



# DRAFT FACT SHEET

## ARIZONA POLLUTANT DISCHARGE ELIMINATION SYSTEM (AZPDES)

This document gives pertinent information concerning the reissuance of the AZPDES permit listed below. This facility is an electric power generating station and is classified as a major industrial discharger 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:	Salt River Project
Permittee's Mailing Address:	P. O. Box 52025 Mail Station: STS300 Phoenix, Arizona 85072
Facility Name:	Santan Generating Station (Santan)
Facility Address or Location:	1005 South Val Vista Drive Gilbert, Arizona 85296
County:	Maricopa County
Contact Person(s): Phone/e-mail address	Tom Murray, Director (602) 236-3199 / Tom.Murray@srpnet.com
AZPDES Permit Number:	AZ0023558
Inventory Number:	100601
LTF Number:	73184

I. STATUS OF PERMIT(s)	
AZPDES permit applied for:	Renewal
Date application received:	August 22, 2018
Date application was determined administratively complete:	October 9, 2018
Previous permit expiration date:	February 19, 2019

**208 Consistency:**

This is a non-domestic wastewater treatment plant and as such determination of consistency with the Regional Water Quality Management 208 plan is not required.

Santan River Project (SRP) has the following permit issued by ADEQ applicable to the Santan Generating Station (Santan):

Type of Permit	Permit Number	Purpose
Aquifer Protection Permit (APP)	P 100601	Regulates discharges to the local aquifer.
Reuse Permit	R 100601	Regulates the practice of reusing treated wastewater for beneficial purposes.

**II. GENERAL FACILITY INFORMATION**

Type of Facility:	Industrial – Electric Generating Station
Facility Location Description:	The facility is located on Val Vista Drive, a quarter of a mile south of Warner Road in Gilbert, Maricopa County, Arizona.
Facility Processes:	<p>Santan initiated commercial operations in 1974 with four combined-cycle, combustion and steam generation units identified as Units 1 – 4. Units 5 and 6 became operational in 2005 and 2006 respectively. Santan includes six (6) natural gas fired combined cycle systems. The systems includes seven (7) stationary combustion turbines, six (6) stationary steam turbines, seven (7) Heat Recovery Steam Generators (HRSGs), one diesel fired emergency fire water pump, three (3) mechanical draft cooling towers, and associated water supply, water discharge, and natural gas supply pipelines.</p> <p><b>Water Supply:</b> Santan receives water from both surface and ground sources. Units 1-4 receive groundwater from two (2) onsite groundwater wells (Wells A and B) and three (3) offsite groundwater wells (Wells C, D, and Ray Road). The primary source of raw water for Units 5 and 6 is water from a shallow intake structure on the Eastern Canal. All groundwater wells serve as back-up supply for Units 5 and 6 during emergencies or routine dry-up maintenance activities on the Eastern Canal. All Groundwater wells are owned and maintained by SRP and are registered with the Arizona Department of Water Resources (ADWR).</p>

	<p><b>Water Treatment:</b> Treatment processes of raw surface water consist of filtration and clarification to remove suspended solids with further clarification by ultrafiltration (UF), reverse osmosis (RO) and deionization (DI) (UF/RO/DI) for use in HRSG. The clarifier unit treats surface water entering the facility for use in Units 5 and 6. Solids removed by the clarifier are pumped to the settling beds where they can be dried and disposed as solid waste; no wastewater stream is contributed by the clarifier system. Groundwater is treated by reverse osmosis and deionization and used as make-up to the HRSG in addition to firewater for Santan. Cooling water is treated (prior to use) with chemicals to retard algae growth, inhibit corrosion and scaling, and control pH. Cooling Tower water is dechlorinated prior to discharge to reduce free and total residual chlorine. A variety of chemicals are used in water treatment process to clean the reverse osmosis membranes and prevent fouling. Several conditioners and corrosion inhibitors are also used to pretreat boiler water. Moreover, chemical treatments have been used for invertebrate control to prevent quagga mussel infestation in Santan source water.</p> <p><b>Cooling Water Intake Structure:</b> Santan operations is maintained by two primary sources of raw water – groundwater and surface water. The primary source of raw water for units 5 and 6 is surface water pumped from a single, shallow intake structure adjacent to the plant site on the SRP Eastern Canal. Although the volume of water withdrawn from the Eastern Canal for use at Santan varies by season, the engineered design withdrawal rate for the facility exceeds two (2) MGD of cooling water, subjecting the facility to the 316(b) CWIS requirements specified in 40 CFR § 122.21(r) (2) - (r) (8).</p>
Nature of facility discharge:	The facility discharges include cooling tower blowdown, HRSG blowdown, water treatment waste, and a variety of miscellaneous low volume wastes.
Continuous or intermittent discharge:	Intermittent discharge.
Discharge pattern summary:	Discharges usually occurs during the months of December and January, when the RWCD conducts annual maintenance activities, or immediately following heavy precipitation events as demand for irrigation temporarily subsides.

