

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM**  
**PERMIT FACT SHEET**  
**June 2023**

Permittee Name: Commonwealth Utilities Corporation

Mailing Address: P.O. Box 501220  
Saipan, MP 96950

Facility Location: Agingan Wastewater Treatment Plant  
Lililok Lane, Agingan Point  
Saipan, MP 96950

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NPDES Permit No.: MP0020028

## I. STATUS OF PERMIT

Commonwealth Utilities Corporation (the “permittee” or “discharger”) has applied for the renewal of their National Pollutant Discharge Elimination System (NPDES) permit to authorize the discharge of treated effluent from Agingan Wastewater Treatment Plant to Tinian Channel located in Saipan. A complete application was submitted on October 29, 2021. Supplemental information was provided on December 27, 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.

This permittee has been classified as a major discharger.

## II. SIGNIFICANT CHANGES TO PREVIOUS PERMIT

| Permit Condition                 | Previous Permit (2017 – 2022)                         | Re-issued permit (2023 – 2028)  | Reason for change   |
|----------------------------------|---|---|---|
| Enterococcus Effluent Limitation | Maximum daily effluent limitation of 79,488 CFU/100mL | Compliance with maximum daily effluent limitation of 37,440 MPN/100mL is required by May 1, 2024. | CNMI Water Quality Standards (approved 2018) and Saipan Coastal Bacteria TMDLs and wasteload allocations (approved 2018). EPA established a compliance schedule for this limit in the permit in accordance with 40 C.F.R. § 122.47. See IX.G. |

| <b>Permit Condition</b>                                     | <b>Previous Permit (2017 – 2022)</b>  | <b>Re-issued permit (2023 – 2028)</b>   | <b>Reason for change</b>  |
|---|---|---|---|
| Nitrate-Nitrogen Effluent Limitation                        | No effluent limitation  | Maximum daily effluent limitation of 144 mg/L. Monitoring required quarterly.   | The discharge has reasonable potential to cause or contribute to an exceedance of the most stringent Nitrate-Nitrogen water quality criterion.                    |
| Asset Management Plan                                       | Not required  | Required. Plan to be submitted to EPA within two years of effective date.   | The permit requires the permittee to develop a plan to address operations and maintenance of the treatment plant and collection system.                           |
| Units for Settleable Solids Effluent Limitation             | Effluent limitations for Settleable Solids were 1 mg/L and 2 mg/L.  | Effluent limitations for Settleable Solids are 1 mL/L and 2 mL/L.   | Effluent limitation was revised to include the appropriate units for Settleable Solids.   |
| Units for Enterococcus Effluent Limitation                  | CFU/100 mL  | MPN/100 mL  | Units revised to maintain consistency with monitoring units.  |
| Outfall Inspection and Report                               | Not required  | Special Condition: Outfall Inspection and Report  | Evaluate condition of outfall pipe and diffusers for operation and maintenance and visually assess benthic habitat near outfall to obtain environmental baseline. |
| Outfall number  | Factsheet referred to Outfall 003.  | Corrected language in factsheet to refer only to Outfall 001.   | Typographical correction.   |
| Narrative effluent limits                                   | Included  | Updated   | Consistent with CNMI Water Quality Standards (approved 2018).   |
| Receiving water monitoring special conditions               | No option for submitting receiving water monitoring plan to propose changes to locations, frequency, or parameters. | Permittee has the option of submitting a receiving water monitoring plan that may propose changes to locations, frequency, and parameters, subject to EPA approval. | EPA will consider alternative locations, frequency, and parameters that accurately and adequately assess receiving water quality.                                 |
| Biosolids storage notification requirement (Part II.E.1.h.) | Included  | Updated   | Updated to clarify requirements per 40 CFR § 503.20(b).   |
| BMPs for seagoing vessels (Part II.D.1.d.)                  | Not required.   | Required.   | Included to minimize water contamination and effects to habitat and listed species from receiving water monitoring activities.                                    |

