month | grab |
| pH | Minimum 6.0 s.u. | Maximum 9.0 s.u. | three/month | grab |

**Outfall Type 103: Existing Facilities with a Daily Average Waste Discharge Flow > 0.5 but ≤ 1.0 MGD**

| **Effluent Characteristics** | **Discharge Limitations** | | **Monitoring Requirements** | |
|---|---|---|---|---|
| | Concentration (mg/l, unless otherwise specified) | | Frequency | Sample Type |
| | Monthly Avg. | Daily Max. | | |
| Flow (MGD) | Report | Report | once/day | instantaneous/ totalizing/ |

| | | | | |
|---|---|---|---|---|
| | | | | calculated |
| Total Suspended Solids (TSS) | 20.0 | 30.0 | once/month | grab |
| Iron (Dissolved) | 1.0 | 2.0 | once/month | grab |
| Manganese (Dissolved) | 1.0 | 2.0 | once/month | grab |
| Aluminum (Dissolved) | 1.0 | 2.0 | once/month | grab |
| Total Residual Chlorine (TRC) | 0.011 (Inst. Max.) | | once/month | grab |
| pH | Minimum 6.0 s.u. | Maximum 9.0 s.u. | Once /month | grab |

## Outfall Type 104: New Facilities with a Daily Average Waste Discharge Flow > 1.0 MGD

| Effluent Characteristics | Discharge Limitations | | Monitoring Requirements | |
|---|---|---|---|---|
| | Concentration (mg/l, unless otherwise specified) | | Frequency | Sample Type |
| | Monthly Avg. | Daily Max. | | |
| Flow | Report (MGD) | Report (MGD) | once/day | instantaneous/ totalizing/ calculated[3] |
| Total Suspended Solids (TSS) | 20.0 | 30.0 | three/week[4] | grab |
| Iron (Dissolved) | 1.0 | 2.0 | once/week[4] | grab |
| Manganese (Dissolved) | 1.0 | 2.0 | once/week[4] | grab |
| Aluminum (Dissolved) | 1.0 | 2.0 | once/week[4] | grab |
| Total Residual Chlorine (TRC) | 0.011 (Inst. max.) | | three/week[4] | grab |
| pH | Minimum 6.0 s.u. | Maximum 9.0 s.u. | three/week | grab |

## Outfall Type 105: Existing Facilities with a Daily Average Waste Discharge Flow> 1.0 MGD

| Effluent Characteristics | Discharge Limitations | | Monitoring Requirements | |
|---|---|---|---|---|
| | Concentration (mg/l, unless otherwise specified) | | Frequency | Sample Type |
| | Monthly Avg. | Daily Max. | | |
| Flow (MGD) | Report (MGD) | Report (MGD) | once/ day | instantaneous/ totalizing/ calculated |
| Total Suspended Solids (TSS) | 20.0 | 30.0 | once/week | grab |

| | | | | |
|---|---|---|---|---|
| Iron (Dissolved) | 1.0 | 2.0 | once/week | grab |
| Manganese (Dissolved) | 1.0 | 2.0 | once/week | grab |
| Aluminum (Dissolved) | 1.0 | 2.0 | once/week | grab |
| Total Residual Chlorine (TRC) | 0.011 (Inst. max.) | | three/week | grab |
| pH | Minimum<br>6.0 s.u. | Maximum<br>9.0 s.u. | once/week | grab |

7.1.1 Total Suspended Solids (TSS)

Backwash from filters contains sediment removed from the drinking water source, and the sedimentation pond(s) used by most drinking water plants to treat the waste process water are to allow these solids to settle. TSS limits have been included in the permit because discharges have the potential to carry these suspended solids.

The technology-based limits for TSS are based on the Best Engineering Judgment of the permit writer, Arkansas individual NPDES Permits, and limits from equivalent permits from surrounding states for similar types of discharges. The technology-based limits are determined to represent the level of treatment attainable through the application of the Best Conventional Pollutant Control Technology (BCT) and Best Available Technology Economically Achievable (BAT).

