NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
PERMIT FACT SHEET

Permittee Name: Guam Power Authority

Mailing Address: P.O. Box 2977
Hagatna, GU 96932

Facility Location: Cabras Power Plant
Route 11 Cabras Island
Municipality of Piti, GU 96915

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NPDES Permit No.: GU0020001

I. STATUS OF PERMIT

Guam Power Authority (the "permittee") has applied for the renewal of their National Pollutant Discharge Elimination System (NPDES) permit to authorize the discharge of effluent from Cabras Power Plant (the "facility"), located in Piti, Guam, to Piti Channel, Apra Harbor. A complete application was submitted on July 25, 2017. EPA Region 9 has developed this permit and fact sheet pursuant to Section 402 of the Clean Water Act, which requires point source dischargers to control the amount of pollutants that are discharged to waters of the United States through obtaining a NPDES permit.

The permittee was previously discharging under NPDES permit GU0020001 issued on December 19, 2012. Pursuant to 40 CFR 122.6, the terms of the existing permit were administratively extended until the issuance of a new permit.

This permittee has been classified as a Major discharger.

II. SIGNIFICANT CHANGES TO PREVIOUS PERMIT

Permit Condition	Previous Permit (2012)	Re-issued permit (2019)	Reason for change
316(b) requirements for cooling water intakes	Requirements based on Clean Water Act (CWA) Section 316(b).	Requirements based on updated 2014 federal regulations for best technology available to reduce impingement and entrainment of aquatic organisms.	Reflects EPA's 2014 Cooling Water Intakes Rule for Existing Facilities (see Section IX).

Permit Condition	Previous Permit (2012)	Re-issued permit (2019)	Reason for change
Removed Outfall 002	Authorized discharge of once through cooling water used in Units 3 and 4 from Outfall 002.	Does not authorize discharge from Outfall 002.	Units 3 and 4 ceased operation in 2015 (see Section III), and permittee did not apply to discharge through Outfall 002.
New water quality-based limits for Outfall 001	Monitoring and reporting only for enterococci, phenol, cadmium, hexavalent chromium, copper, lead, mercury, nickel, and silver.	New water quality-based limits for enterococci, phenol, cadmium, hexavalent chromium, copper, lead, mercury, nickel, and silver.	Reasonable potential analysis (see Section VI.B.4).
Outfall 101 limit for Nitrate-Nitrite changed to Nitrate nitrogen	Maximum daily water quality-based effluent limit of 0.5 mg/L for Nitrate-Nitrite.	Limit changed to Nitrate nitrogen to reflect the applicable water quality standard.	Based on GWQS.
Discharge Monitoring Report Submittal	Hardcopy accepted.	Requires electronic submittal.	Reflects EPA's 2015 Electronic Reporting Rule.
Reopener based on facility closure	None.	Reopener added to state that permit may be modified or terminated if the facility closes or ceases power generation operations.	Facility plans to shut down all units by December 2021 (see Section III).

III. GENERAL DESCRIPTION OF FACILITY

The facility is located on Cabras Island on the west side of Guam, facing the Philippine Sea. The facility historically had four fossil-fueled electrical generating units: two steam turbine generators (Units 1 and 2), with rated output of 66 megawatts (MW) each, and two diesel engine generators (Units 3 and 4), with rated output of 39.3 MW each. In August 2015, an explosion and fire at Unit 4 resulted in damages to the unit rendering it beyond repair. Significant damage was also done to Unit 3 that rendered it inoperable. Neither Unit 3 nor Unit 4 has operated since that time. The current combined cooling water design intake flow (DIF) for Units 1 and 2 is 172.8 million gallons per day (MGD), with an actual intake flow (AIF) of 154 MGD.

All units share a common intake structure located on the Piti Canal. Cooling water for the facility is withdrawn from the open ocean and Piti Bay through the Tepungan Channel and Piti Canal. Seawater entering the cooling water intake structure passes through traveling water screen assemblies with mesh size of 3/8 inches. The design intake velocity across the traveling screens for Units 1 and 2 is approximately 2.5 feet per second.

The facility discharges into Piti Channel, which empties into Apra Harbor, which is connected to the Philippine Sea.

The permittee stated in an October 27, 2016 letter to EPA that the facility will shut down all units by December 2021. The NPDES permit term coverage is five years, in case closure of the facility is delayed. However, the permit also includes a reopener stating that the permit may be modified or terminated if the facility closes or ceases power generation operations.

IV. DESCRIPTION OF RECEIVING WATER

Piti Channel is designated as category M-3 ("Fair"). Water in this category is intended for general, commercial and industrial use, while allowing for protection of aquatic life, aesthetic enjoyment and compatible recreation with limited body contact. Specific intended uses include the following: shipping, boating and berthing, industrial cooling water, and marinas.

V. DESCRIPTION OF DISCHARGE

The permit allows for the discharge of non-contact cooling water through Outfall 001 and storm water discharge from Outfall 101. The following tables show data related to discharges from Outfall 001 and Outfall 101 based on the permittee's NPDES renewal application. Pollutants believed to be absent in the effluent are not included.

Effluent Data for Outfall 001.

Parameter	Units	Current Permit Effluent Limitations		Effluent Data from Application		
		Average Monthly	Maximum Daily	Highest Average Monthly	Highest Maximum Daily	Number of Samples
Biochemical Oxygen Demand; 5-day (BOD_5)	mg/L	--	--	--	<1.0	1
Chemical Oxygen Demand (COD)	mg/L	--	--	--	580	1
Total Organic Carbon	mg/L	--	--	--	50	1
Total Suspended Solids (TSS)	mg/L	--	40	--	39	12
Ammonia (as N)	mg/L	--	--	--	0.26	1
Flow	MGD	--	--	173	173	1
Temperature (winter)	°C	±1.0[(1)]	±1.0[(1)]	30.0[(2)]	30.0[(2)]	Unspecified
Temperature (summer)	°C	±1.0[(1)]	±1.0[(1)]	35.9[(2)]	35.9[(2)]	Unspecified
pH	Standard Units	Within 6.5 and 8.5 at all times.		7.58 – 8.38 (min-max)		Unspecified
Fluoride	mg/L	--	1.5	--	0.553	12