**Permitted Outfalls:** Santan has three specific wastewater streams: 1) sanitary wastewater, 2) stormwater exposed to industrial activities, and 3) process wastewater that includes cooling tower blowdown, HRSG blowdown, water treatment waste, and miscellaneous low volume wastes.

Sanitary wastewater is discharged to the Town of Gilbert sanitary sewer system. Stormwater exposed to industrial activities is accumulated in one (1) of the four (4) on-site retention basins. Two registered drywells collect stormwater that is not exposed to industrial activities. Process wastewater is discharged through one of three discrete conveyances. They are: 1) the Roosevelt Water Conservation District (RWCD) canal, 2) a RWCD tailwater ditch, or 3) AZPDES permitted outfalls. Wastewater is discharged from the three permitted outfalls in the following order of priority: (1) Outfall 021, (2) Outfall 005, and (3) Outfall 001.

Each of the three Santan AZPDES permitted outfalls (Outfall 001, Outfall 005 and Outfall 021) discharge to SRP irrigational Laterals. Discharge to SRP irrigation laterals is primarily used when RWCD discharge locations are not available. This usually occurs during the months of December and January, when the RWCD conducts annual maintenance activities, or immediately following heavy precipitation events as demand for irrigation temporarily subsides. The three permitted outfalls at Santan serve the following functions:

**Outfall 021:** This outfall is the primary AZPDES discharge outfall when RWCD is unavailable. Outfall 021 discharges are pumped through a 24-inch line that travels north from the plant and ties into SRP lateral 4-8.4 near Greenfield Road and Guadalupe Road. Discharges are directed to SRP lateral 4-8.4, then to SRP lateral 5-9.0, followed by SRP lateral 5-9.5, and ultimately into the SRP Western Canal.

**Outfall 005:** This outfall is the back-up AZPDES Discharge outfall when RWCD and Outfall 021 are unavailable. Discharges are pumped through 16- inch line that travels south from the plant to SRP lateral 4-11.4, and directed into SRP lateral 5-11.0 farther downstream. Excess water not used for irrigation may be intercepted by an Arizona Department of Transportation (ADOT) storm drain that eventually discharges to the Salt River.

The function of outfall 005 and 021 is redundant as both outfalls share the same source water (Wastewater from Units 1-6). Under normal operation, wastewater from all the plant processes is directed to the 3A wastewater ponds. When discharging, wastewater is drawn into the plant wastewater sump and Santan operations personnel open and close valves downstream to direct wastewater flows to the designated discharge location.

**Outfall 001:** This outfall is used for emergency purposes only. Normally, wastewater from Units 1-4 bypasses Outfall 001 and is pumped to the 3A wastewater ponds. Outfall 001 is dedicated for discharging wastewater generated from Units 1-4; Units 5-and 6 cannot discharge through Outfall 001. In the event that Outfall 001 is used, process wastewater from Units 1-4 is accumulated in Units 1-4 wastewater vault, discharged to SRP lateral 4-11.4, and is directed into SRP lateral 5-11.0 farther downstream. Excess water not used for irrigation may be intercepted by an ADOT storm drain that eventually discharges to the Salt River.

For Units 1-4, the water treatment waste streams and HRSG blowdown and drains combine with cooling tower blowdown in the Units 1-4 wastewater sump. This wastewater sump can discharge to Outfall 001,

but normally discharges to the 3A wastewater ponds where it comes with wastewater from Units 5 and 6. Once wastewater is comingled in the wastewater pond it can be discharged to Outfall 005 or Outfall 021. For Units 5 and 6, the HRSG blowdown and water treatment wastewater is combined in a pit wastewater sump. This stream is considered a “Low volume waste stream” and is handled separately from the Unit 5 and 6 cooling tower blowdown until both waste streams are discharged to the 3A wastewater ponds.

Each permitted outfall along with its contributing wastewater flows and estimated volumes are provided in Part IV below.

**Cooling Water Intake Structure (CWIS):** Section §316 (b) of Clean Water Act (CWA) requires steam-electric generating facilities that operate cooling water intake structures (CWIS) with a design intake flow greater than 2 mgd from water of the United States to minimize the adverse environmental impact of their operations. This includes implementation of certain standards to reduce the threat of impingement and /or entrainment of fish and other aquatic organisms.

Santan Generating Station (Santan) withdraws water for cooling from a surface water that is subject to § 316 (b). As part of their application materials, the facility submitted the following information:

**Source Water Physical Data – 40 CFR § 122.21 (r) (2)(i) - (r) (2)(iv):**

A narrative description and scaled drawings showing the physical configuration of surface water used by facility - including areal dimensions, depths, and other documentation including water chemistry data at approximately 0.6 canal miles upstream of the CWIS, and a location map showing the area of influence.

**Cooling Water intake Structure Data - 40 CFR § 122.21 (r) (3)(i) - (r) (3)(v):**

A narrative description of configuration, operation, latitude and longitude, flow distribution and water balance diagram and engineering drawings of the CWIS.

