

ARIZONA POLLUTANT DISCHARGE ELIMINATION SYSTEM (AZPDES)

This document gives pertinent information concerning the reissuance of the AZPDES permit listed below. This facility is a groundwater treatment facility determined to be a minor industrial facility under the NPDES program. The effluent limitations contained in this permit will maintain the Water Quality Standards listed in Arizona Administrative Code (A.A.C.) R18-11-101 et. seq. This permit is proposed to be issued for a period of 5 years.

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| Permittee's Name: | EPCOR Water (USA) Inc. |
| Permittee's Mailing Address: | 2355 W. Pinnacle Peak Road, Suite 300 Phoenix, AZ 85027 |
| Facility Name: | EPCOR – Miller Road Treatment Facility |
| Facility Address or Location: | 5975 N. Cattletrack Road Scottsdale, AZ 85020 |
| County: | Maricopa |
| Contact Person(s): Phone/e-mail address | Tom DiDomizio (623) 445-2436 |
| AZPDES Permit Number: | AZ0024139 |
| Inventory Number: | 512431 |

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| I. STATUS OF PERMIT(s) | |
| AZPDES permit applied for: | Renewal |
| Date application received: | 5/3/17 |
| Date application was determined administratively complete: | 5/4/17 |
| Previous permit expiration date: | 10/31/17 |
| <u>208 Consistency:</u> 208 Plan consistency is not required for industrial facilities. | |

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| II. GENERAL FACILITY INFORMATION | |
| Type of Facility: | Privately owned groundwater treatment system |
| Facility Location Description: | West side of the Arizona Canal in Scottsdale, Arizona. |

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| Nature of facility discharge: | Treated groundwater. Groundwater with high concentrations of volatile organic compounds is pumped to the Miller Road Treatment Facility where an air stripper is used to remove the contaminants. |
| Average flow per discharge: | The applicant indicates that the average flow per discharge is 1.3 MGD. |
| Continuous or intermittent discharge: | Intermittent |
| Discharge pattern summary: | Discharge flow records submitted during the existing permit term indicate the facility generally discharges about 8 times per year. |

Water from three groundwater production wells located along the Arizona Canal from south of McDonald Drive to Lincoln Drive is treated continuously using air stripping at MRTF. Two of the wells (14 and 15) are owned and operated by EPCOR. Water from Wells 14 and 15 are treated in Towers 3 and 1, respectively. The treated water is then collected in the Clearwater at MRTF and pumped to EPCOR's Paradise Valley Arsenic Removal Facility for further treatment before delivery to EPCOR's drinking water system. Treated water from Wells 14 and 15 may be delivered to the Arizona Canal through Outfall 001 on an infrequent basis.

III. RECEIVING WATER

The State of Arizona has adopted water quality standards to protect the designated uses of its surface waters. Streams have been divided into segments and designated uses assigned to these segments. The water quality standards vary by designated use depending on the level of protection required to maintain that use.

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| Receiving Water : | Arizona Canal- Phoenix Area Canals: Granite Reef Dam to all municipal WTP intakes |
| River Basin: | Middle Gila River Basin |
| Outfall Location(s): | Outfall 001: Township 2N, Range 4E, Section 14 Latitude 33° 31' 20" N, Longitude 111° 54' 57" W |
| The outfall discharges to, or the discharge may reach, a surface water listed in Appendix B of A.A.C. Title 18, Chapter 11, Article 1. | |
| Designated uses for the receiving water listed above: | Agricultural Irrigation (AgI) Agricultural Livestock watering (AgL) Domestic Water Supply (DWS) |
| Is the receiving water on the 303(d) list? | No, and there are no TMDL issues associated. |

Given the uses stated above, the applicable narrative water quality standards are described in A.A.C. R18-11-108, and the applicable numeric water quality standards are listed in A.A.C. R18-11-109 and in Appendix A thereof. There are two standards for the Aquatic and Wildlife uses, acute and chronic. In developing AZPDES permits, the standards for all applicable designated uses are compared and limits that will protect for all applicable designated uses are developed based on the standards.