Parameter	Units	Current Permit Effluent Limitations		Effluent Data from Application		
		Average Monthly	Maximum Daily	Highest Average Monthly	Highest Maximum Daily	Number of Samples
Oil and Grease	mg/L	10	15	--	3.08	12
Antimony, total	µg/L	--	--	--	ND(3)	1
Arsenic, total	µg/L	--	--	--	ND(3)	1
Beryllium, total	µg/L	--	--	--	ND(3)	1
Cadmium, total	µg/L	--	--	--	ND(3)	1
Chromium, total	mg/L	--	--	--	0.267	1
Copper, total	µg/L	--	--	--	15.8	1
Lead, total	µg/L	--	--	--	ND(3)	1
Mercury, total	µg/L	--	--	--	ND(3)	1
Nickel, total	µg/L	--	--	--	0.504	1
Selenium, total	µg/L	--	--	--	0.434	1
Silver, total	µg/L	--	--	--	ND(3)	1
Thallium, total	µg/L	--	--	--	ND(3)	1
Zinc, total	µg/L	--	--	--	ND(3)	1
Cyanide, total	µg/L	--	--	--	ND(3)	1
Phenols, total	µg/L	--	--	--	ND(3)	1

(1) The water temperature shall not be changed more than 1.0˚C from ambient conditions immediately outside the thermal zone of mixing as defined in the Guam Water Quality Standards.
(2) Effluent temperature.
(3) Not detected.

Effluent Data for Outfall 101.

Parameter	Units	Current Permit Effluent Limitations		Effluent Data from Application		
		Average Monthly	Maximum Daily	Highest Average Monthly	Highest Maximum Daily	Number of Samples
Biochemical Oxygen Demand; 5-day (BOD_5)	mg/L	--	--	--	8.1	1
Chemical Oxygen Demand (COD)	mg/L	--	--	--	23	1
Total Organic Carbon	mg/L	--	--	--	13.1	1
Total Suspended Solids (TSS)	mg/L	--	40	--	39	12

Parameter	Units	Current Permit Effluent Limitations		Effluent Data from Application		
		Average Monthly	Maximum Daily	Highest Average Monthly	Highest Maximum Daily	Number of Samples
Ammonia (as N)	mg/L	--	--	--	1.21	1
Flow	MGD	--	--	0.20	0.20	1
pH	Standard Units	Within 6.5 and 8.5 at all times.		7.45 – 8.27 (min-max)		5
Fluoride	mg/L	--	1.5	--	0.225	1
Nitrate-Nitrite (as N)	mg/L	--	0.5	--	2.5	1
Oil and Grease	mg/L	10	15	--	11.9	12
Iron, total	µg/L	--	50	--	250	1
Copper, total	µg/L	--	3.1	--	130	1
Nickel, total	mg/L	--	8.2	--	44	1

The permittee did not apply to discharge from previously-permitted Outfall 002, and effluent data from Outfall 002 was therefore not included in the application.

VI. DETERMINATION OF NUMERICAL EFFLUENT LIMITATIONS

EPA has developed effluent limitations and monitoring requirements in the permit based on an evaluation of the technology used to treat the pollutant (e.g., "technology-based effluent limits") and the water quality standards applicable to the receiving water (e.g., "water quality-based effluent limits"). EPA has established the most stringent of applicable technology-based or water quality-based standards in the permit, as described below.

A. Applicable Technology-Based Effluent Limitations

Effluent Limitations Guidelines (ELGs)

EPA has established national standards based on the performance of treatment and control technologies for wastewater discharges to surface waters for certain industrial categories. Effluent limitations guidelines represent the greatest pollutant reductions that are economically achievable for an industry, and are based on Best Practicable Control Technology (BPT), Best Conventional Pollutant Control Technology (BCT), and Best Available Technology Economically Achievable (BAT). (Sections 304(b)(1), 304(b)(4), and 304(b)(2) of the CWA, respectively).

The facility is engaged in electric power production using two fossil fuel-fired steam turbine generators (Units 1 and 2), which use a steam water system as the thermodynamic medium, with applicable SIC code 4931. In accordance with the applicable ELGs, technology-based effluent limitations are included for the following pollutants based on federal effluent limitation

guidelines for the Steam Electric Power Generating Point Source Category, which were promulgated on November 10, 1982 (40 CFR 423).

Units 1 and 2 were originally placed in service in 1974 and 1975, respectively. Therefore, applicable effluent ELGs represent the degree of effluent reduction attainable by the application of BPT and BAT for once through cooling water from a plant with a total rated electric generating capacity of 25 or more MW. These requirements are described below.

1. There shall be no discharge of polychlorinated biphenyl (PCB) compounds such as those commonly used for transformer fluid. (40 CFR 423.12(b)(2) and 40 CFR 423.13(a))

2. The quantity of pollutants discharged in once through cooling water shall not exceed the quantity determined by multiplying the flow of once through cooling water sources times the concentration listed in the following table:

Pollutant or pollutant property	BPT effluent limitations	
	Maximum concentration (mg/l)	Average concentration (mg/l)
Free available chlorine	0.5	0.2

(40 CFR 423.12(b)(6))

3. Neither free available chlorine nor total residual chlorine may be discharged from any unit for more than two hours in any one day and not more than one unit in any plant may discharge free available or total residual chlorine at any one time unless the utility can demonstrate to the Regional Administrator or State, if the State has NPDES permit issuing authority, that the units in a particular location cannot operate at or below this level or chlorination. (40 CFR 423.12(b)(8))

4. At the permitting authority's discretion, the quantity of pollutants allowed to be discharged may be expressed as a concentration limitation instead of the mass-based limitations specified in the above sections. Concentration limitations shall be those concentrations specified in the above sections. (40 CFR 423.12(b)(12) and 40 CFR 423.13(m))

5. For any plant with a total rated electric generating capacity of 25 or more megawatts, the quantity of pollutants discharged in once through cooling water from each discharge point shall not exceed the quantity determined by multiplying the flow of once through cooling water from each discharge point times the concentration listed in the following table:

Pollutant or pollutant property	BAT Effluent Limitations
	Maximum concentration (mg/l)
Total residual chlorine	0.20

(40 CFR 423.13(b)(1))

6. Total residual chlorine may not be discharged from any single generating unit for more than two hours per day unless the discharger demonstrates to the permitting authority that discharge for more than two hours is required for macroinvertebrate control. Simultaneous multi-unit chlorination is permitted. (40 CFR 423.13(b)(2))

Polychlorinated biphenyl compounds (PCBs)

Existing limits for PCBs have been retained based on BAT and BPT.

