

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
PERMIT FACT SHEET
May 2022

Permittee Name: United States Navy

Mailing Address: U.S. Naval Base Guam
PSC 445 Box 152
FPO AP, GU 96540

Facility Location: U.S. Navy Fena Water Treatment Plant
Route 2A, Naval Magazine
Santa Rita, GU 96915

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NPDES Permit No.: GU0020389

I. STATUS OF PERMIT

The United States Navy (the “permittee”) has applied for the renewal of their National Pollutant Discharge Elimination System (NPDES) permit to authorize the discharge of treated effluent from Fena Water Treatment Plant (the “facility”) to the Namo River located in Guam. A complete application was submitted on September 21, 2021. EPA Region IX has developed this permit and fact sheet pursuant to Section 402 of the Clean Water Act (CWA), 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 is currently discharging under NPDES permit GU0020389 issued on February 23, 2017. Pursuant to 40 CFR § 122.6, the terms of the existing permit are administratively extended until the issuance of a new permit.

This permittee has been classified as a minor discharger.

II. SIGNIFICANT CHANGES TO PREVIOUS PERMIT

Permit Condition	Previous Permit (2017 – 2022)	Re-issued permit (2022 – 2027)	Reason for change
Units for Settleable Solids Effluent Limitation	Effluent limitation for Settleable Solids was 45 mg/L.	Effluent limitation for Settleable Solids is 45 mL/L.	Revising the effluent limitation to include the appropriate units for Settleable Solids.

III. GENERAL DESCRIPTION OF FACILITY

The Fena Water Treatment Plant treats approximately 10.5 MGD of water from Fena Lake for drinking water. The water from Fena Lake is treated by conventional clarifiers, multi-media filters, ultraviolet disinfection, and stored in a clear well before distribution. Solids from the clarifiers are sent to a sludge conditioning tank and belt filter press before they are sent to a Navy landfill. Wastewater from the belt filter press is recycled to the headworks and reprocessed. Wastewater from the sludge conditioning tank is sent to two backwash settling tanks. The supernatant from the settling tanks is sent back to the headworks, while the solids are sent back to the sludge conditioning tank.

In the past, mechanical failures or limitations in the system have caused upsets resulting in overflows from parts of the treatment system. This type of discharge is not authorized in the NPDES permit.

IV. DESCRIPTION OF RECEIVING WATER

The facility discharges through Outfall 002 to the Namu River at latitude 13°22'38" N and longitude 144°40'51" E, which flows downstream approximately 3 miles to Agat Bay.

Water Quality Standards (WQS) for Guam¹, developed by Guam Environmental Protection Agency (GEPA) and revised in 2015 (hereinafter "Guam WQS"), classify Namu River as a Category S-3 water. Category S-3 waters are low quality surface waters and are used for commercial, agriculture, and industrial activities. (GEPA 2015).

The Namu River is not listed as impaired for any pollutants, and Agat Bay is listed as impaired for Dioxin, PCBs, and Pesticides. No total maximum daily loads (TMDLs) exist for either waterbody.

V. DESCRIPTION OF DISCHARGE

The discharge consists of overflows of clean-in-place wash water or maintenance wash water used to clean the filters used in the treatment process. During heavy storm events, typhoons, or lake inversions, decreased settling times experienced by the spent backwash tanks results in poor quality supernatant being recycled back to the plant headworks.

As the quality of the recirculated water decreases, the fouling of the downstream processes increases, and a discharge occurs when the 549,000-gallon backwash tank overflows. Specifically, tank B589 is connected to the emergency Outfall 002 and overflows from this tank are discharged via the outfall.

¹ <https://www.epa.gov/sites/default/files/2014-12/documents/guam-wqs.pdf>

The facility has not discharged since the 2004 – 2009 permit term. Thus, no data related to discharge from Outfall 002 were provided by the permittee.

Previous discharge data and information is available on Enforcement and Compliance History Online (ECHO) at <https://echo.epa.gov/detailed-facility-report?fid=110043482656>

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 (i.e., “technology-based effluent limits”) and the water quality standards applicable to the receiving water (i.e., “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).

