ADEQ Arizona Department of Environmental Quality

FACT SHEET

ARIZONA POLLUTANT DISCHARGE ELIMINATION SYSTEM (AZPDES)

This document gives pertinent information concerning reissuance of the AZPDES permit listed below. This facility is a reverse osmosis desalination plant (Yuma Desalting Facility or YDP) and research facility (Water Quality Improvement Center or WQIC) with a combined permitted flow of 22.5 million gallons per day (mgd), and thus is considered to be a major 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.

Permittee's Name:	Yuma Area Office U.S. Dept. of the Interior, Bureau of Reclamation
Permittee's Mailing Address:	7301 Calle Agua Salada Yuma, Arizona 85364
Facility Name:	Yuma Desalting Plant
Facility Address or Location:	7301 Calle Agua Salada Yuma, Arizona 85364
Contact Person(s): Phone/e-mail address	Don Black (928) 343-8135
AZPDES Permit Number:	AZ0025348
Inventory Number:	100306

I. STATUS OF PERMIT(s)	
AZPDES permit applied for:	Renewal
Date application received:	**8/6/2014**
Date application was determined administratively complete:	**9/24/2014**
Previous permit number (if different):	N/A
Previous permit expiration date:	February 7, 2015

208 Consistency:
No 208 consistency determination is required.

The U.S. Dept. of the Interior, Bureau of Reclamation has the following permits issued by ADEQ applicable to the Yuma Desalting Plant:

Type of Permit	Permit Number	Purpose
Aquifer Protection Permit (APP)	P-100306	Regulates discharges to the local aquifer
Reuse Permit	none	Regulates the practice of reusing treated wastewater for beneficial purposes
Multi-Sector General Permit (MSGP)	none	Regulates stormwater discharge

II. GENERAL FACILITY INFORMATION	
Type of Facility:	Desalination facility was constructed in order to address water quality issues on the Lower Colorado River in accordance with the Mexican Water Treaty.
Facility Location Description:	The YDP is located approximately 3 miles west of Yuma, Arizona, in the southwest corner of the state near the borders with California and Mexico.
Permitted Design Flow:	22.5 MGD from YDP and the WQIC.
Maximum Daily Discharge:	0.23 MGD
County:	Yuma
Treatment Processes (include sludge handling and disposal/use):	Agricultural return flows from the Yuma Main Outlet Drain Extension are treated via reverse osmosis filtration
Nature of facility discharge:	Desalinated Colorado River water.
Average flow per discharge:	Continuous
Reuse / irrigation or other disposal method(s):	None
Continuous or intermittent discharge:	Continuous
Discharge pattern summary:	Continuous

The initial AZPDES permit for the YDP became effective February 8, 2010, when the desalting plant was brought online at an approximate 11 and 22 percent plant production capacity over a 1-month period and then at approximately one-third production capacity for 10 months. The permitted flow of one-third production capacity is an estimated 22.5 million gallons per day (MGD). The YDP suspended operations in May 2011. Although operation of the desalting plant is currently suspended, operation of the WQIC continues. The WQIC discharges approximately 0.4 MGD of desalinated

product similar in quality to that from the desalting plant. A major modification of the permit was issued in February 2012, to allow for reduced monitoring frequencies of the effluent limitations when only the WQIC is in operation. The maximum allowable discharge limits for this permit were calculated using a maximum discharge rate of 22.5 MGD.

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.

Receiving Water :	Colorado River below Yuma Area municipal water treatment plant intakes and drains.
River Basin:	Colorado – Lower Gila
Outfall Location(s):	Outfall 001; MODE II: Township 16 S, Range 21 E, Section 36 Latitude- 32° 43' 44.5" N, Longitude- 114° 42' 51.62" 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:	Aquatic and Wildlife warm water (A&Ww) Full Body Contact (FBC) Fish Consumption (FC) Agricultural Irrigation (AgI) Agricultural Livestock watering (AgL) Domestic Water Supply (DWS)
Is the receiving water on the 303(d) list?	Yes, for low dissolved oxygen and selenium; a TMDL has not been completed.