Chlorine

Because total residual chlorine includes all free available chlorine, the existing maximum daily effluent limit of 200 µg/L (0.20 mg/L) for total residual chlorine has been retained to be protective of all BAT and BPT standards for chlorine in once through cooling water discharges, and is only applicable in the case that the permittee uses chlorine for disinfection at the facility.

Oil and Grease

Existing limits for oil and grease have been retained based on best professional judgment (BPJ) and are consistent with EPA-issued permits across the region and, more specifically, in Guam.

B. Water Quality-Based Effluent Limitations

Water quality-based effluent limitations are required in NPDES permits when the permitting authority determines that a discharge causes, has the reasonable potential to cause, or contributes to an excursion above any water quality standard (40 CFR 122.44(d)(1)).

When determining whether an effluent discharge causes, has the reasonable potential to cause, or contributes to an excursion above narrative or numeric criteria, the permitting authority shall use procedures which account for existing controls on point and non-point sources of pollution, the variability of the pollutant or pollutant parameter in the effluent, the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity) and where appropriate, the dilution of the effluent in the receiving water (40 CFR 122.44(d)(1)(ii)).

EPA evaluated the reasonable potential to discharge toxic pollutants according to guidance provided in the *Technical Support Document for Water Quality-Based Toxics Control* (TSD) (Office of Water, U.S. EPA, March 1991) and the *U.S. EPA NPDES Permit Writers' Manual* (Office of Water, U.S. EPA, September 2010). These factors include:

1. Applicable standards, designated uses and impairments of receiving water
2. Dilution in the receiving water
3. Type of industry
4. History of compliance problems and toxic impacts
5. Existing data on toxic pollutants - Reasonable Potential Analysis

1. Applicable Standards, Designated Uses and Impairments of Receiving Water

The Guam Environmental Protection Agency's ("GEPA") established water quality objectives in the 2015 Revision of the Water Quality Standards ("GWQS") and identified impairments for the receiving water as described in Section IV, above.

Piti Channel was listed as assessed and not impaired in GEPA's 2016 Integrated Report. No TMDLs have been adopted for Piti Channel. TMDLs for enterococcus at Guam's northern and southern beaches were adopted in December 2013 and February 2015, respectively. Limits for enterococcus are incorporated into the permit based on applicable water quality standards for M-3 waters (see Section VI.C).

2. Dilution in the Receiving Water

Mixing zones are approved in GWQS for Thermal Discharges (§5104(e)(2)(C)), which states, "The zone of mixing for the Piti/Cabras Power Plants combined is the Piti Channel, from the power plants to a distance three hundred (300) feet back from where the channel joins the harbor proper, and from there to a depth of about one (1) meter or 3.28 feet to a line from the GORCO Pier and the Navy Fuel Pier on Dry Dock Island."

3. History of Compliance Problems and Toxic Impacts

The facility was inspected by EPA and Guam EPA on January 29, 2014 and March 7, 2016. The 2016 inspection was to determine compliance and status of the facility specifically related to the fire and oil spill that occurred in August 2015.

The 2014 inspection noted several deficiencies: (1) continued unauthorized discharge of air dryer turbocharger condensate through Outfall 101; (2) west ponding basin was not being maintained and may be an unauthorized discharge due to hydraulic connection; (3) oil water separator discharging to sewer system was not being properly maintained; (4) effluent violations for chronic whole effluent toxicity and incomplete Initial Investigation TRE Work Plan and Special Toxicity Study; and (5) stormwater effluent limitations at Outfall 101 demonstrated exceedances of nickel, copper, iron, and TSS measured at the Outfall.

The 2016 inspection, which did not include a detailed review of impingement/entrainment studies, effluent limitations, or records/reports, did not note any concerns based on visual observation of the facility. The inspection report stated that due to the closure of Units 3 and 4, there was no evidence of continued unauthorized discharge of air dryer turbocharger condensate through Outfall 101, and that the west ponding basin had been thoroughly cleaned as a result of the spill. No sheen, oil residue, or excess sedimentation was observed at the ponding basin.

4. Existing Data on Toxic Pollutants

Based on effluent data in discharge monitoring reports submitted by the permittee from 2014 to 2019 (as accessed through EPA's Enforcement and Compliance History Online), EPA has conducted a reasonable potential analysis based on statistical procedures outlined in EPA's *Technical Support Document for Water Quality-based Toxics Control* herein after referred to as EPA's TSD (EPA 1991). These statistical procedures result in the calculation of the projected maximum effluent concentration based on monitoring data to account for effluent variability and a limited data set. The projected maximum effluent concentrations were estimated assuming a coefficient of variation of 0.6 and the 99 percent confidence interval of the 99th percentile based on an assumed lognormal distribution of daily effluent values (sections 3.3.2 and 5.5.2 of EPA's TSD). EPA calculated the projected maximum effluent concentration for each pollutant using the following equation:

Projected maximum concentration = C_e × *reasonable potential multiplier factor.*

Where, "C_e" is the reported maximum effluent value and the multiplier factor is obtained from Table 3-1 of the TSD.

Because Units 3 and 4 are no longer operational, and the permittee did not apply to discharge from Outfall 002, a reasonable potential analysis was not performed for Outfall 002.

Summary of Reasonable Potential Statistical Analysis for Outfall 001:

Parameter[(1)]	**Maximum Observed Concentration**	***n***	**RP Multiplier**	**Projected Maximum Effluent Concentration**	**Most Stringent Water Quality Criterion**	**Statistical Reasonable Potential?**
Mercury, total recoverable	3.47 µg/L	2	7.4	25.678 µg/L	0.025 µg/L (aquatic life, chronic)	Y
Oil & grease, total recoverable	13.5 mg/L	14	2.6	35.1 mg/L	None	N
Enterococci	166.5 CFU/100mL	18	2.4	399.6 CFU/100mL	35 CFU/100 mL	Y
Phenol	6.8 µg/L	1	13.2	89.76 µg/L	8.2 µg/L (human health, for consumption of organism only)	Y
Antimony, total recoverable	1.52 µg/L	2	7.4	11.248 µg/L	4300 µg/L (human health, for consumption of organism only)	N
Copper, total recoverable	17.3 µg/L	3	5.6	96.88 µg/L	3.1 µg/L (aquatic life, chronic)	Y
Lead, total recoverable	4.83 µg/L	2	7.4	35.742 µg/L	8.1 µg/L (aquatic life, chronic)	Y
Cadmium, total recoverable	1.67 µg/L	2	7.4	12.358 µg/L	9.3 µg/L (aquatic life, chronic)	Y
Zinc, total recoverable	2.49 µg/L	1	13.2	32.868 µg/L	86 µg/L (aquatic life, chronic)	N