There are no applicable effluent limitation guidelines for drinking water treatment plants. There are, however, NPDES general permits for the water treatment industry in other states that contain technology-based effluent limits (TBELs) based on best professional judgement. The previous permit compared such TBELs for drinking water treatment plants in 9 states (Alabama, Arkansas, Massachusetts and New Hampshire, Mississippi, Ohio, Oklahoma, South Carolina, South Dakota, Washington).

Table 2, below, contains an updated comparison of the TBELs included in each of the 9 state general permits.

State ⁽¹⁾	Settleable Solids (mL/L)		TRC (mg/L)		Aluminum (mg/L)		TDS (mg/L)		TSS (mg/L)	
	Max Daily	Avg Mo.	Max Daily	Avg Mo.	Max Daily	Avg Mo.	Max Daily	Avg Mo.	Max Daily	Avg Mo.
Alabama	–	–	0.019	0.011	–	–	–	–	45.00	–
Arkansas	–	–	0.011 ⁽²⁾	–	2.0	1.0	–	–	30.00	20.0
Massachusetts and New Hampshire	–	–	0.019	0.011	–	–	–	–	50.00	30.0
Mississippi	–	–	0.019	0.011	–	–	–	–	45	30.0
Ohio	–	–	0.019	–	–	–	–	–	45	30.0
Oklahoma	–	–	–	–	2.0	1.0	–	–	30.0	20

South Carolina	–	–	–	–	–	–	–	–	60.0	30.0
South Dakota	–	–	0.019	–	–	–	1,000	–	90.0	30.0
Washington	0.2	0.1	0.07	–	–	–	–	–	–	–

- (1) AL: <http://adem.alabama.gov/programs/water/permits/ALG640000WaterTreat.pdf>
AR: https://www.adeq.state.ar.us/water/permits/npdes/nonstormwater/pdfs/arg640000/current_permit.pdf
MA/NH: <https://www3.epa.gov/region1/npdes/pwtf/2017-pwtfgp.pdf>
MS: https://www.mdeq.ms.gov/wp-content/uploads/2017/06/Drinking_Water_GP.PDF
OH: <https://www.epa.ohio.gov/portals/35/permits/OHW000004%20Final%20Permit.pdf>
OK: <https://www.deq.ok.gov/wp-content/uploads/water-division/2020-OKG38-General-Permit-to-Discharge-Filter-Backwash-Wastewater-fact-sheet.pdf>
SC: <https://scdhec.gov/sites/default/files/docs/Environment/docs/g646000.pdf>
SD: https://danr.sd.gov/OfficeOfWater/SurfaceWaterQuality/docs/DANR_WTPPermit.pdf
WA: <https://ecology.wa.gov/Regulations-Permits/Permits-certifications/Water-treatment-plants>

(2) Instant Maximum

Based on best professional judgement (BPJ), EPA is retaining the TBELs developed for settable solids and total dissolved solids (TDS) contained in the 2017 permit. While other states included total residual chlorine and aluminum as TBELs, this permit sets limits for these pollutants based on Guam’s WQS, which are the same as the TBELs used in Alabama, Arkansas, Mississippi, and Oklahoma. EPA is implementing a turbidity WQBEL as opposed to a TSS TBEL.

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

Guam WQS include designated uses for waterbodies depending on the level of protection required. Category S-3 waters are primarily for commercial, agricultural, and industrial activities. Aesthetic enjoyment and limited body contact recreation are acceptable in this zone, as well as

maintenance of aquatic life. Based on the categorization and intermittent nature of the discharge, EPA applied the following criteria from Guam's WQS: criteria maximum concentration (CMC or acute criteria) and human health criteria (for consumption of organisms only). The permit includes only daily maximum effluent limits because the discharge is intermittent.

The Namu River is not listed as impaired for any pollutants, and Agat Bay is listed as impaired for Dioxin, PCBs, and Pesticides according to the CWA § 303(d) List of Water Quality Limited Segments². No total maximum daily loads (TMDLs) exist for either waterbody.

Effluent Limits for Dioxin, PCBs, and Pesticides are not included in this permit; however, the permit contains a provision that allows this permit to be reopened to include any TMDL related requirements.

2. Dilution in the Receiving Water

The permittee has not requested a mixing zone or provided a dilution study; therefore, no dilution was considered in the development of water quality-based effluent limits applicable to the discharge. All effluent limits apply at the outfall.