**Source Water Baseline Biological Characterization - 40 CFR § 122.21 (r) (4):**

Existing biological study data conducted by US Bureau of Reclamation (1995 -2010 and 2015) which contains information to address the key requirements of 40 CFR § 122.21 (r) (4). It should be noted that the CWIS is located with a surface water that does not contain aquatic and wildlife designated uses, and there are no threatened, endangered, or fragile species in the vicinity of the action area. The majority of the species present in the canal system are non-native or invasive fish species.

Existing biological data also suggests that adult fish are the primary life stage present in the canals due to the lack of suitable spawning habitat. Therefore, the potential for impingement or entrainment is limited to small. Non-native fish species. The highest concentrations of native and non-native species are concentrated several canal miles upstream of the CWIS.

**Cooling water system Data - 40 CFR § 122.21 (r) (5):**

A narrative description of the operation of the cooling water system, design and engineering calculations and also description of existing impingement and entrainment technologies and a summary of their performance.

**Compliance with impingement Mortality Standard - 40 CFR § 122.21 (r) (6):**

A closed-cycle recirculating system is in operation at Santan. Closed cycle systems have been identified by the EPA as the preferred alternative for meeting the impingement mortality standard.

**Entrainment Performance studies - 40 CFR § 122.21 (r) (7):**

The facility has not previously conducted studies on entrainment, therefore there is no historical entrainment data that the Department can review. Since the actual cooling water intake flow is 3.64 MGD, which is less than 125 MGD, operation of intake structure with a closed-cycle recirculating system meets the BTA for entrainment, as defined under 40 CFR 125.94 (d).

**Operational Status - 40 CFR § 122.21 (r) (8):**

A description of the operational status of Units 5 and 6 that uses water for cooling was provided by the permittee.

**Best Technology Available (BTA) standards determination for impingement and Entrainment:**

Based upon the materials submitted, the Department has determined that the facility operates a closed-cycle recirculating system that meets the Best Technology Available (BTA) for impingement mortality, as defined under 40 CFR § 125.94 (c) (1). In addition, the Department has also determined that the proper operation and maintenance of the closed-cycle recirculating system will also meet the Best Technology Available (BTA) for entrainment, as defined under 40 CFR § 125.94 (d). No additional or biological monitoring are required, provided that terms and conditions for BTA compliance, as specified in the permit, are maintained by the permittee.

### **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 :	<p>The receiving water for Santan Outfalls 001 and 005 is SRP irrigation lateral 4-11.4, and is directed into SRP lateral 5-11.0. Both are Phoenix Area Canals and eventual tributary to the Salt River (from 2 kilometers below Granite Reef Dam to City of Mesa NW WRF outfall), in the Middle Gila River Basin.</p> <p>The receiving water for Santan Outfall 021 is SRP lateral 4-8.4 and is directed into SRP lateral 5-9.0, then into SRP lateral 5-9.5, and ultimately into the SRP Western Canal.</p>
River Basin:	Middle Gila River Basin

Outfall Location(s):	Outfall 001: Township 1 S, Range 6 E, Section 21 Latitude 33°19' 54" N, Longitude 111°44' 59" W
	Outfall 005: Township 1 S, Range 6 E, Section 21 Latitude 33°20' 01" N, Longitude 111°44' 57" W
	Outfall 021: Township 1 S, Range 6 E, Section 21 Latitude 33°20' 01" N, Longitude 111°44' 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:	The Phoenix Area Canals below municipal water treatment plant intakes and all other locations have the following designated uses: Agricultural Irrigation (AgI) Agricultural Livestock watering (AgL)
Designated uses for downstream receiving water	The Salt River has the following designated uses: <ul style="list-style-type: none"><li>• Aquatic and Wildlife – ephemeral (A&amp;We)</li><li>• Partial Body Contact (PBC)</li></ul>

Per A.A.C. R18-11-113(D), the water quality standards that apply to effluent-dependent waters (EDWs) will be applied to derive discharge limitations for any point source discharge of wastewater to an ephemeral water. The draft AZPDES permit includes discharge limitations and monitoring requirements designed to achieve compliance with A&Wedw standards.

Therefore, the following uses are being applied to the Salt River:

- Aquatic and Wildlife effluent dependent water (A&Wedw)
- Partial Body Contact (PBC)

Is the receiving water on the 303(d) list?	No, and there are no TMDL issues associated.
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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

Table below describes the type of discharge and volume of wastewater discharged from Outfalls 001, 005 and 021 as provided in the application.