| <b>Permit Condition</b>                                       | <b>Previous Permit (2017 – 2022)</b>   | <b>Re-issued permit (2023 – 2028)</b>  | <b>Reason for change</b>   |
|---|--|--|--|
| Location of Receiving Water Ambient Control Station (Site 41) | wharf, east of outfall   | 1,000 to 1,200 meters up current and away from edge of ZOM. Free of influence from ZOM.  | Permittee identified employee safety concerns associated with collecting samples at the previous sampling location.                    |
| Receiving water monitoring frequency                          | Monthly monitoring for pH, enterococcus, dissolved oxygen, and turbidity. Quarterly monitoring for total nitrogen, total phosphorus, and orthophosphate. | Quarterly monitoring for pH, enterococcus, dissolved oxygen, turbidity, and temperature. Twice yearly monitoring for total nitrogen, total phosphorus, and orthophosphate. | Receiving water monitoring data show few exceedances of applicable water quality standards at the edge of the mixing zone. See VI.B.5. |
| General Reporting   | Required   | Updated  | Electronic reporting required via EPA's CDX system.  |

### III. GENERAL DESCRIPTION OF FACILITY

Agingan Wastewater Treatment Plant (WWTP) is located in Saipan, Commonwealth of Northern Marianas Islands (CNMI), and owned by the Commonwealth Utilities Corporation. The facility serves a population of approximately 18,400 people and receives almost entirely domestic wastewater from a network of wastewater collection and transmission facilities known as the Northern Collection System. The WWTP also receives wastes from commercial and/or industrial operations such as automobile repair shops, gasoline stations, and power stations. The WWTP receives oil and grease through the sewer lines from various sources such as restaurants. The permittee estimates the total average daily wastewater flow from all industrial sources in the area to be less than 0.2 MGD.

Agingan Wastewater Treatment Plant is designed to treat 3.0 MGD to secondary treatment using physical and biological treatment processes. Treatment at the plant includes influent screening, grit removal, diffuser system, aerated treatment using activated sludge, clarifiers, and dewatering by belt filter press. Dried sludge is piled on-site and hauled to a nearby landfill.

Secondary treated effluent is discharged approximately 600 feet offshore through Outfall 001 into Tinian Channel. The outfall is a 24-inch high-density polyethylene pipe anchored to the bottom with concrete blocks 94 feet below the surface of the water.

### IV. DESCRIPTION OF RECEIVING WATER

Tinian Channel is a five-mile-wide channel to the southeast of Saipan, separating Saipan and Tinian. CNMI's Water Quality Standards (approved 2018) classify the waters surrounding the Agingan Wastewater Treatment Plant, within a 1,000-foot radius of the outfall, as a Class A marine receiving water body. See VI.B.1 for more information regarding the applicable standards, designated uses, and impairments of the receiving water.

## V. DESCRIPTION OF DISCHARGE

Table 1 shows data related to the discharge from Outfall 001 based on the permittee's NPDES renewal application, supplemental data, and data reported on discharge monitoring reports. More information is available on Enforcement and Compliance History Online (ECHO) at <https://echo.epa.gov/detailed-facility-report?fid=110024584172>.

Pollutants believed to be absent or never detected in the effluent are not included. The data show elevated concentrations of BOD<sub>5</sub> (mg/L and percent removal), settleable solids, total suspended solids (mg/L and percent removal), and enterococci. All exceedances are discussed further in Part VI.B.4. Some of the parameters that were reported in the application were not limited in the 2017-2022 permit, including copper, lead, nickle, silver, zinc, nitrate + nitrite, total nitrogen, and ammonia.