IV. DESCRIPTION OF DISCHARGE

Because the facility is in operation and discharges have occurred, effluent monitoring data are available. The following is the measured effluent quality reported in the application.

| Parameters | Units | Maximum Daily Discharge Concentration |
|-------------|-------|---------------------------------------|
| Arsenic | µg/L | 11.3 |
| Chromium VI | µg/L | 31 |
| TCE | µg/L | <0.5 |
| pH | S.U. | 8.5 |

V. STATUS OF COMPLIANCE WITH THE EXISTING AZPDES PERMIT

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| Date of most recent inspection: | 10/12/2016; no potential violations were noted as a result of this inspection. |
| DMR files reviewed: | 01/2013 through 05/2017 |
| Lab reports reviewed: | 01/2013 through 05/2017 |
| DMR Exceedances: | None |
| NOVs issued: | None |
| NOVs closed: | N/A |
| Compliance orders: | None |

VI. PROPOSED PERMIT CHANGES

The following table lists the major changes from the previous permit in this draft permit.

| Parameter | Existing Permit | Proposed permit | Reason for change |
|--------------------|---|--|---|
| Reporting Location | Mail in hard copies of DMRs and other attachments | DMRs and other reports to be submitted electronically through myDEQ portal | Language added to support the NPDES electronic DMR reporting rule that became effective on December 21, 2015. |

Anti-backsliding considerations – “Anti-backsliding” refers to statutory (Section 402(o) of the Clean Water Act) and regulatory (40 CFR 122.44(l)) requirements that prohibit the renewal, reissuance, or modification of an existing NPDES permit that contains effluent limits, permit conditions, or standards that are less stringent than those established in the previous permit. The rules and statutes do identify exceptions to these

circumstances where backsliding is acceptable. This permit has been reviewed and drafted with consideration of anti-backsliding concerns.

No limits have been removed from the permit. Limits are retained in the draft permit for parameters where reasonable potential (RP) for an exceedance of a standard continues to exist or is indeterminate. In these cases, limits will be recalculated using the most current Arizona Water Quality Standards (WQS). If less stringent limits result due to a change in the WQS then backsliding is allowed in accordance with 303(d)(4) if the new limits are consistent with antidegradation requirements and the receiving water is in attainment of the new standard; see Section XII for information regarding antidegradation requirements.

VII. DETERMINATION OF EFFLUENT LIMITATIONS and ASSESSMENT LEVELS

When determining what parameters need monitoring and/or limits included in the draft permit, both technology-based and water quality-based criteria were compared and the more stringent criteria applied.

Technology-based Limitations:

There are no promulgated technology-based limits for a treatment system such as the Miller Road Treatment Facility. However, it has been demonstrated that this technology allows for efficient removal of the volatile organic compounds (VOCs), and the discharge can be sampled with low detection limits. The discharge data reviewed showed there were no exceedences of the surface water quality standards for the VOCs of concern. Limits are retained in the permit for trichloroethylene (TCE).

Numeric Water Quality Standards: As outlined in A.A.C. R18-11-109 and Appendix A:

Per 40 CFR 122.44(d)(1)(ii), (iii) and (iv), discharge limits must be included in the permit for parameters with “reasonable potential” (RP), that is, those known to be or expected to be present in the effluent at a level that could potentially cause any applicable numeric water quality standard to be exceeded. RP refers to the possibility, based on the statistical calculations using the data submitted, or consideration of other factors to determine whether the discharge may exceed the Water Quality Standards. The procedures used to determine RP are outlined in the *Technical Support Document for Water Quality-based Toxics Control (TSD)* (EPA/505/2-90-001). In most cases, the highest reported value for a parameter is multiplied by a factor (determined from the variability of the data and number of samples) to determine a “highest estimated value”. This value is then compared to the lowest applicable Water Quality Standard for the receiving water. If the value is greater than the standard, RP exists and a water quality-based effluent limitation (WQBEL) is required in the permit for that parameter. RP may also be determined from BPJ based on knowledge of the treatment facilities and other factors. The basis for the RP determination for each parameter with a WQBEL is shown in the table below.

The proposed permit limits were established using a methodology developed by EPA. Long Term Averages (LTA) were calculated for each designated use and the lowest LTA was used to calculate the average monthly limit (AML) and maximum daily limit (MDL) necessary to protect all uses. This methodology takes into account criteria, effluent variability, and the number of observations taken to determine compliance with the limit and is described in Chapter 5 of the TSD. When the limit is based on human health criteria, the monthly average was set at the level of the applicable standard and a daily maximum limit was determined as specified in Section 5.4.4 of the TSD.

Mixing Zone:

The previous permit authorized a mixing zone request for arsenic and chromium VI. A review of the discharge data submitted to ADEQ indicates that on occasion effluent arsenic and chromium VI concentrations exceeded the applicable standards for the receiving water. Pursuant to R18-11-114(G), the director shall reevaluate a mixing zone upon reissuance of the permit. Because conditions have not changed from the last permit cycle, ADEQ has approved the mixing zone for arsenic and chromium VI for discharges into the Arizona Grand Canal.

Compliance with the arsenic and chromium VI limits will be required in the mixing zone prior to any water deliveries to municipal water treatment plants downstream of the discharge consistent with the mixing zones established for arsenic and chromium VI in the Salt River Project (SRP) Groundwater Wells AZPDES Permit No. AZ0024341. The results of the SRP mixing zone model may be used to demonstrate compliance with arsenic and chromium VI limits in Table 1 of the permit.