Outfall No.	Type of Discharge	Average Flow (MGD)
001	Units 1-4 Cooling Tower Blowdown	0.307
	Units 1-4 HSRG Blowdown	0.017
	Units 1-4 Water Treatment (RO Reject & Sample System Drains)	0.072
005 and 021	Unit 5 Cooling Tower Blowdown	1.316
	Unit 6 Cooling Tower Blowdown	0.684
	Unit 5 Building (Floor and Area Drains)	0.068
	Unit 6 Building (Floor and Area Drains)	0.047
	Unit 5 HRSG (Blowdown and Area Drains)	0.085
	Unit 6 HRSG (Blowdown and Area Drains)	0.042
	Water Treatment (Multimedia Filter Backwash)	0.348
	Water Treatment (Ultra-filter Backwash)	0.078
	Water Treatment (RO Reject)	0.229
	Water Treatment (Cartridge Filter Backwash)	0.007
	Water Treatment (Building Floor Drains)	0.007
	Water Treatment (Evap. Cooler Blowdown)	0.007
	Water Treatment (Units 1-4 Circ. Water Pump Sump Drain)	0.007

#### V. STATUS OF COMPLIANCE WITH THE EXISTING AZPDES PERMIT

Date of most recent inspection:	01/25/2019; no potential violations were noted as a result of this inspection.
DMR files reviewed:	February, 2014 through November, 2018
Lab reports reviewed:	July, 2014 through June, 2018
DMR Exceedances:	Selenium (September 2014); and Total Suspended solids (January 2017); No other exceedances were noted.
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
Iron and Mercury	Discharge characterization	Limited	Data submitted indicated reasonable

			potential (RP) for an exceedance of a standard.
Cooling Water intake Structure	No discussion regarding Cooling Water Intake Structure	Added special condition in Part V – Special Condition	New standard in 2014
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.			
No limits are less stringent due to a change in the WQS in this permit.			

## 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:** As outlined in 40 CFR Part 423:

The regulations found at 40 CFR §423 require that steam power generating plants achieve specified treatment standards for pH, total suspended solids (TSS), oil and greased, free available chlorine, chromium, and zinc based on type of treatment technology available. These parameter will be monitored with technology-based effluent limitations (TBELs) as applicable at different outfalls. No detectable amount of any of the 126 priority pollutants may be contained in any chemical added for cooling tower lowdown except for chromium and zinc at the maximum levels of 200 and 1,000 ug/L respectively. The regulations further prohibit discharge of any polychlorinated biphenyl compounds (PCBs) such as those historically used for transformer fluid. These provisions have been applied based on Best Practicable Control Technology (BPT) currently available and Best Available Technology (BAT) economically achievable. No effluent guidelines have been established for the best conventional technology (BCT).

The regulations found at 40 CFR § 125.94 require that an existing facility with a cumulative design intake flow (DIF) greater than two (2) mgd is subject to the BTA (Best Technology Available) standards for impingement mortality and entrainment including any measures to protect Federally- listed threatened and endangered species and designated critical habitat. Although ADEQ has not incorporated by reference the CWIS rule, the facility complies with the impingement and entrainment requirements because they are operating a closed-cycle recirculating system. Closed cycle systems have been identified by the EPA as the preferred alternative for meeting the impingement mortality standard and entrainment technologies.

**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. 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 water quality rules require that water quality standards be achieved without mixing zones unless the permittee applies and is approved for a mixing zone. Since the receiving stream for this discharge is ephemeral prior to the discharge, no water is available for a mixing zone and all water quality criteria are applied at end-of pipe. This means that the effluent concentration must meet stream standards.

**Assessment Levels (ALs):** Not applicable as no assessment levels (ALs) are established in the draft permit for any parameter.

**Hardness:** The permittee is required to sample hardness as CaCO<sub>3</sub> 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 (the average hardness of the effluent as supplied in the application) 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): (Discharge at Outfalls 001 & 005):** WET testing is required in the draft permit (Parts I.B 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 / acute toxicity shall be conducted using the following three / two 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 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 action level will trigger follow-up testing to determine if effluent toxicity is persistent. If toxicity above 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.

**Whole Effluent Toxicity (WET):** ADEQ no longer requires 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, for discharges at Outfall 021 and Part IV for WET testing is “not applicable.”

**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 (that have been identified as being present in the discharge as noted in the application), whether the facility is discharging or not. This monitoring is specified in Tables 3.a. through 3.b., *Discharge Characterization Testing*, as follows:

- Table 3.a. – General Chemistry and Microbiology: ammonia, BOD-5, total organic carbon (TOC), chemical oxygen demand (COD), *E. coli*, and temperature (summer and winter)
- Table 3.b. – Selected Metals, and Hardness