Table 1. Effluent Data for Outfall 001 from 2017 to 2022. Data provided by permittee as part of NPDES application.

| Parameter  | Units <sup>(1)</sup> | 2017-2022 Permit Effluent Limitations |                |                     | Effluent Data           |                        |                       |                   |
|--|----------------------|---------------------------------------|----------------|---------------------|-------------------------|------------------------|-----------------------|-------------------|
|  |                      | Average Monthly                       | Average Weekly | Maximum Daily       | Highest Average Monthly | Highest Average Weekly | Highest Maximum Daily | Number of Samples |
| Flow Rate  | MGD                  | (2)                                   | --             | (2)                 | 1.75                    | --                     | 3.23                  | --                |
| Biochemical Oxygen Demand; 5-day (BOD <sub>5</sub> ) | mg/L                 | 30                                    | 45             | --                  | 230                     | 337                    | --                    | 110               |
|  | lbs/day              | 751                                   | 1126           | --                  | 3034                    | 3203                   | --                    |                   |
|  | Percent Removal      | 85 % (minimum) <sup>(3)</sup>         |                |                     | 34.40 % (minimum)       |                        |                       | 56                |
| Total Suspended Solids (TSS)                         | mg/L                 | 30                                    | 45             | --                  | 231                     | 504                    | --                    | 110               |
|  | lbs/day              | 751                                   | 1126           | --                  | 2605                    | 5935                   | --                    |                   |
|  | Percent Removal      | 85 % (minimum) <sup>(3)</sup>         |                |                     | 9.10% (minimum)         |                        |                       | 56                |
| Settleable Solids                                    | mL/L                 | 1                                     | --             | 2                   | 3.90                    | --                     | 55.00                 | 58                |
| Oil and Grease                                       | mg/L                 | --                                    | --             | 15                  | --                      | --                     | 6.5                   | 13                |
| pH   | Standard Units       | Not < 6.0 SU, Not > 9.0 SU            |                |                     | 7.10 – 8.00 (min-max)   |                        |                       | 56                |
| Toxicity   | Pass or Fail         | --                                    | --             | Pass <sup>(4)</sup> | Pass                    |                        |                       | 6                 |
| Enterococci  | CFU/100 mL           | 10,080                                | --             | 79,488              | 50,192                  | --                     | 80,653                | 56                |
| Ammonia  | mg/L                 | (5)                                   |                |                     | --                      | --                     | 2.2                   | 2                 |

| Parameter         | Units <sup>(1)</sup> | 2017-2022 Permit Effluent Limitations |                |               | Effluent Data           |                        |                       |                   |
|-------------------|----------------------|---------------------------------------|----------------|---------------|-------------------------|------------------------|-----------------------|-------------------|
|                   |                      | Average Monthly                       | Average Weekly | Maximum Daily | Highest Average Monthly | Highest Average Weekly | Highest Maximum Daily | Number of Samples |
| Nitrate + Nitrite | mg/L                 | (5)                                   |                |               | --                      | --                     | 20                    | 2                 |
| Total Nitrogen    | mg/L                 | (5)                                   |                |               | --                      | --                     | 22                    | 2                 |
| Copper            | µg/L                 | (5)                                   |                |               | --                      | --                     | 20                    | 1                 |
| Lead              | µg/L                 | (5)                                   |                |               | --                      | --                     | 5                     | 1                 |
| Nickel            | µg/L                 | (5)                                   |                |               | --                      | --                     | 50                    | 1                 |
| Silver            | µg/L                 | (5)                                   |                |               | --                      | --                     | 5                     | 1                 |
| Zinc              | µg/L                 | (5)                                   |                |               | --                      | --                     | 200                   | 1                 |

(1) Mass based limits calculated using 3.0 MGD flow.

(2) No effluent limits were established in the 2017-2022 permit, but monitoring and reporting were required.

(3) Both the influent and the effluent shall be monitored. The arithmetic mean of the BOD<sub>5</sub> values or of the TSS values, by concentration, for effluent samples collected over a calendar month shall not exceed 15 percent of the arithmetic mean, by concentration, for influent samples collected at approximately the same times during the same period (i.e. 85 percent BOD<sub>5</sub> removal; 85 percent TSS removal).