3. Type of Industry

Pollutants of concern for drinking water treatment plant discharges include chlorine and the byproducts of chlorine, which at elevated levels are toxic to aquatic life. Other pollutants of concern include metals used in the treatment process to clean filters, such as iron and aluminum. The permit retains effluent limits for chlorine and aluminum. The permit includes a daily maximum effluent limit for aluminum as opposed to an average monthly effluent limit because the discharge is intermittent.

4. History of Compliance Problems and Toxic Impacts

The facility has had no effluent violations in the previous permit term, and the facility has not discharged since the 2004-2009 permit term. The facility has had no reporting violations over the past permit term.

5. Existing Data on Toxic Pollutants

For pollutants with effluent data available, 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 using a coefficient of variation 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:

$$\text{Projected maximum concentration} = C_e \times \text{reasonable potential multiplier factor.}$$

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

Summary of Reasonable Potential Statistical Analysis:

Parameter ⁽¹⁾	Maximum Observed Concentration ⁽²⁾	<i>n</i>	RP Multiplier	Projected Maximum Effluent Concentration	Most Stringent Water Quality Criterion ⁽³⁾	Statistical Reasonable Potential?
Chlorine	5.05 mg/L	1094	2.3	11.6 mg/L	0.011 mg/L	Y
Fluoride	2.00 mg/L	1094	2.3	4.6 mg/L	0.80 mg/L	Y
Nitrate-Nitrite	0.134 mg/L	4	4.7	0.630 mg/L	0.50 mg/L	Y
Aluminum	275.3 mg/L	7	3.6	991.2 mg/L	1.0 mg/L	Y
Manganese	5,067 µg/L	7	3.6	18,241 µg/L	NA (marine only)	N
Arsenic	32.5 µg/L	7	3.6	117 µg/L	340 µg/L	N
Cadmium	1.27 µg/L	7	3.6	4.57 µg/L	3.9 µg/L	Y
Chromium	38.4 µg/L	7	3.6	138 µg/L	16 µg/L	Y
Copper	277 µg/L	7	3.6	997 µg/L	18 µg/L	Y
Lead	8.48 µg/L	7	3.6	30.5 µg/L	82 µg/L	N
Mercury	1.72 µg/L	7	3.6	6.19 µg/L	0.051 µg/L	Y
Selenium	80.3 µg/L	7	3.6	289 µg/L	20 µg/L	Y
Silver	7.66 µg/L	7	3.6	27.6 µg/L	4.1 µg/L	Y
Zinc	312 µg/L	7	3.6	1123 µg/L	120 µg/L	Y
Chlorodibromomethane	3.74 µg/L	7	3.6	13.5 µg/L	34 µg/L	N
Chloroform	142 µg/L	7	3.6	511 µg/L	470 µg/L	Y
Dichlorobromomethane	18.7 µg/L	7	3.6	67.3 µg/L	46 µg/L	Y
Heptachlor	0.0234 µg/L	1	13.2	0.30888 µg/L	0.00021 µg/L	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 permittee has not discharged since the 2004-2009 permit term. Maximum observed concentration is from historical effluent data provided to EPA by the permittee in the NPDES permit application submitted March 29, 2010.

(3) The most stringent water quality criterion is based on acute aquatic life criteria (CMC) or human health (HH organisms) organisms only criteria. Freshwater aquatic life criteria for metals are expressed as a function of hardness (mg/L) in the waterbody. Hardness data are not available for the receiving water, so a total hardness value of 100 mg/L was used.

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. Continuous monitoring is required.

pH

Guam WQS establish that pH shall not be below 6.5 SU or above 9.0 SU for category S-3 waters. EPA retains the effluent limit of 6.5 - 9.0 SU in the permit.

Chlorine, total residual (TRC)

Chlorine is used for disinfection at the facility. Chlorine is known to be toxic to aquatic organisms, even in low concentrations. Therefore, the use of chlorine at the facility could result in toxic amounts due to chlorine being used for disinfection. Guam WQS include a maximum water quality criterion of 0.011 mg/L for TRC for surface freshwater. EPA is retaining the maximum daily effluent limitation of 0.011 mg/L for TRC. In the permit, the limit for TRC is as 11 µg/L.