The purpose of DC monitoring is to characterize the discharge 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)
<b>Outfalls 001 and 005</b>						
Flow	---	---	---	---	---	Flow measurements are recorded manually at outfall 001 from a weir at times when samples are collected; discharge flow is to be monitored on a continual basis using a flow meter at Outfall 005.
Solids, Total Suspended (TSS)	30 mg/L 30-day average 100 mg/L Daily maximum Technology-based limits 40 CFR § 423.12(b) (3) – Low Volume Waste (LVW) Sources.	33 mg/L	10	N/A	Technology based limit is always included.	Monitoring is required and a TBEL remains in the permit.
Biological Oxygen Demand (BOD), and Chemical Oxygen Demand (COD) Total Organic Carbon (TOC)	No Applicable Standard	BOD: < 5.0 mg/L COD: 29 mg/L	BOD: 5 COD: 5	N/A	N/A	Monitoring required for discharge characterization.
Total Organic Carbon (TOC)	No Applicable Standard	8.7 mg/L	5	N/A	N/A	Monitoring required for discharge characterization. Application requirement for industrial facilities.
Chlorine, Free Available (FAC)	0.2 mg/L 30-day average 0.5 mg/L Daily maximum Technology-based limits 40 CFR § 423.13(d) (1) – Cooling tower blowdown	N/A	No data	N/A	Monitoring and reporting required due to TBEL	Monitoring without limitations is required; no limits are established because TRC will be monitored with more stringent WQBEL than TBEL (see TRC below). FAC is a component of TRC. FAC shall be monitored within the first hour of discharge after each chlorination event if chlorination is used. See Part II.A.5 for specific monitoring requirements for chlorine. Per CFR 40 § 423.13(d)(2), FAC may not be discharged from any unit for more than two (2) hours in any one day and not more than one unit in any plant may discharge FAC at any one time unless demonstrated that it is necessary for operation.

Parameter	Lowest Standard / Designated Use	Maximum Reported Daily Value	No. of Samples	Estimated Maximum Value	RP Determination	Proposed Monitoring Requirement/ Rationale (1)
<b>Outfalls 001 and 005</b>						
Chlorine, Total Residual (TRC)	11 µg/L A&Wedw chronic	< 15 µg/L	11	N/A	RP expected when chlorine or bromine is used for in operation of the facility.	TRC is to be monitored as a discrete sample and a WQBEL remains in the permit. TRC shall be monitored within the first hour of discharge after each chlorination event if chlorination is used. See Part II.A.5 for specific monitoring requirements for chlorine. Per CFR 40 § 423.13(d)(2), TRC may not be discharged from any unit for more than two (2) hours in any one day and not more than one unit in any plant may discharge FAC at any one time unless demonstrated that it is necessary for operation. 40 CFR part 136 specifies that discrete samples must be collected for chlorine.
pH	Minimum: 6.5 Maximum: 9.0 A&Wedw, PBC and AgL A.A.C. R18-11-109(B)  Minimum: 6.0 Maximum: 9.0 40 CFR § 423.12(b) (1) – The pH of all discharges, except once-through cooling water, shall be within the range of 6.0 to 9.0 s.u.	Min – 7.0 s.u. Max – 8.9 s.u.	40	N/A	Limit is always included. Technology based limit exists in addition to the limit in A. A. C. R 18-11-109(B)	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.
Temperature	No applicable numeric standard	21°C	32	N/A	N/A	Effluent temperature is to be monitored for discharge characterization by discrete sample. 40 CFR Part 136 specifies that discrete samples must be collected for temperature.
Oil & Grease	15 mg/L 30-day average 20 mg/L Daily maximum Technology-based limits 40 CFR § 423.12(b) (3) – Low Volume Waste (LVW) Sources.	< 5.0 mg/L	17	N/A	Technology based limit is always included	Monitoring required and a TBEL remains in the permit.
Antimony	600 µg/L A&Wedw chronic	< 1 µg/L	3	N/A	No RP (BPJ)	Monitoring is not required. Discharge is not expected to contain antimony in concentrations that exceed the standard.

Parameter	Lowest Standard / Designated Use	Maximum Reported Daily Value	No. of Samples	Estimated Maximum Value	RP Determination	Proposed Monitoring Requirement/ Rationale (1)
<b>Outfalls 001 and 005</b>						
Arsenic	150 µg/L/ A&Wedw chronic	21.5 µg/L	6	81.7 µg/L	No RP	Monitoring without limitations is required for discharge characterization.
Beryllium	5.3 µg/L/ A&Wedw chronic	< 1 µg/L	6	N/A	No RP	Monitoring without limitations is required for discharge characterization.
Boron(2)	1000 µg/L / AgI	573 µg/L	28	745 µg/L	No RP	Monitoring is not required.
Cadmium (3)	6.22 µg/L/ A&Wedw chronic	< 1 µg/L	6	N/A	No RP	Monitoring without limitations is required for discharge characterization.
Chromium (Total)	1000 µg/L / AgI & AgL  30-day average: 200 µg/L Daily Maximum : 200 µg/L Technology-based limits 40 CFR § 423.13(d) – Cooling tower blowdown.	25 µg/L	12	95 µg/L	No RP Technology based limits are always included.	Monitoring is required and a TBEL is set for total chromium since it is more stringent than the WQBEL.
Chromium VI	11 µg/L/ A&Wedw chronic	21 µg/L	11	61 µg/L	RP Exists	Monitoring is required and the WQBEL remains in the permit.
Copper (3)	29 µg/L/ A&Wedw chronic	60 µg/L	13	252 µg/L	RP Exists	Monitoring is required and the WQBEL remains in the permit.
Cyanide	9.7 µg/L/ A&Wedw chronic	< 50 µg/L	2	N/A	RP Indeterminate (High LOQ, Limited data to determine reasonable potential)	Monitoring is not required.
Hardness	No applicable standard. Hardness is used to determine standards for specific metal parameters.	1,200 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 maximum allowable hardness value of 400 mg/L. Monitoring for hardness is required whenever monitoring for hardness dependent metals is required.