Silver, total recoverable	1.67 µg/L	2	7.4	12.358 µg/L	2.3 µg/L (aquatic life, acute)	Y
Nickel, total recoverable	78.6 µg/L	3	5.6	440.16 µg/L	8.2 µg/L (aquatic life, chronic)	Y
Chromium, trivalent (as Cr)	5.55 µg/L	2	7.4	41.07 µg/L	None	N
Chromium, hexavalent (as Cr)	10 µg/L	2	7.4	74 µg/L	50 µg/L (aquatic life, chronic)	Y
Selenium, total recoverable	0.133 µg/L	2	7.4	0.9842 µg/L	71 µg/L (aquatic life, chronic)	N
Arsenic, total recoverable	0.191 µg/L	2	7.4	1.4134 µg/L	36 µg/L (aquatic life, chronic)	N
Fluoride	1.96 mg/L	>20	2.3	4.508 mg/L	1.50 mg/L	Y
Total suspended solids	119 mg/L	>20	2.3	273.7 mg/L	40 mg/L	Y
pH	Highest max=8.7 SU Lowest min=7.58 SU	>20	N/A		6.5-8.5 SU	Y
Toxicity – Pass/Fail Static 20 Minute Fertilization Chronic Tripneustes gratilla	Fail	2	N/A		Pass	Y
Toxicity – Pass/Fail Static 20 Minute Fertilization Chronic Strongylocentrotus purpuratus	Pass	1	N/A		Pass	N

(1) For purposes of RP analysis, parameters measured as Non-Detect are considered to be zeroes. Only pollutants detected are included in this analysis.

Summary of Reasonable Potential Statistical Analysis for Outfall 101:

Parameter[(1)]	Maximum Observed Concentration	*n*	RP Multiplier	Projected Maximum Effluent Concentration	Most Stringent Water Quality Criterion	Statistical Reasonable Potential?
Oil & grease, total recoverable	37.2 mg/L	17	2.5	93 mg/L	None	N
Copper, total recoverable	703 µg/L	4	4.7	3304.1 µg/L	3.1 µg/L (aquatic life, chronic)	Y
Nickel, total recoverable	544 µg/L	4	4.7	2556.8 µg/L	8.2 µg/L (aquatic life, chronic)	Y
Iron, total recoverable	3.165 mg/L	4	4.7	14.8755 mg/L	0.05 mg/L	Y
Fluoride	0.45 mg/L	3	5.6	2.52 mg/L	1.5 mg/L	Y
Nitrate + Nitrite total (as N)	2.5 mg/L	4	4.7	11.75 mg/L	0.50 mg/L (Nitrate-nitrogen)	Y[(2)]
Total suspended solids	100 mg/L	>20	2.3	230 mg/L	40 mg/L	Y
pH	Highest max=9.86 SU Lowest min=6.76 SU	>20	N/A		6.5-8.5 SU	Y

(1) For purposes of RP analysis, parameters measured as Non-Detect are considered to be zeroes. Only pollutants detected are included in this analysis.

(2) The applicable water quality standard, from 22 GAR §5103(c)(3)(B), is expressed as "Nitrate-nitrogen (N03-N) shall not exceed 0.50 mg/L." Water quality standards have not been established in the receiving water for nitrite or nitrate+nitrite. Since the permittee provided only nitrate+nitrite monitoring data, the projected maximum concentration of which is 23.5 times greater than the applicable water quality standard for nitrate, EPA has determined the discharge has reasonable potential to exceed this standard.

The analyses above demonstrate reasonable potential to exceed water quality standards for mercury, enterococci, phenol, copper, lead, cadmium, silver, nickel, hexavalent chromium, fluoride, and total suspended solids at Outfall 001, and copper, nickel, iron, fluoride, nitrate, and total suspended solids at Outfall 101. Therefore, effluent limits are included for those pollutants at those respective outfalls.

C. Rationale for Numeric Effluent Limits and Monitoring

EPA evaluated the typical pollutants expected to be present in the effluent and selected the most stringent of applicable technology-based standards or water quality-based effluent limitations. Where effluent concentrations of toxic parameters are unknown or are not reasonably expected to be discharged in concentration that have the reasonable potential to cause or contribute to water quality violations, EPA may establish monitoring requirements in the permit. Where monitoring is required, data will be re-evaluated and the permit may be re-opened to incorporate effluent limitations as necessary.

Flow

No limits established for flow, but flow rates must be monitored and reported. If no flow meter is available, volume of discharge is required to be calculated based on pump run times.

Total Suspended Solids

GWQS state that for M-3 waters, concentrations of suspended matter at any point shall not be increased more than twenty-five percent from ambient at any time, and the total concentration should not exceed 40 mg/l, expect when due to natural conditions. Because no ambient water data for TSS has been presented to EPA, the TSS limit of 40 mg/L has been retained from the previous permit based on GWQS.

pH

GWQS state that for M-3 waters the pH of the receiving water should be between 6.5-8.5 standard units with variations of no greater than 0.5 s.u. from ambient conditions except due to natural causes. pH limits are retained from the previous permit based on GWQS.

Temperature

GWQS state that receiving water temperature shall not be altered more than 1.0°C (1.8°F) from ambient conditions. GWQS also grant a thermal mixing zone. As discussed in Section VI.B.2 above, GWQS grants a specific mixing zone for Piti and Cabras thermal discharges. The described mixing zone is incorporated into the permit. Temperature limits for Outfall 001 are retained from the previous permit.

Fluoride, Enterococci, Phenol, Cadmium, Chromium (hexavalent), Copper, Lead, Mercury, Nickel, and Silver for Outfall 001

Based on analysis of effluent data for Outfall 001, fluoride, enterococci, phenol, cadmium, hexavalent chromium, copper, lead, mercury, nickel, and silver and all show a reasonable potential to cause or contribute to an exceedance of water quality standards. Limits have been incorporated into the permit based on applicable water quality standards.