(4) See Part III.C, Special Conditions – Chronic WET Requirements, of this permit for details of the chronic WET test requirement. All chronic WET tests must be “Pass,” and no test may be “Fail.” “Pass” constitutes a rejection of the null hypothesis. Testing shall be conducted concurrent with testing for all other parameters.

(5) The 2017 – 2022 permit did not contain effluent limitations for ammonia, nitrate + nitrite, total nitrogen, copper, lead, nickel, silver, or zinc.

## 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

#### *Publicly Owned Wastewater Treatment Systems (POTWs)*

EPA developed technology-based treatment standards for municipal wastewater treatment plants in accordance with Section 301(b)(1)(B) of the CWA. The minimum levels of effluent quality attainable by secondary treatment for Biochemical Oxygen Demand (BOD<sub>5</sub>), Total Suspended Solids (TSS), and pH, as defined in 40 CFR § 133.102, are listed below. Mass limits, as required by 40 CFR § 122.45(f), are included for BOD<sub>5</sub> and TSS.

#### BOD<sub>5</sub>

##### Concentration-based Limits

30-day average – 30 mg/L

7-day average – 45 mg/L

Removal Efficiency – minimum of 85%

**Mass-based Limits**

30-day average –  $(30 \text{ mg/L})(3.0 \text{ MGD})(8.345 \text{ conversion factor}) = 751 \text{ lbs/day}$

7-day average –  $(45 \text{ mg/L})(3.0 \text{ MGD})(8.345 \text{ conversion factor}) = 1126 \text{ lbs/day}$

**TSS****Concentration-based Limits**

30-day average – 30 mg/L

7-day average – 45 mg/L

Removal efficiency – Minimum of 85%

**Mass-based Limits**

30-day average –  $(30 \text{ mg/L})(3.0 \text{ MGD})(8.345 \text{ conversion factor}) = 751 \text{ lbs/day}$

7-day average –  $(45 \text{ mg/L})(3.0 \text{ MGD})(8.345 \text{ conversion factor}) = 1126 \text{ lbs/day}$

**pH**

Instantaneous Measurement: 6.0 – 9.0 standard units (S.U.)

Technology-based treatment requirements may be imposed on a case-by-case basis under Section 402(a)(1) of the CWA, to the extent that EPA promulgated effluent limitations are inapplicable (i.e., the regulation allows the permit writer to consider the appropriate technology for the category or class of point sources and any unique factors relating to the applicant) (40 CFR § 125.3(c)(2)).

The minimum levels of effluent quality attainable by secondary treatment for Settleable Solids, as specified in the EPA Region IX Policy memo dated May 14, 1979, are listed below:

**Settleable Solids**

30-day average – 1 mL/L

Daily maximum – 2 mL/L

**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. Applicable Ocean Discharge Criteria
3. Dilution in the receiving water
4. Type of industry
5. History of compliance problems and toxic impacts
6. Existing data on toxic pollutants - Reasonable Potential Analysis

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

CNMI Water Quality Standards classify the waters surrounding the Agingan Wastewater Treatment Plant within a 1,000-foot radius of the outfall as a Class A marine receiving water body. Waters in this class have designated uses of recreation and aesthetic enjoyment. Any other use is allowed as long as it is compatible with the protection and propagation of fish, shellfish, and wildlife, and compatible with recreation with risk of water ingestion by either children or adults.

The 2014 amendment to CNMI's water quality standards included the following information relevant to monitoring microbiology (bacteria) in receiving waters for NPDES permits:

For NPDES permittees, permit compliance for marine receiving waters shall be determined utilizing the geometric mean of all discrete measurements (all depths, all stations, as required in the permit) over a 30-day period.

It is recommended that the permittee consider multiple sampling events in any 30-day period in order to obtain a representative geometric mean.

The use of water quality based effluent limitations for bacteria with end-of-pipe limits which are calculated based on critical initial dilution is permissible for NPDES permits.