Nitrate-nitrite

Based on historical effluent data, EPA has determined there is a reasonable potential that the discharge will cause or contribute to an exceedance of the most stringent applicable water quality criterion for nitrate-nitrite. Guam WQS establish a water quality criterion of 0.50 mg/L for S-3 waters. EPA is retaining the maximum daily effluent limitation of 0.50 mg/L for nitrate-nitrate.

Turbidity

Based on historical effluent data, there is a potential for turbidity to be elevated in the discharge. EPA is retaining the effluent limitation which requires that turbidity values (NTU) at any point shall not exceed 1.0 NTU over ambient conditions. Receiving water monitoring for turbidity is retained in the permit.

Fluoride

Based on historical effluent data, EPA has determined there is a reasonable potential that the discharge will cause or contribute to an exceedance of the most stringent applicable water quality criterion for flouride. Guam WQS establish a water quality criterion of 0.80 mg/L for surface freshwater. EPA is retaining the maximum daily effluent limitation of 0.80 mg/L for flouride.

Settleable Solids & Total Dissolved Solids

Based on best professional judgement (BPJ), EPA is retaining the TBELs developed for settleable solids and total dissolved solids (TDS) contained in the previous permit.

Cadmium, Chromium, Copper, Mercury, Silver, Zinc, Aluminum, Selenium

Based on historical effluent data, EPA has determined there is a reasonable potential that the discharge will cause or contribute to an exceedance of the most stringent applicable water quality criterion for Cadmium, Chromium, Copper, Mercury, Silver, Zinc, Aluminum, and Selenium. Guam WQS establish water quality criteria for each of these heavy metals. Guam WQS express water quality criteria for metals as a function of total hardness (mg/L) in the water body. The effluent calculations in the permit were calculated using a hardness level of 100 mg/L. EPA is retaining the maximum daily effluent limitations for these heavy metals.

Chloroform

Based on historical effluent data, EPA has determined there is a reasonable potential that the discharge will cause or contribute to an exceedance of the most stringent applicable water quality criterion for chloroform. Guam WQS establish a water quality criterion of 470 µg/L for the consumption of organisms. EPA is retaining the maximum daily effluent limitation of 470 µg/L for chloroform.

Dichlorobromomethane

Based on historical effluent data, EPA has determined there is a reasonable potential that the discharge will cause or contribute to an exceedance of the most stringent applicable water quality criterion for dichlorobromomethane. Guam WQS establish a water quality criterion of 46 µg/L for the consumption of organisms. EPA is retaining the maximum daily effluent limitation of 46 µg/L for dichlorobromomethane.

Heptachlor

Based on historical effluent data, EPA has determined there is a reasonable potential that the discharge will cause or contribute to an exceedance of the most stringent applicable water quality criterion for heptachlor. Guam WQS establish a water quality criterion of 0.00021 µg/L for heptachlor for the consumption of organisms, which is more stringent than the established aquatic life criteria. EPA is retaining the maximum daily effluent limitation of 0.00021 µg/L for heptachlor.

Priority Pollutants

EPA notes that priority pollutants that have not been identified are not expected to be present in the discharge due to the consistency of the influent from surface water. Therefore, a priority pollutant scan is not required. Instead, the permit contains monitoring requirements for pollutants of concern that are expected to be present in the discharge.

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 § 303(d)(4) and 40 CFR § 131.12 and Guam Water Quality Standards 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, including EPA's antidegradation policy at 40 CFR 131.12 and at Section 5101.B of Guam WQS. 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.

VII. NARRATIVE WATER QUALITY-BASED EFFLUENT LIMITS

Guam WQS contain narrative water quality standards applicable to the receiving water. Therefore, the permit incorporates 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.

IX. SPECIAL CONDITIONS

A. Receiving Water Monitoring

Additional parameter monitoring is required in order to determine compliance with narrative Guam WQS. Downstream samples shall be used as a compliance point, while upstream samples shall be used as reference for ambient concentrations. Hence, the downstream compliance sample must be higher than the upstream background sample in order to constitute a violation of a narrative standard, or permit condition. EPA acknowledges statistical variations due to randomness in comparing downstream to upstream receiving water samples and will exercise enforcement discretion accordingly.