Whole Effluent Toxicity (WET): ADEQ does not require WET testing if the receiving water has no aquatic and wildlife designated uses. Although the narrative standard prohibiting the discharge of toxic pollutants applies to all discharges, the test species are not appropriate for these receiving waters and no alternative tests are readily available. Therefore, WET testing is not required in this permit, and Part IV for WET testing is shown as “not applicable.”

Permit Limitations and Monitoring Requirements:

The table that follows summarizes the parameters that are limited in the permit and the rationale for that decision. Historical data from the Miller Road Treatment Facility demonstrates these are the parameters of concern that are present in the discharge. The corresponding monitoring requirements are shown for each parameter. In general, the regulatory basis for monitoring requirements is per 40 CFR §122.44(i) *Monitoring requirements*, and 40 CFR §122.48(b), *Required monitoring*; all of which have been adopted by reference in A.A.C. R18-9-A905, *AZPDES Program Standards*.

| Parameter | Lowest Standard / Designated Use | Maximum Reported Daily Value | No. of Samples | Estimated Maximum Value | RP Determination | Proposed Monitoring Requirement/ Rationale (1) |
|-------------------------|---|------------------------------|----------------|-------------------------|--|--|
| Flow | --- | --- | --- | --- | --- | Discharge flow is to be monitored on a continual basis using a flow meter. |
| pH | Minimum: 6.5 Maximum: 9.0 AgL A.A.C. R18-11-109(B) | 8.5 | 14 | N/A | WQBEL or TBEL is always applicable to WWTPs. | pH is to be monitored using a discrete sample of the effluent and a WQBEL is set. 40 CFR Part 136 specifies that grab samples must be collected for pH. At least one sample must coincide with WET testing to aid in the determination of the cause of toxicity if toxicity is detected. pH sampling must also coincide with ammonia sampling when required. |
| Arsenic | 10 µg/L/ DWS | 11.3 µg/L | 13 | 30.5 µg/L | RP exists (2) | Monitoring required and a limit remains in the permit. A mixing zone has been approved for Arsenic. |
| Chromium VI | 21 µg/L/ DWS | 31 µg/L | 13 | 83.7 µg/L | RP exists (2) | Monitoring required and a limit remains in the permit. A mixing zone has been approved for Chromium VI. |
| Trichloroethylene (TCE) | 5 µg/L/ DWS | <0.5 mg/L | 15 | N/A | N/A | Monitoring required and a limit remains in the permit. |

Footnotes:

- (1) The monitoring frequencies are as specified in the permit.
- (2) Mixing Zone was applied for and approved for Arsenic and Chromium VI. See Part V.A of the permit for mixing zone requirements.

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VIII. NARRATIVE WATER QUALITY STANDARDS

All narrative limitations in A.A.C. R18-11-108 that are applicable to the receiving water are included in Part I, Sections B and C of the draft permit.

IX. MONITORING AND REPORTING REQUIREMENTS (Part II of Permit)

Section 308 of the Clean Water Act and 40 CFR Part 122.44(i) require that monitoring be included in permits to determine compliance with effluent limitations. Additionally, monitoring may be required to gather data for future effluent limitations or to monitor effluent impacts on receiving water quality.

Monitoring frequencies are based on the nature and effect of the pollutant, as well as a determination of the minimum sampling necessary to adequately monitor the facility's performance. Monitoring frequencies for some parameters may be reduced in second term permits if all monitoring requirements have been met and the limits or ALs for those parameters have not been exceeded during the first permit term.

Discrete (i.e., grab) samples are specified in the permit for all parameters because the groundwater quality is not expected to vary significantly over a 24 hour period.

Monitoring locations are specified in the permit (Part I.A and Part I.D) in order to ensure that representative samples of the influent and effluent are consistently obtained.

The requirements in the permit pertaining to Part II, Monitoring and Reporting, are included to ensure that the monitoring data submitted under this permit is accurate in accordance with 40 CFR 122.41(e). The permittee has the responsibility to determine that all data collected for purposes of this permit meet the requirements specified in this permit and is collected, analyzed, and properly reported to ADEQ.

The permit (Part II.A.2) requires the permittee to keep a Quality Assurance (QA) manual at the facility, describing sample collection and analysis processes; the required elements of the QA manual are outlined.

Reporting requirements for monitoring results are detailed in Part II, Sections B.1 and 2 of the permit, including completion and submittal of Discharge Monitoring Reports (DMRs), and AZPDES Flow Record forms. The permittee is responsible for conducting all required monitoring and reporting the results to ADEQ on DMRs or as otherwise specified in the permit.

