

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 and is considered 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.

I. PERMITTEE INFORMATION	
Permittee's Name:	EPCOR Water (USA) Inc.
Permittee's Mailing Address:	2355 West Pinnacle Peak Rd, Suite 300 Phoenix, AZ 85027
Facility Name:	EPCOR—Miller Road Treatment Facility
Facility Address or Location:	5975 North Cattletrack Road Scottsdale, AZ 85020
County:	Maricopa
Contact Person(s): Phone/e-mail address	Tom Di Domizio 623-445-2436 / tdidomizio@epcor.com
AZPDES Permit Number:	AZ0024139
Inventory Number:	512431
LTF Number:	94001

II. STATUS OF PERMIT(S)	
AZPDES permit applied for:	Renewal
Date application received:	April 11, 2022
Date application was determined administratively complete:	May 17, 2022
Previous permit expiration date:	October 9, 2022
<u>208 Consistency:</u>	
In accordance with A.A.C. R18-9-A903(6), a permit cannot be issued for any discharge inconsistent with a plan or plan amendment approved under section 208(b) of the Clean Water Act.	
208 Plan consistency is not required for industrial facilities.	

III. GENERAL FACILITY INFORMATION	
Type of Facility:	Privately-owned groundwater treatment system
Facility Location Description:	West side of the Arizona Canal in Scottsdale, AZ
Applicable Treatment Processes:	Groundwater with high concentrations of volatile organic compounds (VOCs) is pumped to Miller Road Treatment Facility where an air stripper is used to remove VOCs, including Trichloroethylene (TCE).
Nature of facility discharge:	Groundwater treatment.
Average flow per discharge:	0.176 MGD
Continuous or intermittent discharge:	Intermittent
Discharge pattern summary:	Discharge flow records submitted during the existing permit term indicate the facility discharged 4 times during the last permit term. Discharges averaged 81 minutes in duration and occurred once in April 2018, twice in March 2019, and once in April 2021.
<p>In 1981, a plume of volatile organic compounds (VOCs), with trichloroethylene (TCE) as the predominant contaminant, was identified in the groundwater. From subsequent investigations, a project area was identified and established as the North Indian Bend Wash (NIBW) Superfund site in 1988. At the time the MRTF was constructed in 1996, no detectable concentrations of VOCs were present in groundwater production wells treated at MRTF; however, it was expected that the contaminant plume could reach the wells in the future. The MRTF was designed to reduce concentrations of NIBW chemicals of concern including TCE, PCE, 1,1-DCE, 1,1,1-TCA, and chloroform from groundwater prior to delivery to drinking water systems. Pumping of groundwater from water production wells associated with MRTF contains plume migration and reduces impacts on other drinking wells.</p> <p>Water from two groundwater production wells located along the Arizona Canal from south of McDonald Drive to Lincoln Drive is treated continuously using air stripping at MRTF. The treated water is then collected in the Clearwater at MRTF and pumped to EPCOR’s Paradise Valley Arsenic Remediation Facility for further treatment before delivery to EPCOR’s drinking water system. Treated water may be delivered to the Arizona Canal through Outfall 001 on an infrequent basis following air stripping tower cleans or well restarts after a prolonged shutdown.</p>	

IV. RECEIVING WATER	
<p>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.</p>	
Receiving Water:	The Water of the U.S. Protected Surface Water (WOTUS PSW) for facility/outfall is the 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

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.	