D. 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. Therefore, the permit requires that the permittee develop (or update) and implement a Pollution Prevention Plan with appropriate pollution prevention measures or BMPs designed to prevent pollutants from entering Namu River and other surface waters while performing normal processing operations at the facility.

The permittee shall develop and implement BMPs that are necessary to:

1. Minimize the frequency and impact of upsets and discharges not authorized to be discharged through Outfall 002.
2. Contain and divert all discharges and upsets as to avoid or reduce the contamination of flow from potential sources of pollution.
3. Keep clean all potential drainage areas that are possible sources of pollutants, using such measures as sweeping at regular intervals, keeping materials orderly and labeled, and storing materials in appropriate containers.

X. OTHER CONSIDERATIONS UNDER FEDERAL LAW

A. Consideration of Environmental Justice

In December 2021, EPA conducted a screening level evaluation of vulnerabilities in the community posed to residents near the vicinity of the facility using EPA’s EJSCREEN tool, but the area is too small or sparsely populated to generate an EJSCREEN chart.

EPA is aware of the potential for cumulative burden of the permitted discharge on the impacted community and will issue this permit in consideration of the local community and consistent with the CWA, which is protective of all beneficial uses of the receiving water, including human health.

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.

On September 27, 2021, EPA contacted the U.S. Fish and Wildlife’s (USFWS) Pacific Islands Office, and the National Marine Fisheries Service’s (NMFS) requesting a list of threatened and endangered species in the vicinity of Namu River. USFWS and NFMS responded to EPA with the following list which identifies the following threatened (T) and endangered (E) species that may occur in the vicinity of Namu River.

Status	Species/Listing Name
T	Mariana fruit bat (<i>Pteropus mariannus mariannus</i>)
E	Mariana common Moorhen (<i>Gallinula chloropus guami</i>)
E	Central West Pacific Green Turtle (<i>Chelonia mydas</i>)
E	Hawksbill sea turtle (<i>Eretmochelys imbricata</i>)
E	Mariana eightspot butterfly (<i>Hypolimnas octocula marianensis</i>)
E	Humped tree snail (<i>Partula gibba</i>)
E	Guam tree snail (<i>Partula radiolata</i>)
E	Fragile tree snail (<i>Samoana fragilis</i>)
T	Indo-West Pacific scalloped hammerhead shark (<i>Sphyrna lewini</i>)
T	Corals (<i>Acropora globiceps</i> , <i>Acropora retusa</i> , and <i>Seriatopora aculeata</i>)
	Plants (<i>Bulbophyllum guamense</i> , <i>Cycas micronesica</i> , <i>Dendrobium guamense</i> , <i>Hedyotis megalantha</i> , <i>Heritiera longipetiolata</i> , <i>Maesa walkeri</i> , <i>Nervilia jacksoniae</i> , <i>Psychotria malaspinae</i> , <i>Solanum guamense</i> , <i>Tabernaemontanta rotensis</i> , <i>Tinospora homosepala</i> , and <i>Tuberolabium guamense</i>)

The action area is defined as Namo River from Outfall 002 to confluence with Agat Bay. The terrestrial footprint of the facility, which is located in Santa Rita near Outfall 002, is also part of the action area. The action area does not extend to Agat Bay, as the effluent will become heavily diluted upon reaching Agat Bay and mixing with sea water. The proposed permit contains limits to protect designated uses of the receiving waters, including protection of aquatic life and wildlife habitat and does not involve physical habitat alteration or change in flow.

The central west pacific green sea turtle (*Chelonia mydas*), hawksbill turtle (*Eretmochelys imbricata*), indo-west pacific scalloped hammerhead shark (*Sphyrna lewini*), oceanic whitetip shark (*Carcharhinus longimanus*), giant manta ray (*Manta birostris*), and 3 species of listed corals (*Acropora globiceps*, *Acropora retusa*, and *Seriatopora aculeata*) occur only in the Pacific Ocean, including in or adjacent to Agat Bay. These species do not occur within the action area, and thus EPA has determined that the action will not affect these species.

The mariana fruit bat (*Pteropus mariannus mariannus*), mariana common moorhen (*Gallinula chloropus guami*), mariana eightspot butterfly (*Hypolimnas octocula marianensis*), Humped Tree Snail (*Partula gibba*), Guam Tree Snail (*Partula radiolata*), and Fragile Tree Snail (*Samoana fragilis*) may occur near the action area.