Parameter	Lowest Standard / Designated Use	Maximum Reported Daily Value	No. of Samples	Estimated Maximum Value	RP Determination	Proposed Monitoring Requirement/ Rationale (1)
<b>Outfalls 001 and 005</b>						
Hydrogen Sulfide	2 µg/L A&Wedw chronic	No Data	0	N/A	No RP (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 µg/L A&Wedw chronic	754 µg/L	6	2865 µg/L	RP Exists	Monitoring is required and a WQBEL is set in the permit.
Lead (3)	10.9 µg/L A&Wedw chronic	< 1 µg/L	6	N/A	No RP	Monitoring without limitations is required for discharge characterization.
Mercury	0.01 µg/L A&Wedw chronic	0.009 µg/L	4	0.04 µg/L	RP Exists	Monitoring required and a WQBEL is set in the permit.
Nickel (3)	168 µg/L A&Wedw chronic	40.3 µg/L	6	153 µg/L	No RP	Monitoring without limitations is required for discharge characterization.
Selenium	2 µg/L A&Wedw chronic	4.2 µg/L	12	12 µg/L	RP Exists	Monitoring is required and the WQBEL remains in the permit.
Silver (3)	35 µg/L A&Wedw acute	< 1 µg/L	6	N/A	No RP	Monitoring without limitations is required for discharge characterization
Sulfides	No applicable standard	< 50 µg/L	2	N/A	N/A	Indicator parameter for hydrogen sulfide. Monitoring is not required. If sulfides are detected, monitoring for hydrogen sulfide is required for the remainder of the permit term.
Thallium	75 µg/L PBC	< 1 µg/L	3	N/A	No RP	Monitoring without limitations is required for discharge characterization.
Zinc (3)	379 µg/L A&Wedw acute and chronic  30-day average: 1000 µg/L Daily Maximum : 1000 µg/L Technology-based limits 40 CFR § 423.13(d) – Cooling tower blowdown.	71 µg/L	12	199 µg/L	No RP for water quality based standard. Limit always included if TBEL applies	Monitoring is required and a WQBEL is set for total Zinc since it is more stringent than the TBEL.

Parameter	Lowest Standard / Designated Use	Maximum Reported Daily Value	No. of Samples	Estimated Maximum Value	RP Determination	Proposed Monitoring Requirement/ Rationale (1)
<b>Outfalls 001 and 005</b>						
Whole Effluent Toxicity (WET)	No toxicity (A.A.C. R18-11-108(A)(6))	<i>Pseudo-kirchneriella subcapitata</i> (4)	1 TUC	4	N/A	RP Indeterminate (5)
		<i>Pimephales promelas</i>	1 TUC	4	N/A	RP Indeterminate (5)
		<i>Ceriodaphnia dubia</i>	1 TUC	4	N/A	RP Indeterminate (5)

Footnotes:

- (1) The monitoring is required when the facility is discharging through Outfalls 001 and 005. Discharge flow metering should remain operational during periods of no discharge.
- (2) There were 28 data points, but 25 of these were from previous permit term.
- (3) Hardness-dependent metal - the standard for these parameters is based on the maximum allowable hardness of 400 mg/L.
- (4) Formerly known as *Selenastrum capricornutum* or *Raphidocelis subcapitata*.
- (5) Monitoring with ALs or Action Levels always required for major industrial facilities.

Parameter	Lowest Standard / Designated Use	Maximum Reported Daily Value	No. of Samples	Estimated Maximum Value	RP Determination	Proposed Monitoring Requirement/ Rationale (1)
<b>Outfall - 021</b>						
Flow	---	---	---	---	---	Discharge flow is to be monitored on a continual basis using a flow meter.
Solids, Total Suspended (TSS)	30 mg/L 30-day average 100 mg/L Daily maximum Technology-based limits 40 CFR § 423.12(b) (3) – Low Volume Waste (LVW) Sources.	33 mg/L	17	N/A	Technology based limit is always included.	Monitoring is required and a TBEL remains in the permit.
Biological Oxygen Demand (BOD), and Chemical Oxygen Demand (COD)	No Applicable Standard	BOD: < 5.0 mg/L COD: 29 mg/L	BOD: 4 COD: 4	N/A	N/A	Monitoring required for discharge characterization.
Total Organic Carbon (TOC)	No Applicable Standard	8.7 mg/L	4	N/A	N/A	Monitoring required for discharge characterization. Application requirement for industrial facilities.
Chlorine, Free Available (FAC)	0.2 mg/L 30-day average 0.5 mg/L Daily maximum Technology-based limits 40 CFR § 423.13(d) (1) – Cooling tower blowdown 40 CFR § 423.13(d) (2) – FAC may not be discharged from any unit for more than 2 hours in any one day, and not more than one unit may discharge FAC at any one time unless demonstrated that it is necessary for operation.	N/A	No data	N/A	Monitoring and reporting required due to TBEL	Monitoring without limitations is required; no limits are established because FAC is a component of TRC. FAC shall be monitored within the first hour of discharge after each chlorination event if chlorination is used. See Part II.A.5 for specific monitoring requirements for chlorine. Per CFR 40 § 423.13(d)(2), FAC may not be discharged from any unit for more than two (2) hours in any one day and not more than one unit in any plant may discharge FAC at any one time unless demonstrated that it is necessary for operation.