V. 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	16.0
Chromium VI	µg/L	32
Trichloroethylene (TCE)	µg/L	<0.5
pH	S.U.	8.37

VI. STATUS OF COMPLIANCE WITH THE EXISTING AZPDES PERMIT	
Date of Most Recent Inspection:	01/28/2022; no potential violations were noted as a result of this inspection.
DMR Files Reviewed:	04/2019 through 04/2021
Lab Reports Reviewed:	04/2018 through 04/2021
DMR Exceedances:	Arsenic (April 2019). No other exceedances noted.
NOVs Issued:	ADEQ issued an NOV to Miller Road Treatment Facility on 05/21/2019 for exceeding monthly average and daily maximum concentration limits for Total Recoverable Arsenic on their 1st quarter 2019 DMR.
NOVs Closed:	NOV closed on 06/28/2019
Compliance Orders:	None

VII. PROPOSED PERMIT CHANGES

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

Parameter	Existing Permit	Proposed permit	Reason for change
Noncompliance Reporting Hotline	(602) 771-2330	Noncompliance resulting in imminent threat to human health or the environment must be reported to (602) 771-2330, while all other noncompliance must be reported to (602) 771-1440.	Routing emergency calls to the emergency hotline, but all other calls to a non-emergency number.
Arsenic and Chromium VI	Limits calculated with a mixing zone.	Limits calculated without mixing zone.	The permittee withdrew their request for a mixing zone.
Tetrachloroethene (PCE), 1,1-Dichloroethene (1,1-DCE), 1,1,1-Trichloroethane (1,1,1-TCA), and Chloroform	No monitoring required.	Monitoring with limits.	Discharge monitoring with limits is required for all contaminants of concern found in the NIBW Superfund site.
Effluent characterization monitoring	Not required.	Required.	Effluent characterization monitoring is necessary for all facilities to characterize the discharge and determine if the parameters of concern are present in the discharge and at what levels.

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 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.

No limits are less stringent due to a change in the WQS in this permit.

VIII. DETERMINATION OF EFFLUENT LIMITATIONS

When determining what parameters need monitoring and/or limits included in the 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 (TBELs) 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. Limits are retained for trichloroethylene (TCE). Limits for tetrachloroethene (PCE), 1,1-dichloroethene (1,1-DCE), 1,1,1-trichloroethane (1,1,1-TCA), and chloroform have been set in the permit. With the exception of chloroform, the proposed limits are based on Safe Drinking Water Act Maximum Contaminant Levels (MCLs) in accordance with the cleanup standards set in the 2003 Amended Consent Decree (ACD) and 2001 Record of Decision Amendment (ROD). Both the 2001 ROD and the original ROD in 1991 had a cleanup level of 6 µg/L for chloroform which is included as a limit in the permit. These technology-based limits are more stringent than water quality-based effluent limitations (WQBELs) for these parameters; therefore, they are protective of the Domestic Water Supply designated use.

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 an analysis, 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. Limits based on A&W criteria were developed using the “two-value steady state wasteload allocation” described on page 99 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 limits in this permit were determined without the use of a mixing zone. Arizona state water quality rules require that water quality standards be achieved without mixing zones unless the permittee applies for and is approved for a mixing zone. The previous permit authorized a mixing zone for arsenic and chromium VI. The permittee re-applied for a mixing zone for arsenic and chromium VI at the time of submitting the permit renewal application. Pursuant to R18-11-114(G), the director shall reevaluate a mixing zone upon reissuance of the permit. ADEQ evaluated the mixing zone application and requested additional information regarding the proposed mixing zone on July 26, 2022. The permittee withdrew the request for a mixing zone on September 6, 2022. Since a mixing zone was not granted, all water quality criteria are applied at end-of-pipe.

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.

Effluent Characterization (EC)

In addition to monitoring for parameters assigned either a limit or an AL, sampling is required to assess the presence of pollutants in the discharge at certain minimum frequencies for additional suites of parameters, whether the facility is discharging or not. This monitoring is specified in Table 2, *Effluent Characterization Testing*.

NOTE: Some parameters listed in Table 2 are also listed in Table 1. In this case, the data from monitoring under Table 1 may be used to satisfy the requirements of Table 2, provided the specified sample types are the same. In the event the facility does not discharge to a Protected Surface Water during the life of the permit, EC monitoring of representative samples of the effluent is still required.