The facility outfall is located on the boundary to two waterbody segments identified in the 2022 CNMI CWA § 303(d) List of Water Quality Limited Segments: Isley (West) and Susupe (South). Isley (West) is listed as impaired for copper, lead, phosphate, and pH in the 2022 CNMI CWA § 303(d) List. Susupe (South) is listed as impaired for dissolved oxygen (DO), pH, phosphate, and Nitrate in the 2022 CNMI CWA § 303(d) List. The CNMI 2022 Integrated Report notes that the pH listing in these two watersheds were likely caused by a faulty pH probe.

The listing of Isley (West) as impaired for copper and lead was due to a study<sup>1</sup> that examined heavy metals concentrations near military dump sites and showed high levels of copper and lead in this waterbody segment. This waterbody was listed as impaired for orthophosphate due to one exceedance of CNMI Water Quality Standards (2018) and a limited number of sampling events. The source of elevated orthophosphate is unknown.

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<sup>1</sup> Denton, et.al., (2016). Impact of WWII dumpsites on Saipan (CNMI): heavy metal status of soils and sediments.

The CNMI Integrated Report (2022) notes that the cause of elevated nutrient levels and diminished DO levels in Susupe (South) is unknown, but may be due to inputs from urban runoff, sewer overflows, and groundwater seeps.

BECQ adopted the Saipan Coastal Bacteria TMDL<sup>2</sup> in 2017 and EPA approved the TMDL in 2018. The enterococcus TMDL applies to Class A waters in Tinian Channel. The TMDL states that the Isley West and South Susupe Watersheds “receive loading from the wastewater treatment plant located on Point Agingan.” The TMDL lists the following sources of bacteria for these two watersheds: sanitary sewer overflow, wastewater treatment plant, maintenance/construction runoff, road runoff, coastal zone erosion, recreational/tourist activities, and feral animals/wildlife.

The TMDL contains wasteload allocations for all point sources including wastewater treatment plants. The effluent limits in this permit are based on the wasteload allocations threshold value (130 MPN/100mL). Pursuant to federal regulations at 40 CFR § 122.44(d)(1)(B)(vii), the effluent limits included in this permit are consistent with the assumptions and rationale for the wasteload allocation(s) for this facility provided in the TMDL. The enterococcus wasteload allocations in the 2018 TMDL have been incorporated into the determination of effluent limitations in the permit; applicable dilution has also been included.

## 2. Applicable Ocean Discharge Criteria

Ocean Discharge Criteria establish guidelines for the issuance of NPDES permits for discharges into territorial seas, the contiguous zone, and the ocean (40 CFR § 125.120). Territorial seas are defined as the waters between the shore and 12 nautical miles offshore. Ocean Discharge Criteria are applicable because the permit authorizes discharge into a territorial sea. Ocean Discharge Criteria establish that point source discharges into territorial seas may not cause unreasonable degradation to the marine environment (40 CFR § 125.123). Discharges that are in compliance with section 301(g), 301(h), or 316(a) variance requirements or State water quality standards are presumed to be in compliance with Ocean Discharge Criteria (40 CFR § 125.122(b)). The permit requires compliance with State water quality standards; thus, the permit requires the discharge to be in compliance with Ocean Discharge Criteria.

## 3. Dilution in the Receiving Water

Part 500 of the *CNMI Water Quality Standards* allows BECQ to authorize mixing zones in receiving waters if certain conditions are met. A mixing zone is generally expressed as a limited area or volume of water where initial dilution of a discharge takes place and where certain water quality criteria may be exceeded. Per the CNMI water quality standards, a mixing zone means an area of specified dimensions where a discharge undergoes initial dilution within a specified sub-area of the mixing zone in the immediate vicinity of the discharge point (zone of initial dilution, or ZID), then undergoes secondary mixing to the limit of the mixing zone boundary. A mixing zone is an allocated impact zone where water quality criteria can be exceeded but where acutely toxic conditions are prevented (except as defined within the ZID) and where public health and welfare are not endangered.