Parameter	Lowest Standard / Designated Use	Maximum Reported Daily Value	No. of Samples	Estimated Maximum Value	RP Determination	Proposed Monitoring Requirement/ Rationale (1)
<b>Outfall - 021</b>						
Chlorine, Total Residual (TRC)	40 CFR § 423.13(d) (2) – TRC may not be discharged from any unit for more than 2 hours in any one day, and not more than one unit may discharge TRC at any one time unless demonstrated that it is necessary for operation.	< 15 µg/L	16	N/A	RP expected when chlorine or bromine is used for in operation of the facility.	TRC shall be monitored within the first hour of discharge after each chlorination event if chlorination is used. See Part II.A.5 for specific monitoring requirements for chlorine. Per CFR 40 § 423.13(d)(2), TRC may not be discharged from any unit for more than two (2) hours in any one day and not more than one unit in any plant may discharge FAC at any one time unless demonstrated that it is necessary for operation.40 CFR part 136 specifies that discrete samples must be collected for chlorine.
pH	Minimum: 6.5 Maximum: 9.0 / AgL A.A.C. R18-11-109(B)  Minimum: 6.0 Maximum: 9.0 40 CFR § 423.12(b) (1) – The pH of all discharges, except once-through cooling water, shall be within the range of 6.0 to 9.0 s.u.	Min – 7.0 s.u. Max – 8.9 s.u.	39	N/A	Limit is always included. Technology based limit exists in addition to the limit in A. A. C. R 18-11-109(B)	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.
Temperature	No applicable numeric standard	33°C	43	N/A	N/A	Effluent temperature is to be monitored for discharge characterization by discrete sample. 40 CFR Part 136 specifies that discrete samples must be collected for temperature.
Oil & Grease	15 mg/L 30-day average 20 mg/L Daily maximum Technology-based limits 40 CFR § 423.12(b) (3) – Low Volume Waste (LVW) Sources.	< 5 mg/L	16	N/A	Technology based limit is always included	Monitoring required and a TBEL remains in the permit.
Arsenic	200 µg/L / AgL	21..5 µg/L	5	90.3 µg/L	No RP	Monitoring without limitations is required for discharge characterization.

Parameter	Lowest Standard / Designated Use	Maximum Reported Daily Value	No. of Samples	Estimated Maximum Value	RP Determination	Proposed Monitoring Requirement/ Rationale (1)
<b>Outfall - 021</b>						
Beryllium	No applicable standard	No Data	0	N/A	N/A	Monitoring without limitations is required for discharge characterization
Boron (2)	1000 µg/L / AgI	573 µg/L	22	745 µg/L	No RP	Monitoring is not required.
Cadmium	50 µg/L / AgI & AgL	< 1 µg/L	5	N/A	No RP	Monitoring without limitations is required for discharge characterization.
Chromium (Total)	1000 µg/L / AgI & AgL  30-day average: 200 µg/L Daily Maximum : 200 µg/L Technology-based limits 40 CFR § 423.13(d) – Cooling tower blowdown.	30.2 µg/L	17	72.5 µg/L	No RP Technology based limits are always included.	Monitoring is required and a TBEL remains in permit for total chromium since it is more stringent than the WQBEL.
Copper	500 µg/L / AgL	53.2 µg/L	11	154 µg/L	No RP	Monitoring is not required. Discharge is not expected to contain copper in concentrations that exceed the standard.
Cyanide	200 µg/L / AgL	< 50 µg/L	1	N/A	RP Indeterminate (High LOQ, Limited data to determine reasonable potential)	Monitoring is not required.
Lead	100 µg/L / AgL	< 1 µg/L	5	N/A	No RP	Monitoring without limitations is required for discharge characterization.
Mercury	10 µg/L / AgL	0.009 µg/L	3	0.5 µg/L	No RP	Monitoring without limitations is required for discharge characterization.
Selenium	20 µg/L/ AgI	4 µg/L	11	11.6 µg/L	No RP	Monitoring is not required. Discharge is not expected to contain copper in concentrations that exceed the standard.