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	Effluent Average	Effluent Maximum
Biochemical Oxygen Demand (BOD)	mg/L	<5.0	<5.0
Total Suspended Solids (TSS)	mg/L	3.8	27
Total Kjeldahl Nitrogen (TKN)	mg/L	<0.25	0.42

V. STATUS OF COMPLIANCE WITH THE EXISTING AZPDES PERMIT	
Date of most recent inspection:	July 28, 2014; no potential violations were noted as a result of this inspection.
DMR files reviewed:	January 1, 2010 through December 31, 2014
Lab reports reviewed:	January 2010 through April 2014
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
Copper, Mercury	Assessment level	Limited	Data submitted indicated reasonable potential (RP) for an exceedance of a standard. A mixing zone has been approved for copper.
Antimony, Arsenic, Beryllium, Cadmium, Chromium, Lead, Nickel, Silver, Thallium, Zinc	Assessment level	Effluent characterization monitoring	Data submitted indicated no RP for an exceedance of a standard.
Iron	Not required	Assessment Level	New standard adopted in 2009 requires monitoring for iron.
Chlorine, Total Residual	5 & 11 µg/L Concentration Limits	9.0 & 18 µg/L Concentration Limits	Previous permit had incorrect concentration limits for TRC
Mixing Zone Study	Not required	A dilution study is required to be submitted within 36 months of the effective date of the permit	To define the mixing zone boundary in order to calculate end-of-pipe effluent limits

Background receiving water monitoring	Not required	Receiving water quality monitoring required quarterly for the first year of permit term.	To update the background water quality data of the receiving water for Arizona anti-degradation requirements

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.

With respect to total residual chlorine, standards for this permit were revised to reflect new water quality standards adopted in 2009.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.

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 effluent limits for this facility.

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 onthe 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: 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 approved mixing zones for pH, boron, and whole effluent toxicity (WET) and they are reestablished in this permit. The permittee also included a new mixing zone request for copper. ADEQ evaluated the request and approved establishment of the copper mixing zone. The factors in Arizona mixing zones rules listed in A.A.C. R18-11-114(D) were considered upon approving the request. ADEQ determined the request met the requirements of the Arizona mixing zone rule policy based on the high dilution ratios associated with the discharge to the Colorado River. The dilution factor of the YDP and WQIC is approximately 25:1 and 1400:1, respectively. The mixing zone will be located immediately downstream of the point of discharge (Outfall 001) and will extend for a maximum of 500 meters. The applicable limits for these parameters shall be met within the boundaries of a mixing zone. However, limits for all other water quality criteria shall be met at end-of-pipe (point of discharge). As a special condition of the permit, the permittee is required to submit a dilution study to further define the boundary of the mixing zone and to allow for calculation of end-of-pipe limits. Pursuant to A.A.C R18-11-114(B)(3), the boundary of a mixing zone is the location where the concentration of a wastewater across a transect of the surface water differs by less than 5 percent.

Assessment Levels (ALs): ALs are listed in Part I.B of the permit. An AL differs from a discharge limit in that an exceedance of an AL is not a permit violation. Instead, ALs serve as triggers, alerting the permitting authority when there is cause for re-evaluation of RP for exceeding a water quality standard, which may result in new permit limitations. The AL numeric values also serve to advise the permittee of the analytical sensitivity needed for meaningful data collection. Trace substance monitoring is required when there is uncertain RP (based on non-detect values or limited datasets) or a need to collect additional data or monitor treatment efficacy on some minimal basis. A reopener clause is included in the draft permit should future monitoring data indicate water quality standards are being exceeded.

The requirement to monitor for these parameters is included in the draft permit according to A.A.C. R18-11-104(C) and Appendix A. ALs listed for each parameter were calculated in the same manner that a limit would have been calculated (see Numeric Water Quality Standards Section above).

Hardness: The permittee is required to sample hardness as $CaCO_3$ at the same time the trace metals are sampled because the water quality standards for some metals are calculated using the water hardness values. The hardness value of 400 mg/L was used to calculate the applicable water quality standards and any assessment levels or limits for the hardness dependent metals (cadmium, chromium III, copper, lead, nickel, silver and zinc).

Whole Effluent Toxicity (WET): A 500 meter mixing zone has been approved for WET. WET testing is required in the draft permit (Parts I.C and IV) to evaluate the discharge according to the narrative toxic standard in A.A.C. R18-11-108(A)(5), as well as whether the discharge has RP for WET per 40 CFR 122.44(d)(iv). At a minimum, the results reported on an AZPDES application must include quarterly testing for a 12-month period within the past year using multiple species or the results from four tests performed at least annually in the 4.5 years prior to the application.

WET testing for chronic toxicity shall be conducted using the following three surrogate species:

- *Ceriodaphnia dubia* (water flea) – for evaluating toxicity to invertebrates
- *Pimephales promelas* (fathead minnow) – for evaluating toxicity to vertebrates
- *Pseudokirchneriella subcapitata* (formerly known as *Selenastrum capricornutum or Raphidocelis subcapitata)* (a green alga) – for evaluating toxicity to plant life

ADEQ does not have a numeric standard for Whole Effluent Toxicity. However, ADEQ adopted the EPA recommended chronic toxicity benchmark of 1.0 TUc for a four day exposure period. Using this benchmark, the limitations and action levels for WET included in the draft permit were calculated in accordance with the methods specified in the *TSD*. The species chosen for WET testing are as recommended in the *TSD* and in *Regions 9 & 10 Guidance for Implementing Whole Effluent Toxicity Testing Programs*.