Nitrate, Copper, Iron, Nickel, and Fluoride for Outfall 101

Based on analysis of effluent data for Outfall 101, nitrate, copper, iron, nickel, and fluoride show a reasonable potential to cause or contribute to an exceedance of applicable water quality standards. Nitrate-Nitrite limits have been changed to Nitrate nitrogen limits to reflect GWQS; the remaining limits have been retained from the previous permit based on applicable water quality standards.

Orthophosphate

GWQS state that for M-3 waters, concentrations of orthophosphate shall not exceed 0.10 mg/L. Monitoring for orthophosphate was not required under the previous permit. Therefore, quarterly monitoring requirements for orthophosphate have been added to the permit to determine whether the discharge has reasonable potential to cause or contribute to an exceedance of this water quality standard.

Chronic Whole Effluent Toxicity

GWQS states that "All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological, acute or chronic responses in human, plant, animal or aquatic life. Compliance with this objective will be determined by use of indicator organisms, analyses of species diversity, population density, growth anomalies, bioassays of appropriate duration, or other appropriate, scientifically defensible methods." Based on analysis of effluent data for Outfall 001, chronic whole effluent toxicity shows a reasonable potential to cause or contribute to an exceedance of water quality standards. Limits have been incorporated into the permit accordingly.

No acute toxicity limit or effluent monitoring is required because the chronic toxicity limit is based on a more sensitive biological endpoint (fertilization) than lethality and is considered to protect against acute toxicity. See Part VIII.C for further discussion of testing requirements.

D. Anti-Backsliding

Section 402(o) and 303(d)(4) of the CWA and 40 CFR 122.44(l)(1) prohibits the renewal or reissuance of an NPDES permit that contains effluent limits and permit conditions less stringent than those established in the previous permit, except as provided in the statute and regulation.

The permit does not establish any effluent limits less stringent than those in the previous permit and does not allow backsliding.

E. Antidegradation Policy

EPA's antidegradation policy under CWA Section 303(d)(4) and 40 CFR 131.12 and Guam's antidegradation policy under GWQS §5101(b) require that existing water uses and the level of water quality necessary to protect the existing uses be maintained.

As described in this document, the permit establishes effluent limits and monitoring requirements to ensure that all applicable water quality standards are met. With the exception of temperature, the permit does not include a mixing zone, therefore these limits will apply at the end of pipe without consideration of dilution in the receiving water. The mixing zone for temperature is specifically granted in the GWQS and therefore is not expected to degrade receiving water quality.

This permit issuance does not authorize any new or increased flow or relax any effluent limitations from the previous permit. The discharge is not expected to adversely affect the receiving water body.

Therefore, it is determined that this discharge meets the antidegradation policy set forth in the CWA and GWQS.

VII. NARRATIVE WATER QUALITY-BASED EFFLUENT LIMITS

GWQS §5103 contains narrative water quality standards applicable to the receiving water. The permit incorporates these applicable narrative water quality standards.

VIII. MONITORING AND REPORTING REQUIREMENTS

The permit requires the permittee to conduct monitoring for all pollutants or parameters where effluent limits have been established, at the minimum frequency specified. Additionally, where effluent concentrations of toxic parameters are unknown or where data are insufficient to determine reasonable potential, monitoring may be required for pollutants or parameters where effluent limits have not been established.

A. Effluent Monitoring and Reporting

The permittee shall conduct effluent monitoring to evaluate compliance with the permit conditions. The permittee shall perform all monitoring, sampling and analyses in accordance with the methods described in the most recent edition of 40 CFR 136, unless otherwise specified in the permit. All monitoring data shall be reported on monthly DMRs and submitted quarterly as specified in the permit. All DMRs are to be submitted electronically to EPA using NetDMR.

B. Priority Toxic Pollutants Scan

A Priority Toxic Pollutants scan shall be conducted during the fourth year of the five-year permit term to ensure that the discharge does not contain toxic pollutants in concentrations that may cause a violation of water quality standards. The permittee must perform all effluent sampling and analyses for the priority pollutants scan in accordance with the methods described in the most recent edition of 40 CFR 136. 40 CFR 131.36 provides a complete list of Priority Toxic Pollutants. Should the permittee decide to apply antifoulants to the cooling water discharged through Outfall 001, the scan must be conducted during the antifoulants application in order to capture any pollutants contributed by the chemical addition.

C. Whole Effluent Toxicity (WET) Testing

The permit establishes limits and monitoring requirements for chronic toxicity. Following 40 CFR 122.44(d)(1), in setting the permit's level for chronic WET and conditions for discharge, EPA is using an Instream Waste Concentration (IWC) for the discharge of 100% effluent representing the effluent dilution allowance of zero necessary to protect the receiving water's narrative water quality standard for toxicity. The permit requires using a short-term chronic WET method (fertilization) with either the purple urchin, *Strongylocentrotus purpuratus*, or the tropical collector sea urchin, *Tripneustes gratilla*.

The WET testing approach chosen for this permit is based on hypothesis testing and is called the Test of Significant Toxicity (TST) (*National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document*, EPA 833-R-10-003, 2010). The TST null hypothesis for chronic toxicity (Ho) is: In-stream Waste Concentration (IWC) mean response (% effluent) $\leq$ 0.75 Control mean response. The TST alternative hypothesis is (Ha): IWC mean response (% effluent) > 0.75 Control mean response. The TST alternative hypothesis is used to set the chronic toxicity WQBEL in this permit, where the result from a single chronic toxicity

test is analyzed using Welch's t-test. An acceptable level of chronic toxicity is demonstrated by statistically rejecting the TST null hypothesis.

The required chronic toxicity IWC for the discharge WQBEL is 100% effluent (1/S × 100), where S is 1, the value used when no initial dilution of the effluent with the receiving water is authorized under a permit. For each chronic toxicity test, the permittee is required to report Pass "0" or Fail "1" on the DMR form. Pass "0" constitutes rejection (i.e., statistical fail) and Fail "1" constitutes non-rejection (i.e., statistical pass) of the TST null hypothesis (Ho), at the required IWC (i.e., IWC mean response (100% effluent) ≤ 0.75 × Control mean response). This is determined by following the instructions in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document*, Appendix A.

IX. 316(b) DETERMINATION

Pursuant to CWA Section 316(b) and 40 CFR 401.14, the location, design, construction and capacity of cooling water intake structures (CWIS) of any point source for which a standard is established pursuant to Section 301 or 306 of the Act shall reflect the best technology available (BTA) for minimizing adverse environmental impact.