The purpose of EC monitoring is to characterize the effluent and determine if the parameters of concern are present in the discharge and at what levels. This monitoring will be used to assess RP per 40 CFR 122.44(d)(1)(iii)). EC monitoring is required in accordance with 40 CFR 122.43(a), 40 CFR 122.44(i), and 40 CFR 122.48(b) as well as A.R.S. §49-203(A)(7). If pollutants are noted at levels of concern during the permit term, this permit may also be reopened to add related limits or conditions.

Permit Limitations and Monitoring Requirements

Table 1 summarizes the parameters that are limited in the permit and the rationale for that decision. Also included are the parameters that require monitoring without any limitations or that have not been included in the permit at all and the basis for those decisions. 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*.

Table 1. Permit limitations and monitoring requirements.

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 (2)	Minimum: 6.5 Maximum: 9.0 AgL A.A.C. R18-11-109(B)	8.37	3	N/A	N/A	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.
Arsenic	10 µg/L DWS	16 µg/L	4	76 µg/L	RP Exists	Monitoring is required and a WQBEL is set.
Chromium VI	21 µg/L DWS	32 µg/L	4	152 µg/L	RP Exists	Monitoring is required and a WQBEL is set
Trichloroethylene (TCE)	5 µg/L TBEL based on BPJ	<0.5 µg/L	4	N/A	N/A	Discharge monitoring with limits is required to be consistent with 2003 Amended Consent Decree (ACD) and 2001 Record of Decision Amendment (ROD).
Chloroform	6 µg/L TBEL based on BPJ	No Data	0	N/A	N/A	Discharge monitoring with limits is required to be consistent with 2003 Amended Consent Decree (ACD) and 2001 Record of Decision Amendment (ROD).
1,1-Dichloroethylene (1,1-DCE)	6 µg/L TBEL based on BPJ	No Data	0	N/A	N/A	Discharge monitoring with limits is required to be consistent with 2003 Amended Consent Decree (ACD) and 2001 Record of Decision Amendment (ROD).
Tetrachloroethylene (PCE)	5 µg/L TBEL based on BPJ	No Data	0	N/A	N/A	Discharge monitoring with limits is required to be consistent with 2003 Amended Consent Decree (ACD) and 2001 Record of Decision Amendment (ROD).
1,1,1-Trichloroethane (1,1,1-TCA)	200 µg/L TBEL based on BPJ	No Data	0	N/A	N/A	Discharge monitoring with limits is required to be consistent with 2003 Amended Consent Decree (ACD) and 2001 Record of Decision Amendment (ROD).

Footnotes:

1. The monitoring frequencies are as specified in the permit.

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 D of the 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 subsequent 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. The quality of the discharge is not expected to be highly variable.

Monitoring locations are specified in the permit (Part I.A and Part II.A) 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.3) 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, Section B 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). Beginning 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.

Requirements for retention of monitoring records are detailed in Part II.C.3 of the permit.

X. SPECIAL CONDITIONS (Part III 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 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 – Surface Water Permits Unit
Attn: Rachel Heinz
1110 West Washington Street
Phoenix, Arizona 85007

Or by contacting Rachel Heinz at (602) 771 – 0180 or by e-mail at heinz.rachel@azdeq.gov.

XV. INFORMATION SOURCES

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

1. AZPDES Permit Application Forms 1 and 2C, received April 11, 2022, along with supporting data, facility diagram, and maps submitted by the applicant with the application forms.
2. ADEQ files on Miller Road Treatment Facility.
3. ADEQ Geographic Information System (GIS) Web site
4. Arizona Administrative Code (AAC) Title 18, Chapter 11, Article 1, *Water Quality Standards for Surface Waters*, adopted December 31, 2016.
5. A.A.C. Title 18, Chapter 9, Article 9. *Arizona Pollutant Discharge Elimination System* rules.
6. 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*.
7. EPA Technical Support Document for Water Quality-based Toxics Control dated March 1991.
8. *Regions 9 & 10 Guidance for Implementing Whole Effluent Toxicity Testing Programs*, US EPA, May 31, 1996.
9. *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* (EPA /821-R-02-013).
10. U.S. EPA NPDES Permit Writers' Manual, September 2010.