Electronic reporting. The US EPA has published a final regulation that requires electronic reporting and sharing of Clean Water Act National Pollutant Discharge Elimination System (NPDES) program information instead of the current paper-based reporting (Federal Register, Vol. 80, No. 204, October 22, 2015). As of December 21, 2016 (one year after the effective date of the regulation), the Federal rule required permittees to make electronic submittals of any monitoring reports and forms called for in their permits. ADEQ has created an online portal called myDEQ that allows users to submit their discharge monitoring reports and other applicable reports required in the permit.

X. SPECIAL CONDITIONS (Part V in Permit)

Permit Reopener

This permit may be modified based on newly available information; to add conditions or limits to address demonstrated effluent toxicity; to implement any EPA-approved new Arizona water quality standard; or to re-evaluate reasonable potential (RP), if assessment levels in this permit are exceeded [A.A.C. R18-9-B906 and 40 CFR Part 122.62 (a) and (b)].

XI. ANTIDegradation

Antidegradation rules have been established under A.A.C. R18-11-107 to ensure that existing surface water quality is maintained and protected. The discharge from the Miller Road Treatment Facility will be to a canal which is subject to Tier 1 antidegradation protection. Effluent quality limitations and monitoring requirements have been established under the proposed permit to ensure that the discharge will meet the applicable water quality standards. As long as the permittee maintains consistent compliance with these provisions, the designated uses of the receiving water will be presumed protected, and the facility will be deemed to meet currently applicable antidegradation requirements under A.A.C. R18-11-107.

XII. STANDARD CONDITIONS

Conditions applicable to all NPDES permits in accordance with 40 CFR, Part 122 are attached as an appendix to this permit.

XIII. ADMINISTRATIVE INFORMATION

Public Notice (A.A.C. R18-9-A907)

The public notice is the vehicle for informing all interested parties and members of the general public of the contents of a draft AZPDES permit or other significant action with respect to an AZPDES permit or application. The basic intent of this requirement is to ensure that all interested parties have an opportunity to comment on significant actions of the permitting agency with respect to a permit application or permit. This permit will be public noticed in a local newspaper after a pre-notice review by the applicant and other affected agencies.

Public Comment Period (A.A.C. R18-9-A908)

Rules require that permits be public noticed in a newspaper of general circulation within the area affected by the facility or activity and provide a minimum of 30 calendar days for interested parties to respond in writing to ADEQ. After the closing of the public comment period, ADEQ is required to respond to all significant comments at the time a final permit decision is reached or at the same time a final permit is actually issued.

Public Hearing (A.A.C. R18-9-A908(B))

A public hearing may be requested in writing by any interested party. The request should state the nature of the issues proposed to be raised during the hearing. A public hearing will be held if the Director determines there is a significant amount of interest expressed during the 30-day public comment period, or if significant new issues arise that were not considered during the permitting process.

EPA Review (A.A.C. R18-9-A908(C))

A copy of this draft permit and any revisions made to this draft as a result of public comments received will be sent to EPA Region 9 for review. If EPA objects to a provision of the draft, ADEQ will not issue the permit until the objection is resolved.

XIV. ADDITIONAL INFORMATION

Additional information relating to this proposed permit may be obtained from:

Arizona Department of Environmental Quality
Water Quality Division – AZPDES Individual Permits Unit
Attn: Richard Mendolia
1110 West Washington Street
Phoenix, Arizona 85007

Or by contacting Richard Mendolia at (602) 771 – 4374 or by e-mail at rjm@azdeq.gov.

XV. INFORMATION SOURCES

While developing effluent limitations, monitoring requirements, and special conditions for the draft permit, the following information sources were used:

1. AZPDES Permit Application, received May 3, 2017, along with supporting data, facility diagram, and maps submitted by the applicant with the application forms.
2. Supplemental information to the application received by ADEQ on May 11, 2017.
3. ADEQ files on Miller Road Treatment Facility.
4. ADEQ Geographic Information System (GIS) Web site
5. Arizona Administrative Code (AAC) Title 18, Chapter 11, Article 1, *Water Quality Standards for Surface Waters*, adopted January 31, 2009.
6. A.A.C. Title 18, Chapter 9, Article 9. *Arizona Pollutant Discharge Elimination System* rules.
7. Code of Federal Regulations (CFR) Title 40:
 - Part 122, *EPA Administered Permit Programs: The National Pollutant Discharge Elimination System*.
 - Part 124, *Procedures for Decision Making*.
 - Part 133. *Secondary Treatment Regulation*.
 - Part 503. *Standards for the Use or Disposal of Sewage Sludge*.
8. EPA Technical Support Document for Water Quality-based Toxics Control dated March 1991.
9. U.S. EPA NPDES Permit Writers' Manual, September 2010.