On August 15, 2014, EPA promulgated a Final Cooling Water Intakes Rule for Existing Power Generation and Manufacturing Facilities, based on CWA Section 316(b). (79 Fed. Reg. 48300-48439 (August 15, 2014).) The rule established best technology available standards to reduce impingement and entrainment of aquatic organisms. The new regulations became effective on October 14, 2014, and are applicable to point sources with a cumulative DIF greater than 2 MGD where 25% or more of the water withdrawn is used exclusively for cooling purposes.

Impingement is the process by which fish and other aquatic organisms are trapped and often killed or injured when they are pulled against the CWIS's outer structure or screens as water is withdrawn from a water body. Entrainment is the process by which fish larvae and eggs and other aquatic organisms in the intake flow enter and pass through a CWIS and into a cooling water system, including the condenser or heat exchanger, which often results in the injury or the death of the organisms. (See definitions at 40 CFR 125.92(h) and (n).)

As described in Section III above, the facility's combined DIF rate for Units 1 and 2 is 172.8 MGD, and combined AIF is 154 MGD.

Therefore, since the facility has a DIF greater than 2 MGD, and because the percentage of flow used at the facility exclusively for cooling is greater than 25%, the facility is required to meet the BTA standards for impingement mortality and entrainment under 40 CFR 125 Subpart J for existing facilities, including any measures to protect Federally-listed threatened and endangered species and designated critical habitat established under 40 CFR 125.94(g).

As part of this permit renewal, EPA has determined BTA for the facility and has specified requirements reflecting this BTA in Part II.D of the permit.

A. Application Summary

The permittee was submitted information relevant to the CWIS as part of their NPDES application in accordance with 40 CFR 122.21(r)(2) through (r)(8) as described below:

- Physical Information for Source Water (40 CFR 122.21(r)(2))
- Physical description of CWIS (40 CFR 122.21(r)(3))
- Biological Information for Source Water (40 CFR 122.21(r)(4))
- Cooling Water System Data (40 CFR 122.21(r)(5))
- Impingement Mortality BTA Demonstration (40 CFR 122.21(r)(6))
- Entrainment Performance Studies (40 CFR 122.21(r)(7))
- Operational Status (40 CFR 122.21(r)(8))

The permittee submitted their 40 CFR 122.21(r)(2) through (r)(8) application materials on March 6, 2012, and provided supplemental 316(b) application materials and a Source Water Characterization and Impingement Assessment in October 2016.

The "Cabras Power Plant Section Source Water Characterization and Impingement Assessment" (Assessment), prepared by Tenera Environmental, provided (1) information on the source water communities in the vicinity of the facility and (2) an assessment of impingement by the CWIS traveling screens. The Assessment concluded:

> "Data on impingement collected from August 2012 through July 2015 were used to demonstrate that the plant qualifies as having *de minimis* levels of impingement and would comply with the BTA standards under § 125.94(c)(11)."

In the Assessment, the facility adjusted the impingement collection rates to reflect water intake reduction and lower design flow following closure of Units 3 and 4, and estimated that 7000 organisms would be collected annually thereafter. Excluding the most common species, rabbitfish, which is present seasonally, the annual impingement was estimated to be 1000 organisms.

Impacts to federally-listed threatened and endangered species were evaluated as described in Section XI.B below. Copies of the proposed permit, fact sheet, Biological Evaluation, and permit application (including 316(b)-specific application information) were sent to U.S. Fish and Wildlife Service and National Marine Fisheries Service for a 60-day review prior to public notice, as required by 40 CFR 125.98(h).

B. Current Cooling Water Intake Technology

Cooling water for the facility is withdrawn into the CWIS from the open ocean through the Piti Canal and Tepungan Channel. Piti Canal is a man-made canal that was originally constructed in 1972 as an auxiliary source of cooling water for Piti Power Plant (which no longer uses once through cooling). The Tepungan Channel, which was dredged in 1972-3, connects Piti Canal to the southwest edge of Piti Bay through passageways beneath the Cabras Highway directly across from the CWIS.

Seawater entering the intake structure passes through one of seven sets of bar racks designed to exclude large debris from the rest of the CWIS. The four bar rack assemblies on Units 1 and 2 are 8 feet wide and constructed of 3/8-inch bar stock on 4-inch centers. All of the bar racks are

approximately 16 feet high. Approximately 17 feet behind the bar racks are the traveling water screen (TWS) assemblies that are designed to remove debris that passes through the bar racks. The mesh size is 3/8 inches on all of the 20-inch high by 80-inch wide panels on the screen assemblies. The screens extend from the upper deck of the intake structure to the bottom at a depth of 7.9 feet below sea level. Fishes and other organisms that are small enough to pass through the bar racks, but larger than the 3/8-inch mesh of the traveling screens, may be impinged on the screens.

The traveling screen assemblies are equipped with a high-pressure seawater wash system, and screens are rotated either automatically or manually. When the screens rotate, impinged debris and organisms are rinsed from the screens into a common trough extending across the front of the TWS assemblies. The trough feeds into a sump that is 68 inches long, 61 inches wide, and 27 inches deep. A screen basket is fitted into the sump to collect material washed off the TWSs. All impinged material is discarded and none is returned to the discharge channel.

The four main circulating water pumps for Units 1 and 2 have rated pumping capacities of 30,000 gallons per minute. The total daily flow for each unit is 86.4 MGD for a total capacity of 172.8 MGD. The design velocity across the traveling screens for Units 1 and 2 is approximately 2.5 feet per second.

The ocean surrounding Guam is very deep relatively close to shore, particularly off the west side of the island in the vicinity of the CWIS. Approximately two miles offshore from the Glass Breakwater (which protects Apra Harbor) the water is more than 3,000 feet deep.

A 2004 study on the environmental effects of the CWIS by the University of Guam showed that water movement through the Piti Canal, which is influenced by the operation of the CWIS, has no effect on currents at the reef front beyond the entrance to the canal. They found that drogues released in the ocean to the northwest and outside of the canal entrance were affected by prevailing coastal currents and generally moved in a west-northwest direction with an average velocity of 0.2 feet per second. The movement of these drogues was not affected by the operation of the CWIS.