7.1.2 Iron and Manganese

Iron and Manganese are common constituents of groundwater that are treated and removed by drinking water treatment facilities. There are no water quality-based limitations for these constituents. These technology-based limitations are based on the previous permit. These limitations are judged to represent the level of treatment attainable through the application of the BCT. These limits are only applicable to facilities that use groundwater as source water.

7.1.3 Aluminum

Aluminum-based coagulants are the most common settling agents used in drinking water treatment plants. There are no water quality-based limitations for this pollutant. These technology-based limitations are based on the previous permit. These limitations are judged to represent the level of treatment attainable through the application of the BCT. These limits are only applicable to facilities that use aluminum-based coagulants.

7.1.4 Total Residual Chlorine (TRC)

PC&EC Rule 2.409, codified at 8 CAR § 21-409, states, “Discharges shall not be allowed into any waterbody which, after consideration of the zone of initial

dilution, the mixing zone and critical flow conditions, will cause toxicity to human, animal, plant or aquatic life or interfere with normal propagation, growth, and survival of aquatic biota." Since residual chlorine may cause toxicity conditions in the receiving stream, and facilities covered under this general permit may discharge into waterbodies without sufficient background flow to dilute the residual chlorine concentration to levels that will prevent toxicity, a TRC limit has been included in the permit.

The human health toxicity level for chlorine is much higher than that of aquatic life, so when determining a limit for chlorine, aquatic life toxicity levels are used. Chronic toxicity levels are lower than acute toxicity levels, so when determining a limit for chlorine, the chronic toxicity level is used. In general, waterbodies in Arkansas contain freshwater. Thus, based on EPA's "Quality Criteria for Water, 1986," the aquatic life chronic toxicity level for chlorine in freshwater is 0.011 mg/L. Therefore, the limit for TRC has been set at 0.011 mg/L.

The effluent limitation for TRC is the instantaneous maximum and cannot be averaged for reporting purposes. TRC shall be measured within fifteen (15) minutes of sampling. To demonstrate compliance with the TRC limit, the permittee must determine the effluent concentration by using any EPA approved test method established in 40 C.F.R. Part 136 capable of meeting a detection level of 0.033 mg/L or lower. If TRC is not detected at the required detection level (i.e., lab result is "ND"), the permittee may report a value of "0" on the Discharge Monitoring Report (DMR), thereby demonstrating compliance with the limit of 0.011 mg/L. Please note that if the required detection level is not met, TRC must be reported at the detection level achieved.

The monitoring and reporting requirements for TRC do not apply to facilities that do not discharge chlorinated water, nor to facilities with wastewater retention ponds designed with a retention time greater than 24 hours. Facilities that do not discharge chlorinated water do not require a limit because no chlorine has been added to the wastewater. Facilities with wastewater retention ponds with a retention time greater than 24 hours do not require a limit because added chlorine is expected to dissipate in less than 24 hours.

7.1.5 pH

The water quality-based limits for pH have been based on 8 CAR § 21-504, formerly Rule 2.504, and are judged to represent the level of treatment attainable through the application of the BCT.

7.2 Anti-backsliding

This permit is consistent with the requirements to meet anti-backsliding provisions of the Clean Water Act (CWA), Section 402 (o) [40 C.F.R. § 122.44(l)]. The final effluent limitations for reissuance permits must be as stringent as those in the previous permit, unless the less stringent limitations can be justified using exceptions listed in CWA § 402(o)(2), CWA § 303(d)(4), or 40 C.F.R. § 122.44(l)(2)(i).

The permit meets or exceeds the requirements of the previous permit.

7.3 Limits Calculations

The daily maximum limits for TSS, Iron, Manganese, and Aluminum are based on Section 5.4.2 of the Technical Support Document for Water Quality-based Toxics Control:

daily maximum limits = monthly average limits × 1.5 (TSS)
daily maximum limits = monthly average limits x 2.0 (Iron, Manganese, and Aluminum)

## 8 Wastewater Operator Requirements

The minimum Class I Municipal or Basic Industrial wastewater operator requirement is based on the requirements of the previous permit and PC&EC Rule 3, now codified at 8 CAR Part 22.

## 9 Public Notice

The public notice of the draft general permit was published for public comment on October 19, 2025. The last day of the comment period was thirty (30) days after the publication date.