Mariana fruit bat

In Guam, mariana fruit bats forage and roost in native limestone forest, and occasionally use coconut groves and strand vegetation for feeding and roosting. In southern Guam, some bats may forage and roost in ravine forests. Mariana fruit bats typically do not inhabit farms, savannas, and mangroves. They feed on fruits including papaya, figs, and breadfruit, among others. In Guam, species decline is likely due to predation of young bats by brown treesnakes.

Mariana fruit bats are not known to eat aquatic insects or amphibians. Fruit bats may drink from streams and rivers by skimming the surface of the water and licking the water from their fur. The discharge is very infrequent and small in size, and the permit establishes effluent limitation to protect aquatic life in the event of a discharge. EPA has determined that the action will not affect the mariana fruit bat.

The USFWS has designated critical habitat for the mariana fruit bat. The mariana fruit bat critical habitat is located in northwestern Guam north of the villages of Dededo and Yigo. Neither the facility footprint nor the discharge is near this critical habitat, as the facility is located in Santa Rita, Guam. The critical habitat is outside of the action area, so EPA has determined that the action will not affect the critical habitat for the mariana fruit bat.

Mariana common moorhen

Mariana common moorhens inhabit tropical freshwater lakes, marshes, swamps, and wet rice paddies. They may occur in rivers and streams occasionally. Mariana common moorhens create nests out of vegetation which occur beside wetlands and lakes. Individuals feed on aquatic plants and invertebrates. The decline of the Mariana common moorhen is partly due to excessive hunting and habitat loss. The introduced brown tree snake, known to be an avian predator, may also be negatively impacting the mariana common moorhen.

Mariana common moorhens are known to occur within Fena Reservoir. However, EPA's action permits the discharge of the treated effluent into the receiving water, and does not permit the construction or expansion of Fena Reservoir or the water intake. Thus, Fena Reservoir is considered part of the environmental baseline, and the effects of the Reservoir or water intake on the mariana common moorhen are not considered in EPA's determination.

Mariana common moorhens may occur in rivers and streams in Guam; thus, individuals may occur within the action area and come into contact with the receiving water. The discharge is very infrequent and small in size, and the permit establishes effluent limitation to protect aquatic life in the event of a discharge. EPA has determined that the action will not affect the mariana common moorhen.

Mariana eightspot butterfly

The mariana eightspot butterfly occurs in Guam in undeveloped limestone forest habitats. Adults feed on nectar as well as rotting fruit and animals. Larvae feed on two forest herbs, *Procris pedunculata* and *Elatostema calcareum*. Mariana eightspot butterflies are generally

observed in proximity to the larval stage host plant species. Mariana eightspot butterfly decline is linked to habitat degradation, increased predation, and competition from introduced species.

Mariana eightspot butterflies are not known to inhabit riparian areas; although individuals may occasionally drink water from streams and rivers. The discharge is very infrequent and small in size, and the permit establishes effluent limitation to protect aquatic life in the event of a discharge. EPA has determined that the action will not affect the mariana eightspot butterfly.

Humped Tree Snail, Guam Tree Snail, and Fragile Tree Snail

The humped tree snail, Guam tree snail, and fragile tree snail occur in Guam in cool, shaded forest habitats. These snail species prefer an environment with high humidity and reduced air movement to reduce water loss. Individuals can be found on a variety of native and introduced large-leaved plants including trees, shrubs, herbaceous plants, and ferns. Individuals of these species feed on fungi and microalgae.

The terrestrial footprint of the facility has the potential to impact humped tree snails, Guam tree snails, and fragile tree snails due to the potential habitat in that footprint no longer being available. However, EPA's action authorizes the discharge of the treated effluent into the receiving water, and does not permit the construction or expansion of the treatment facility. Thus, the treatment plant is considered part of the environmental baseline, and the effects of the terrestrial footprint of the facility on these three species of tree snails are not considered in EPA's determination.

The humped tree snail, Guam tree snail, and fragile tree snail occur within forest habitats and get their water from puddles on the ground and the moisture in leaves. These species do not come into contact with the receiving water. Thus, EPA has determined that the action will not affect these species.