An exceedance of a limit or action level will trigger follow-up testing to determine if effluent toxicity is persistent. If toxicity above a limit or action level is found in a follow-up test, the permittee will be required to conduct a Toxicity Reduction Evaluation (TRE) and possibly a Toxicity Identification Evaluation (TIE) to identify the source of toxicity and reduce toxicity. These conditions are required to ensure that toxicants are not discharged in amounts that are toxic to organisms [A.A.C. R18-11-108(A)(5)]. A reopener clause is included in accordance with 40 CFR Parts 122 and 124 and AAC R18-9-B906.

The draft permit requires discrete samples be collected for WET testing. WET sampling must coincide with testing for all the parameters in Parts I.A and B of the draft permit, when testing of those parameters is required, to aid in the determination of the cause of toxicity if toxicity is detected. Additional procedural requirements for the WET test are included in the proposed permit.

The required WET monitoring frequency for this facility is consistent with the WET testing frequency required for facilities with a similar design flow. The draft permit requires WET test results to be reported on discharge monitoring reports and submittal of the full WET lab report to ADEQ.

Discharge Characterization (DC): 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 Tables 4.a. through 4.d., *Discharge Characterization Testing*, as follows:

• Table 4.a. – General Chemistry and Microbiology: ammonia, BOD-5, *E. coli*, total residual chlorine (TRC), dissolved oxygen, total Kjeldahl nitrogen (TKN), nitrate/nitrite, oil and grease, pH, phosphorus, temperature, total dissolved solids (TDS), and total suspended solids (TSS)
• Table 4.b. – Selected Metals, Hardness, Cyanide, and WET
• Table 4.c. – Selected Volatile Organic Compounds
• Table 4.d. – Additional Parameters Based on Designated Uses (from Arizona Surface Water Quality Standards, Appendix A, Table 1)

NOTE: Some parameters listed in Tables 4.a. and 4.b. are also listed in Tables 1 or 2. In this case, the data from monitoring under Tables 1 or 2 may be used to satisfy the requirements of Tables 4.a. and / or 4.b., provided the specified sample types are the same. In the event the facility does not discharge to a water of the U.S. during the life of the permit, EC monitoring of representative samples of the effluent is still required.

The purpose of DC 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)). DC 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:

The table that follows 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*.

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 A&Ww and PBC A.A.C. R18-11-109(B)	5.3 to 8.45	47	N/A	RP exists	A mixing zone has been approved for pH. 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.
Temperature	No applicable numeric standard	14.2 to 32ºC	15	N/A	N/A	Effluent temperature is to be monitored for effluent characterization by discrete sample. 40 CFR Part 136 specifies that discrete samples must be collected for temperature. Temperature sampling must also coincide with ammonia sampling when required.
Ammonia	Standard varies with temperature and pH	0.37 mg/L	5	1.5	No RP	Monitoring required for discharge characterization.
Antimony	6 µg/L DWS	<3 µg/L	9	4.8 µg/L	No RP	Monitoring required for discharge characterization.
Arsenic	10 µg/L DWS	<3 µg/L	9	5.5 µg/L	No RP	Monitoring required for discharge characterization.
Beryllium	4 µg/L/ DWS	<1 µg/L	10	1.5 µg/L	No RP	Monitoring required for discharge characterization.
Boron	1,000 µg/L/ AgI	1100 µg/L	22	1650 µg/L	RP exists	Mixing zone is granted for Boron. See Part IV of the permit for conditions.
Cadmium (2)	2.6 µg/L/ A&Ww chronic	<1µg/L	9	1.6 µg/L	No RP	Monitoring required for discharge characterization.
Chromium (Total)	100 µg/L/ DWS	2.8 µg/L	10	8.4 µg/L	No RP	Monitoring required as an indicator parameter for Chromium VI.
Chromium VI	11 µg/L/ A&Ww chronic	No data	0	N/A	NA	Monitoring required for discharge characterization.
Copper (2)	29.3 µg/L/ A&Ww chronic	320 µg/L	12	2016 µg/L	RP Exists	Mixing zone is granted for Copper. See Part IV of the permit for conditions.
Cyanide	9.7 µg/L/ A&Ww chronic	4.1 µg/L	8	N/A	RP Indeterminate (High LOQ and insufficient data))	Monitoring required and an assessment level has been assigned to determine RP.
Hardness	No applicable standard. Hardness is used to determine standards for specific metal parameters.	580 mg/L	10	N/A	N/A	A&W standards for cadmium, chromium III, copper, lead, nickel, silver and zinc used for RP determinations were based on the average effluent hardness value of 400 mg/L. Monitoring for hardness is required whenever monitoring for hardness dependent metals is required.
Total Residual Chlorine	11 ug/L/ A&Ww chronic	<1.2 µg/L	43	2.16	RP Exists	Monitoring is required and a WQBEL is set. YDP uses chlorine as a disinfectant.