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<sup>2</sup> [https://www.deq.gov.mp/assets/wqs/saipan\\_final\\_tmdl\\_report.pdf](https://www.deq.gov.mp/assets/wqs/saipan_final_tmdl_report.pdf)



For this facility, the zone of initial dilution for the outfall is 200 feet as a radius around the outfall/diffuser structure. A critical initial dilution value of 200:1 (expressed as parts seawater per part wastewater) was calculated and approved by BECQ for the Agingan Ocean outfall in the 2009 permit. The critical initial dilution value was updated in 2017 from 200:1 to 288:1. CNMI BECQ approved this dilution value (288:1) in an approval letter dated February 17, 2017. The discharger submitted a request to BECQ on Apr 21, 2022, for an updated mixing zone approval for this permit term representing a dilution value of 288:1. This permit acknowledges BECQ's mixing zone approval (Dated January 17, 2023) and incorporates a critical initial dilution factor of 288:1 for enterococcus, nutrients, and toxics. Dilution of the effluent has been considered in the reasonable potential analysis and the calculation of water quality based effluent limitations. Dilution does not apply to toxicity testing.

#### **4. Type of Industry**

Typical pollutants of concern in untreated and treated domestic wastewater include ammonia, nitrate, oxygen demand, pathogens, temperature, pH, oil and grease, and solids. Chlorine and turbidity may also be of concern due to treatment plant operations. Chlorine is not a pollutant of concern for this facility because the facility does not chlorinate. The SIC code for this facility is 4952.

#### **5. History of Compliance Problems and Toxic Impacts**

Agingan WWTP was originally permitted under Section 301(h) of the CWA to discharge primary treated effluent based on a treatment capacity of 1.0 MGD. To achieve federal secondary treatment standards for POTWs and to accommodate population growth in the service area, the facility was upgraded and expanded in 1993.

Agingan WWTP exceeded BOD, TSS, and bacteria effluent limitations between September 2019 and June 2019 due to a clarifier operational issue that was repaired in May 2019. The facility exceeded BOD, TSS, and bacteria effluent limitations between November 2019 and March 2020 due to an aerator operational issue that was repaired in March 2020. Flow was not reported in November 2017, January 2018, July 2018, or from January 2019 to January 2022 due to flow sampling equipment failure. Toxicity was not reported in June 2020 due to the sample being delivered past the holding time. There were multiple reporting violations for submitting DMR data late for pH, TSS, and settleable solids.

EPA reviewed the permittee's 2017-2021 receiving water monitoring results. EPA found two exceedances of the 2018 CNMI WQS for total phosphorus at the receiving water stations ZID-3 and ZID-4, both occurring in May 2018. There were no exceedances of the 2018 CNMI WQS for total nitrogen or orthophosphate at receiving water stations ZID-3 and ZID-4 during the permit term. Between December 2017 and January 2020, measurements at receiving water stations ZID-3 and ZID-4 showed 10 exceedances of the 2018 CNMI WQS for enterococcus. These exceedances were concentrated around September to December 2018, which is when operational issues with the clarifier occurred. From January 2019 to September 2021, the enterococcus results in the receiving water were low and only a few exceedances are observed.

The permittee has begun preparation for a WWTP upgrade to replace the aerator, process flow pipe, and install a rotary fine screen and grit chamber at the headworks. The upgrade should improve system performance and reduce maintenance in the clarifier and aeration basins.

## 6. 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 99<sup>th</sup> 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<sub>e</sub>" is the reported maximum effluent value and the multiplier factor is obtained from Table 3-1 of the TSD.