The same study also looked at water movement within Piti Canal using drogues and dye releases. The data from these studies showed that the predominant movement was towards the mouth of the canal, away from the CWIS. They concluded that any effects of water movement within the canal due to the operation of the CWIS were insignificant as the predominant source of water for the CWIS is the Tepungan Channel in Piti Bay, which is directly across from the CWIS. The Assessment noted, “Although no specific studies were done to establish the hydrodynamic effects of the intake, the overall conclusion of the studies was the intake does not exert a strong hydrodynamic influence on the proximate source waters since it is able to draw water from two sources: directly from the ocean through Piti Canal, and from Piti Bay through the Tepungan Channel.”

C. Impingement BTA Determination

40 CFR 125.94(c) requires that existing facilities subject to the rule must comply with one of the following seven options:

1. Operate a closed-cycle recirculating system as defined by 40 CFR 125.92(c);

2. Operate a CWIS that has a maximum through-screen design intake velocity of 0.5 feet per second (fps);
3. Operate a CWIS that has an actual through-screen intake velocity of 0.5 fps;
4. Operate an offshore velocity cap that is a minimum of 800 feet offshore;
5. Operate a modified traveling screen that the Director determines meets the definition at 40 CFR 125.92(s), and that the Director determines is BTA for impingement reduction;
6. Operate any other system of technologies, management practices, and operational measures that the Director determines is BTA for impingement reduction; or
7. Achieve the specified impingement mortality performance standard of no more than 24 percent.

As discussed in Section IX.A above, the Assessment concluded that the facility has a de minimis rate of impingement in accordance with 40 CFR 125.94(c)(11). EPA's standard for de minimis at 40 CFR 125.94(c)(11) is that the documented rate of impingement is so low that no additional impingement controls are warranted, but EPA did not set a numeric standard in the regulations for a de minimis rate of impingement. However, in the 2014 316(b) rule record, EPA mentioned a threshold of a few fish per month as an example of what might be considered de minimis. The facility's estimated rates of impingement are over an order of magnitude greater than EPA's above-mentioned threshold of a few fish per month (even if rabbitfish are excluded). Therefore, EPA does not agree that the facility has a de minimis rate of impingement.

Instead, EPA finds that the facility can meet Option 3 above by the date of planned closure of the facility (December 2021). Existing controls (such as location of the intake and water reduction) and CWIS permit requirements, already reduce impingement significantly, and the closure of the facility will reduce actual through-screen cooling water intake velocity to zero (which is no greater than 0.5 fps) by December 31, 2021. The permit contains a compliance schedule to meet this final BTA date.

D. Entrainment BTA Determination

For existing facilities, EPA did not identify any single technology or group of technology controls as available and feasible for establishing national performance standards for entrainment. Instead, 40 CFR 125.94(d) requires the permitting agency to make a site-specific determination of the best technology available standard for entrainment for each individual facility.

EPA's regulations put in place a framework for establishing entrainment requirements on a site-specific basis, including the factors that must be considered in the determination of the appropriate entrainment controls. These factors, listed under 40 CFR 125.98(f)(2), include the number or organisms entrained, emissions changes, land availability, and remaining useful plant life as well as social benefits and costs of available technologies when such information is of sufficient rigor to make a decision.

EPA's regulations at 40 CFR 125.98(f)(3) also establish factors that *may* be considered when establishing site-specific entrainment BTA requirements, including: entrainment impacts on the waterbody, thermal discharge impacts, credit for flow reductions associated with unit retirements, impacts on reliability of energy delivery, impacts on water consumption, and availability of alternative sources of water.

On July 13, 2016 and October 27, 2016, the permittee requested an alternate schedule for submitting application information required under 40 CFR 122.21(r)(9)-(13). On November 1, 2016, EPA waived the requirement for the permittee to submit these application materials pursuant to 40 CFR 122.21(r)(1)(ii)(G), based on the scheduled decommissioning of the facility within one permit cycle after the current permit cycle.

The remaining application materials submitted by the permittee provided sufficient information for EPA to make an entrainment BTA determination. EPA considered all the factors that must and may be considered for determining entrainment BTA and determined that the existing facility will meet BTA for entrainment based on reduction of cooling water intake and thermal discharge to zero within the permit term (estimated to be before December 31, 2021), commensurate with closed-cycle recirculation. As discussed above, the permit contains a compliance schedule to meet this final BTA date.

E. Monitoring requirements

The permit includes monitoring requirements for impingement and entrainment based on the applicable requirements for existing facilities under 40 CFR 125.94(c)(6) and 125.96(a)-(c), and to determine compliance with applicable requirements in the permit.

X. SPECIAL CONDITIONS

A. Development and Implementation of Best Management Practices

Pursuant to 40 CFR 122.44(k)(4), EPA may impose Best Management Practices (BMPs) which are "reasonably necessary…to carry out the purposes of the Act." The pollution prevention requirements or BMPs in the permit operate as technology-based limitations on effluent discharges that reflect the application of Best Available Technology and Best Control Technology. The previous permit required that the permittee develop and implement a Stormwater Pollution Prevention Plan (SWPPP) in accordance with the requirements set forth under the US EPA Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity. The SWPPP was required to include appropriate pollution prevention measures or BMPs designed to prevent pollutants from entering Piti Channel, Apra Harbor and other surface waters while performing normal processing operations at the facility. The permit requires the permittee to update and implement the updated SWPPP.

B. Development of an Initial Investigation TRE Workplan for Whole Effluent Toxicity

Within 90 days of the permit effective date, the permittee is required to prepare and submit a copy of their Initial Investigation TRE Workplan (1-2 pages) for chronic toxicity to EPA and Guam EPA for review. Unacceptable toxicity is when a chronic toxicity test result is "Fail" (i.e., non-rejection of the TST null hypothesis). When this occurs, the permit requires the permittee to conduct additional chronic toxicity tests. If unacceptable toxicity is shown in one of these additional tests, the permit then requires the permittee to develop and implement a Toxicity Reduction Evaluation (TRE) workplan.

C. Receiving Water Monitoring

The permittee must conduct receiving water monitoring in order to assure compliance with the thermal mixing zone allowed for in the Guam WQS. The permittee must submit the locations of all the monitoring points to EPA after the completion of the first full quarter of monitoring.

D. Antifouling Reporting

The permittee must log all substances applied to their cooling water discharge. The permittee must keep a log onsite which is subject to inspection by and submittal to EPA.