Parameter	Lowest Standard / Designated Use		Maximum Reported Daily Value	No. of Samples	Estimated Maximum Value	RP Determination	Proposed Monitoring Requirement/ Rationale (1)
Hydrogen Sulfide	2 µg/L/ A&Ww chronic		No Data	0	N/A	RP Indeterminate (No Data)	Monitoring is required for sulfides as an indicator parameter for hydrogen sulfide. If sulfides are detected, monitoring for hydrogen sulfide is required for the remainder of the permit term.
Iron	1,000 ug/L / A&Ww chronic		N/A	0	N/A	RP Indeterminate (No Data)	Monitoring required for discharge characterization.
Lead (2)	3 µg/L / A&Ww chronic		<1 µg/L	21	1.2 µg/L	No RP	Monitoring required for discharge characterization.
Mercury	0.01 µg/L/ A&Ww chronic		0.1 µg/L	9	0.3 µg/L	RP Exists	Monitoring required and a WQBEL is set.
Nickel (2)	60 µg/L/ A&Ww chronic		1 µg/L	8	3.3 µg/L	No RP	Monitoring required for discharge characterization.
Selenium	2 µg/L/ A&Ww chronic		<2µg/L	8	N/A	RP Indeterminate (High LOQ)	Monitoring required and an assessment level has been assigned to determine RP.
Silver (2)	4.4 µg/L/ A&Ww acute		<1 µg/L	8	1.7 µg/L	No RP	Monitoring required for discharge characterization.
Sulfides	No applicable standard		<50 µg/L	6	95	No RP	Indicator parameter for hydrogen sulfide. Monitoring required. If sulfides are detected, monitoring for hydrogen sulfide is required for the remainder of the permit term.
Thallium	2 µg/L/ DWS		<1 µg/L	8	1.65 µg/L	No RP	Monitoring required for discharge characterization.
Zinc (2)	137 µg/L/ A&Ww acute and chronic		27 µg/L	7	94.5 µg/L	No RP	Monitoring required for discharge characterization.
Whole Effluent Toxicity (WET)	No toxicity (A.A.C. R18-11-108(A)(6)	*Pseudo-kirchneriella subcapitata (3)*	2 TUc	6	N/A	RP Exists	Mixing zone is granted for WET. See Part IV of the permit for conditions.
		Pimephales promelas	4 TUc	6	N/A	RP Exists	
		Ceriodaphnia dubia	8 TUc	6	N/A	RP Exists	

Footnotes:

(1) The monitoring frequencies are as specified in the permit.
(2) Hardness-dependent metal - the standard for this parameter is based on the average hardness value of the effluent or receiving water as indicated above.
(3) Formerly known as *Selenastrum capricornutum or Raphidocelis subcapitata.*
(4) An AIR will be calculated by dividing effluent ammonia concentration by the applicable standard using the receiving water pH and temperature.

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 E and F 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. The monitoring frequencies listed in Tables 1 through 4.d of the permit are determined by the volume of treated effluent being discharged. In the event that the YDP becomes operational during this permit term, the permittee shall monitor according to the appropriate frequencies listed in Tables 1 through 4.d.

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, Part I.J and Part V.B) 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).

The permittee is responsible for conducting all required monitoring and reporting the results to ADEQ on DMRs or as otherwise specified in the permit.

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

X. SPECIAL CONDITIONS (Part V in Permit)

Mixing Zone

The monitoring requirement and mixing zone special conditions are outlined in the draft permit. Results shall be reported for pH, boron, copper and WET taken at 3 points in the receiving water, not greater than 500 meters, below outfall MODE II. The permit requires completion of a dilution study in order to define the mixing zone boundary. Once this study is completed, end of pipe effluent limits will be calculated for the full-scale YDP operation during the next permit term.

Background Water Quality Assessment

The permittee shall monitor the parameters listed in Table 6 of the permit Quarterly for the first year of the permit term. The data will be used to evaluate the background water quality of the receiving water pursuant to A.A.C R18-11-107.01(B).

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 YDP is to a perennial water with Tier 2 antidegradation protection. This is a renewal permit for an existing facility with no new or expanded discharge, and the existing uses have been maintained. The permit requires surface water monitoring to provide current background water quality. Effluent quality limitations and monitoring requirements have been established under the proposed permit to ensure 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 – Mail Code 5415B-3
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 Form(s) 2A and 2S (or insert other forms submitted), received August 6, 2014, along with supporting data, facility diagram, and maps submitted by the applicant with the application forms.
2. ADEQ files on AZ0025348
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 January 31, 2009.
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.