Parameter	Lowest Standard / Designated Use	Maximum Reported Daily Value	No. of Samples	Estimated Maximum Value	RP Determination	Proposed Monitoring Requirement/ Rationale (1)
<b>Outfall - 021</b>						
Zinc	10,000 µg/L / AgI  30-day average: 1000 µg/L Daily Maximum : 1000 µg/L Technology-based limits 40 CFR § 423.13(d) – Cooling tower blowdown.	18.2µg/L	17	43.7 µg/L	No RP for water quality based standard. Limit always included if TBEL applies	Monitoring is required and a TBEL is set for total Zinc since it is more stringent than the WQBEL.

Footnotes:

- (1) The monitoring frequencies are as specified in the permit.
- (2) There were 22 data points, but 20 of these were from previous permit term.

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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 D and E 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.

Discrete (i.e., grab) samples are specified in the permit for all parameters. The quality of the discharge is not expected to significantly change during 24-hour period.

Monitoring locations are specified in the permit (Part I.A and Part I.J) 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). Beginning December 21, 2016 (one year after the effective date of the regulation), the Federal rule requires 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.D of the permit.

**X. BIOSOLIDS REQUIREMENTS (Part III in Permit)**

Not applicable – This is an industrial facility.

**XI. SPECIAL CONDITIONS (Part V in Permit)****Special Discharge Limitations**

Discharge from Santan to the SRP Lateral 4-8.4, SRP Lateral 5-9.0 and SRP Lateral 5-95 via outfall 021; and SRP Lateral 4-11.4 and SRP Lateral 5-11.0 via Outfalls 001 and 005 is only permitted when the Roosevelt Water Conservation District (RWCD) Irrigation Canal and Tailwater Ditch are incapable of receiving discharge volumes required by the plant operations.

**Stormwater Pollution Prevention Plan and Annual Report**

A Stormwater pollution prevention plan (SWPPP) will be used in lieu of numeric discharge limitations as allowed by 40 CFR 122.44 (K) to control the potential discharge of pollutants contained in stormwater. The permittee will also be required to submit an annual report to ADEQ on various aspects of stormwater.

**Stormwater monitoring and reporting requirements**

This permit condition requires no separate stormwater discharge monitoring, perform quarterly visual examination of stormwater quality and submission of annual report.

**Chemical Additives**

The permit allows use of specified chemical additives (Appendix C of the permit) necessary for the operation of the facility and specifies procedures for adding other chemicals.

**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)].

**Cooling Water Intake Structure Requirements (CWIS)**

Santan generating station submitted, in accordance with Section 316(b) of the Clean Water Act, the required information under 40 CFR 122.21(r)(1)(ii). Based on available information at the time of permit reissuance, the Agency has determined that the operation of the cooling water intake structure meets the equivalent of Best Technology Available (BTA) in accordance with the Best Professional Judgment provision of 40 CFR 125.90(b). The Agency has determined that the operation of intake structure with a closed-cycle recirculating system meets the Best Technology Available (BTA) for impingement mortality, as defined under 40 CFR 125.94(c)(1). The Agency has determined that the operation of the intake structure with a intake flow of 3.64 MGD, operation of intake structure with a closed-cycle recirculating system, meets the Best Technology Available (BTA) for entrainment, as defined under 40 CFR 125.94(d).

## XII. 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 Santan will be to an ephemeral wash which will become (for purpose of this permit) an effluent-dependent water. Except for flows resulting from rain events, the only water in the stream will be the effluent. Therefore, the discharge and the receiving water will normally be one and the same. 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.

## XIII. STANDARD CONDITIONS

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

## XIV. 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.

## XV. 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: Swathi Kasanneni  
1110 West Washington Street  
Phoenix, Arizona 85007

Or by contacting Swathi Kasanneni at (602) 771 – 4577 or by e-mail at [kasanneni.swathi@azdeq.gov](mailto:kasanneni.swathi@azdeq.gov).

## XVI. 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 Forms 1 and 2C, received August 23, 2018, along with supporting data, facility diagram, and maps submitted by the applicant with the application forms.
2. ADEQ files on Santan Generating Station.
3. Arizona Administrative Code (AAC) Title 18, Chapter 11, Article 1, *Water Quality Standards for Surface Waters*, adopted December 31, 2016.
4. A.A.C. Title 18, Chapter 9, Article 9. *Arizona Pollutant Discharge Elimination System* rules.
5. 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 125, Criteria and Standards for the National Pollutant Discharge Elimination System Subpart J – Requirements Applicable to Cooling Water Intake Structures for Existing Facilities Under Section 316 (b) of the Clean Water Act.
  - Part 133. *Secondary Treatment Regulation*.
  - Part 503. *Standards for the Use or Disposal of Sewage Sludge*.
6. EPA Technical Support Document for Water Quality-based Toxics Control dated March 1991.
7. *Regions 9 & 10 Guidance for Implementing Whole Effluent Toxicity Testing Programs*, US EPA, May 31, 1996.
8. *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* (EPA /821-R-02-013).
9. U.S. EPA NPDES Permit Writers' Manual, September 2010.