Plants

Twelve species of plants were identified in the species list sent to EPA from USFWS: *Bulbophyllum guamense*, *Cycas micronesica*, *Dendrobium guamense*, *Hedyotis megalantha*, *Heritiera longipetiolata*, *Maesa walkeri*, *Nervilia jacksoniae*, *Psychotria malaspinae*, *Solanum guamense*, *Tabernaemontanta rotensis*, *Tinospora homosepala*, and *Tuberolabium guamense*. All plants identified are terrestrial plants and are not known to occur within or near water. Thus, EPA has determined that the action will not affect these plant species.

Conclusion

EPA has determined reissuance of the NPDES permit for the Fena Water Treatment Plant will not affect central west pacific green sea turtle (*Chelonia mydas*), hawksbill turtle (*Eretmochelys imbricata*), indo-west pacific scalloped hammerhead shark (*Sphyrna lewini*), three species of listed corals (*Acropora globiceps*, *Acropora retusa*, and *Seriatopora aculeata*), mariana fruit bat (*Pteropus mariannus mariannus*), mariana common moorhen (*Gallinula chloropus guami*), mariana eightspot butterfly (*Hypolimnas octocula marianensis*), Humped Tree Snail (*Partula gibba*), Guam Tree Snail (*Partula radiolata*), Fragile Tree Snail (*Samoana fragilis*), and twelve species of listed plants. EPA has determined that the action will not affect the critical habitat for

the mariana fruit bat. EPA provided the USFWS and NMFS with copies of the draft fact sheet and the draft permit during the public notice 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 §§ 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 activity complies with the State (or Territory) Coastal Zone Management program, and the State (or Territory) or its designated agency concurs with the certification.

On May 2, 2022, the permittee received concurrence from the Guam Bureau of Statistics and Plans regarding the permittee's negative determination for the Fena WTP discharge.

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).

Designated EFH in the Marianas for management unit species includes the marine water column from the surface to a depth of 1,000 meters from the shoreline to the outer boundary of the Exclusive Economic Zone (200 nautical miles), and the seafloor from the shoreline out to a depth of 400 m around each of the Mariana Islands, including Guam. The facility discharges into Namu River, which flows 2-3 miles downstream to Agat Bay. Agat Bay, which is downstream of Namu River, is designated as EFH.

The proposed permit contains limits to protect designated uses of the receiving waters, including protection of aquatic life and wildlife habitat and does not involve physical habitat alteration or change in flow. The facility does not directly discharge to areas of essential fish habitat, and the intermittent effluent from the facility will become heavily diluted as it is discharged into Namu River and later mixes with sea water in Agat Bay. Thus, EPA has determined that the discharge will not adversely affect the EFH identified above.

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, 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)

On February 9, 2022, EPA requested CWA section 401 certification from Guam EPA. Certification under section 401 of the CWA shall be in writing and shall include the conditions necessary to assure compliance with referenced applicable provisions of sections 208(e), 301, 302, 303, 306, and 307 of the CWA and appropriate requirements of Territory law. EPA cannot issue the permit until the certifying State, Territory, or Tribe has granted certification under 40 CFR § 124.53 or waived its right to certify. GEPA provided written certification on April 7, 2022.

XI. 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 IX Standard Federal NPDES Permit Conditions.

XII. 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 will be placed on the EPA website, with a minimum of 30 days provided for interested parties to respond in writing to EPA. The draft permit and fact sheet will be posted on the EPA website for the duration of the public comment period. After the closing of the public comment period, EPA 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.

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.

XIII. CONTACT INFORMATION

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

Sunny Elliott, (415) 972-3840
Elliott.Sunny@epa.gov

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

XIV. REFERENCES

EPA. 1991. *Technical Support Document for Water Quality-based Toxics Control*. Office of Water, EPA. EPA/505/2-90-001.

EPA. 2013. *National Recommended Water Quality Criteria*. Office of Water, EPA. Aquatic Life Criteria Table. <https://www.epa.gov/wqc/national-recommended-water-quality-criteria-aquatic-life-criteria-table#table>

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EPA. 2010. *U.S. EPA NPDES Permit Writers' Manual*. Office of Water, EPA. EPA-833-K-10-001.

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