A summary of the comments received by the DEQ during the public comment period and a response to the comments are included with this permit decision. The response to comments also includes a discussion of any substantial changes from the draft permit.

Copies of the draft permit and public notice were sent via email to the Corps of Engineers, the Regional Director of the U.S. Fish and Wildlife Service, the Arkansas Department of Parks, Heritage, and Tourism, the EPA, and the Arkansas Department of Health.

## 10 Economic Impact

This permit does not place any additional undue burden on any private business entity, large or small. It does not restrict any opportunities that are available to any small businesses. The

control requirements are set at a level to protect water quality while minimizing the resources required for compliance.

The permit fee of $400 is allowed by PC&EC Rule 9, now codified at 8 CAR Part 12. If a construction authorization is also required under this permit, then an additional $500 fee will be required based on PC&EC Rule 9.402(A), now codified at 8 CAR § 12-303. This permit incorporates construction requirements into the ARG640000. The construction requirements listed in Part 1.4.4 are consistent with the minimum requirements for a state construction permit and will not have any additional economic impact.

There may be minimal additional cost for commercial facilities to obtain a Certificate of Good Standing from the Secretary of State of any State other than Arkansas.

Changes to the monitoring frequencies in Part 3 of the permit may add an additional economic impact to a facility covered under this permit. Facilities covered under Outfall Type 101 (both new and existing facilities) will have no change to the monitoring frequency under this permit. New dischargers under Outfall Type 102 (Outfall Type 102 under this permit renewal) will have an increased monitoring frequency for flow, TSS, TRC, and pH, as compared to the previous general permit. Existing facilities under Outfall Type 102 (Outfall Type 103 under this permit renewal) will have an increased monitoring frequency for flow as compared to the previous general permit. New dischargers under Outfall Type 103 (Outfall Type 104 under this permit renewal) will have an increased monitoring frequency for flow, TSS, TRC, and pH, as compared to the previous general permit. Existing facilities under Outfall Type 103 (Outfall 105 under this permit renewal) will have an increased monitoring frequency for flow and TRC, as compared to the previous general permit. This permit does contain an allowance for monitoring frequency reductions for the parameters of Aluminum, Iron, Manganese, and TSS. The procedure and requirements for a monitoring frequency reduction are detailed in Part 3.5 of the general permit. For existing facilities demonstrating compliance with permit limits, the economic impact can be minimized through this frequency reduction.

Analysis cost may range from $10–$88 for TRC, $5–$70 for TSS, and $10–$20 for pH.

## 11 Contact Information

For additional information regarding this permit, please contact the NPDES Permits Branch of the Office of Water Quality:

via mail at:

NPDES Permits Branch
Office of Water Quality
5301 Northshore Drive
North Little Rock, AR 72218-5317

via phone at: (501) 682-5876; or

via email at EE.WaterComment@arkansas.gov

## 12 Sources

12.1 40 C.F.R. Part 122.
12.2 40 C.F.R. Part 124.
12.3 40 C.F.R. Part 136.
12.4 PC&EC Rule 2, now codified at 8 CAR Part 21.
12.5 PC&EC Rule 3, now codified at 8 CAR Part 22.
12.6 PC&EC Rule 6, now codified at 8 CAR Part 25.
12.7 PC&EC Rule 8, now codified at 8 CAR Part 11.
12.8 PC&EC Rule 9, now codified at 8 CAR Part 12.
12.9 ARG640000 existing permit.
12.10 Discharge Monitoring Reports (DMRs) submitted by the facilities covered by the existing ARG640000 Permit.
12.11 Ark. Code Ann. § 8-4-203(m).
12.12 Clean Water Act.
12.13 Arkansas Water and Air Pollution Control Act (Ark. Code Ann. § 8-4-101 *et seq*.).
12.14 Continuing Planning Process (CPP).
12.15 2014 Edition of Recommended Standards for Wastewater Facilities (Ten States Standards).
12.16 Technical Support Document for Water Quality-based Toxic Control.
12.17 NPDES Electronic Reporting Rule (40 CFR Part 127).