XI. OTHER CONSIDERATIONS UNDER FEDERAL LAW

A. Consideration of Environmental Justice

EPA's Environmental Justice policy establishes fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. As part of the environmental permitting process, EPA considers cumulative environmental impacts to disproportionately impacted communities.

In Guam, EPA is aware of several environmental burdens facing communities including emissions from petroleum power generation, imminent Naval relocation and expansion, and bacteriological impairments for beaches across the territory. Guam has also experienced recent closure of their primary landfill for industrial and municipal waste and may receive its first Municipal Separate Storm Sewer System ("MS4") permit.

This permitting action will serve as the territory's primary power plant wastewater and cooling water intake regulatory mechanism and has been written to ensure discharged wastewater is protective of beneficial uses for the impacted environment and community and cooling water intakes utilize Best Technology Available to minimize impingement and entrainment of marine organisms. Furthermore, EPA has conducted outreach to impacted territory and Federal agencies and public noticed the permits to refine requirements for local considerations.

In consideration of the above, EPA believes the permitted discharges should not contribute to undue incremental environmental burden and has made reasonable effort to ensure the community has, at a minimum, the same degree of protection as less burdened communities.

B. Impact to Threatened and Endangered Species

Section 7 of the Endangered Species Act of 1973 (16 U.S.C. §1536) requires federal agencies to ensure that any action authorized, funded, or carried out by the federal agency does not jeopardize the continued existence of a listed or candidate species, or result in the destruction or adverse modification of its habitat.

EPA prepared a separate Biological Evaluation document assessing the effects of this permit reissuance on any federally-listed endangered or threatened species or designated critical habitat. EPA concluded that discharges and intake authorized by the permit will have " no effect" on all of the listed species except the following species which it "may affect, but is not likely to adversely affect:"

- Green turtle
- Hawksbill turtle
- Scalloped hammerhead shark

- *Seriatopora aculeata* coral
- *Acropora globiceps* coral
- *Acropora retusa* coral

Copies of the proposed permit, fact sheet, Biological Evaluation, and permit application (including 316(b)-specific application information) were sent to U.S. Fish and Wildlife Service and National Marine Fisheries Service for a 60-day review prior to public notice, as required by 40 CFR 125.98(h). EPA received concurrence from the National Marine Fisheries Service on July 17, 2019, and did not receive any comments from U.S. Fish and Wildlife Service during the review period.

C. Impact to Coastal Zones

The Coastal Zone Management Act (CZMA) requires that Federal activities and licenses, including Federally permitted activities, must be consistent with an approved state Coastal Management Plan (CZMA Sections 307(c)(1) through (3)). Section 307(c) of the CZMA and implementing regulations at 40 CFR 930 prohibit EPA from issuing a permit for an activity affecting land or water use in the coastal zone until the applicant certifies that the proposed activity complies with the State (or Territory) Coastal Zone Management program, and the State (or Territory) or its designated agency concurs with the certification.

The permittee provided the Guam Bureau of Statistics and Plans with copies of the public-noticed proposed permit and fact sheet. Guam Bureau of Statistics and Plans issued a conditional consistency determination on November 21, 2019, which was incorporated into the final permit.

D. Impact to Essential Fish Habitat

The 1996 amendments to the Magnuson-Stevens Fishery Management and Conservation Act (MSA) set forth a number of new mandates for the National Marine Fisheries Service, regional fishery management councils and other federal agencies to identify and protect important marine and anadromous fish species and habitat. The MSA requires Federal agencies to make a determination on Federal actions that may adversely impact Essential Fish Habitat (EFH).

Apra Harbor is listed as EFH by National Marine Fisheries Service. The permit contains technology-based effluent limits, as well as numeric and narrative water quality-based effluent limits as necessary for the protection of applicable aquatic life uses. EPA has also determined that the facility's cooling water intake structure reflects Best Technology Available. Therefore, EPA has determined that the permit is not likely to adversely affect EFH.

EPA provided the National Marine Fisheries Service with copies of this fact sheet and the proposed permit for a 60-day review prior to public notice, as required by 40 CFR 125.98(h).

E. Impact to National Historic Properties

Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to consider the effect of their undertakings on historic properties that are either listed on, or eligible for listing on, the National Register of Historic Places. Pursuant to the NHPA and 36 CFR 800.3(a)(1), EPA is making a determination that issuing this NPDES permit does not have the potential to affect any historic properties or cultural properties. As a result, NHPA Section 106 does not require EPA to undertake additional consulting on this permit issuance.

F. Water Quality Certification Requirements (40 CFR 124.53 and 124.54)

Guam has developed EPA-approved water quality standards, and EPA requested certification from GEPA that the permit will meet all applicable water quality standards. GEPA issued 401 Water Quality Certification for this permit on October 10, 2019, which was incorporated into the permit.

XII. STANDARD CONDITIONS

A. Reopener Provision

In accordance with 40 CFR 122 and 124, this permit may be modified by EPA to include effluent limits, monitoring, or other conditions to implement new regulations, including EPA-approved water quality standards; or to address new information indicating the presence of effluent toxicity or the reasonable potential for the discharge to cause or contribute to exceedances of water quality standards.

B. Standard Provisions

The permit requires the permittee to comply with EPA Region 9 Standard Federal NPDES Permit Conditions.

XIII. ADMINISTRATIVE INFORMATION

A. Public Notice (40 CFR 124.10)

The public notice is the vehicle for informing all interested parties and members of the general public of the contents of a draft NPDES permit or other significant action with respect to an NPDES permit or application.

B. Public Comment Period (40 CFR 124.10)

Notice of the draft permit was placed on the USEPA Region 9 website at https://www.epa.gov/aboutepa/public-notices-meetings-and-events-pacific-southwest on August 13, 2019, with 30 days provided for interested parties to respond in writing to EPA. EPA did not receive any responses during the public comment period.

C. Public Hearing (40 CFR 124.12)

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 EPA determines there is a significant amount of interest expressed during the 30-day public comment period or when it is necessary to clarify the issues involved in the permit decision. The public comment period ended on September 12, 2019. No comments or requests for a public hearing were received.

XIV. CONTACT INFORMATION

Comments, submittals, and additional information relating to this permit may be directed to:

Amelia Whitson, (415) 972-3216
Whitson.Amelia@epa.gov

EPA Region 9
75 Hawthorne Street (WTR 2-3)
San Francisco, California 94105

XV. REFERENCES

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