Table 2. Summary of Reasonable Potential Statistical Analysis:

| Parameter <sup>(1)</sup>  | Maximum Observed Concentration | <i>n</i> | RP Multiplier | Projected Maximum Effluent Concentration | Most Stringent Water Quality Criterion | Most Stringent Water Quality Criterion Adjusted with Approved Dilution (288:1) | Statistical Reasonable Potential? |
|---------------------------|--------------------------------|----------|---------------|--|--|--|-----------------------------------|
| Enterococcus              | 80,653 MPN/100mL               | 56       | 2.2           | 117,436.6 MPN/100mL                      | 35 MPN/100mL                           | 10,080 MPN/100mL   | Y                                 |
| Total Nitrogen            | 22 mg/L                        | 2        | 7.4           | 162.8 mg/L                               | 0.75 mg/L                              | 216 mg/L   | N                                 |
| Total Ammonia             | 2.2 mg/L                       | 2        | 7.4           | 16.28 mg/L                               | 0.21 <sup>(2)</sup> mg/L               | 60.48 mg/L   | N                                 |
| Nitrate-Nitrogen          | 20 mg/L                        | 2        | 7.4           | 148 mg/L                                 | 0.50 mg/L                              | 144 mg/L   | Y                                 |
| Copper, total recoverable | 20 µg/L                        | 1        | 13.2          | 264 µg/L                                 | 3.1 µg/L                               | 892.8 µg/L   | N                                 |
| Lead, total recoverable   | 5 µg/L                         | 1        | 13.2          | 66 µg/L                                  | 8.1 µg/L                               | 2333 µg/L  | N                                 |
| Nickel, total recoverable | 50 µg/L                        | 1        | 13.2          | 660 µg/L                                 | 8.2 µg/L                               | 2,361.6 µg/L   | N                                 |
| Silver, total recoverable | 5 µg/L                         | 1        | 13.2          | 66 µg/L                                  | 1.9 µg/L                               | 547 µg/L   | N                                 |
| Zinc, total recoverable   | 200 µg/L                       | 1        | 13.2          | 2640 µg/L                                | 81 µg/L                                | 23,328 µg/L  | N                                 |

|                       |          |   |    |    |          |    |   |
|-----------------------|----------|---|----|----|----------|----|---|
| Toxicity <sup>3</sup> | Pass (0) | 4 | -- | -- | Pass (0) | -- | 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.
- (2) Converted from the un-ionized ammonia criterion in the CNMI Water Quality Standards, per the *Ambient Water Quality Criteria for Ammonia (Saltwater)-1989*. See Part VI.C of this fact sheet for further discussion.
- (3) See Table 3.

### 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. Monitoring is required continuously.

#### *BOD<sub>5</sub>, TSS, and Settleable Solids*

Limits for BOD<sub>5</sub>, TSS, and settleable solids are established for POTWs as described in VI.A, above, and are incorporated into the permit. Under 40 CFR § 122.45(f), mass limits are also required for BOD<sub>5</sub> and TSS and included in the permit. Mass-based limits are calculated using the facility design flow (3.0 MGD). Monitoring is required three days per week.

#### *pH*

CNMI WQS establish that pH in Class A waters shall not be below 7.6 SU or above 8.6 SU. Considering the applicable dilution, this criterion is less stringent than the technology-based effluent limit of 6.0 – 9.0 SU. Thus, technology-based effluent limits for pH are incorporated into the permit as described above. EPA retains an effluent limit for pH of 6.0 – 9.0 SU. Monitoring is required three days per week.

#### *Oil and Grease*

Domestic wastewater may often contain elevated levels of oil and grease from sources including kitchen drains and sanitary wastes. As these constituents can cause harm to marine life and form a problematic oily sheen on the receiving water. Technology-based effluent limitations are set in the permit based on EPA's best professional judgment of typical limits at other comparable wastewater treatment facilities. A daily maximum effluent limit of 15 mg/l is established in order to ensure the narrative water quality standard requiring waters to be free from "floating debris, oil, grease, scum, or other floating materials" (CNMI WQS § 65-130-305) is met. Monitoring is required quarterly.

#### *Enterococcus*

EPA has determined that the discharge has a reasonable potential to cause or contribute to an exceedance of applicable water quality standards for enterococcus. The maximum daily effluent

limitation for enterococcus in the 2017-2022 permit was 79,488 CFU/100mL. This limit was revised for this permit term due to a revision to the applicable WQS, approved in 2018. CNMI WQS establish a geomean criterion of 35 MPN/100mL and a statistical threshold value (STV) criterion of 130 MPN/100mL. Therefore, the final permit establishes a maximum daily effluent limitation of 37,440 MPN/100mL and retains an average monthly effluent limitation of 10,080 MPN/100mL. These effluent limits for enterococci are more protective than the prior permit. See below for effluent limit calculations. Monitoring is required weekly.

The enterococcus effluent limits in this permit are also based on the wasteload allocations included in the 2018 Saipan Coastal Bacteria TMDL, specifically the geomean value (35 MPN/100mL) and statistical threshold value (130 MPN/100mL). Pursuant to federal regulations at 40 CFR § 122.44(d)(1)(B)(vii), the effluent limits included in this permit are consistent with the assumptions and rationale for the wasteload allocation(s) for this facility provided in the TMDL. The enterococcus-specific wasteload allocations have been incorporated into the effluent limitations in the permit; applicable dilution has also been included.

*WQBEL calculations for enterococcus:*

$$C_e = C_r \times D_c = \text{WQBEL (pathogen)}$$

$$D_c \text{ (dilution ratio)} = 1:288 \text{ (or 288)}$$

$$C_r \text{ (water quality criterion)} = \text{STV (130 MPN/100 mL) and geometric mean (35 MPN/100 mL)}$$

$$\begin{aligned} \text{Maximum daily WQBEL} &= \text{STV} \times D_c \\ &= 130 \times 288 \\ &= 37,440 \text{ MPN/100 mL} \end{aligned}$$

$$\begin{aligned} \text{Maximum daily WQBEL} &= \text{Geometric Mean} \times D_c \\ &= 35 \times 288 \\ &= 10,080 \text{ MPN/100 mL} \end{aligned}$$

*Nitrate-nitrogen*

EPA has determined that the discharge has a reasonable potential to cause or contribute to an exceedance of applicable water quality criteria for nitrate-nitrogen. Therefore, a daily maximum limit of 144 mg/L is established in the permit. Monitoring is required quarterly.

*Ammonia*

Ammonia is considered a typical pollutant of concern for wastewater treatment plants. CNMI water quality standards contain a criterion of 0.02 mg/l for ammonia (un-ionized) in Class A marine waters. The discharger reported total ammonia (un-ionized-NH<sub>3</sub> and ionized-NH<sub>4</sub><sup>+</sup>, as N) in their permit application. EPA used pH, temperature, and salinity values measured in the receiving water to convert the CNMI un-ionized ammonia (UIA) criterion to a total ammonia criterion using the *Ambient Water Quality Criteria for Ammonia (Saltwater)-1989* (EPA, 1989). The document

provides guidance on ammonia speciation and the conversion between total ammonia and UA for saltwater systems.

EPA used the highest effluent pH (8.0 standard units), highest receiving water temperature (32°C), and lowest receiving water salinity (25 parts per thousand) measured in the previous permit term monitoring (May 2017-March 2022) at the nearest CNMI Division of Environmental Quality monitoring station (San Antonio Lift Station; Lat: 15.124658, Long: 145.693201) to calculate the most protective water quality criterion for total ammonia applicable to the receiving water, 0.21 mg/L. The discharge does not show reasonable potential for ammonia; thus, no effluent limits are established in the permit for ammonia.

#### *Chlorine*

The discharger does not currently disinfect with chlorine; therefore, there is no reasonable potential for the discharge to cause or contribute to the exceedance of applicable water quality standards for chlorine. If the facility does begin to disinfect using chlorine, the discharge would be required to monitor for chlorine and meet effluent limitations derived from applicable chlorine criteria.

#### **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 CNMI 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. The permit retains an approved mixing zone, therefore these limits include dilution values applied at the end of pipe. A priority pollutant scan has been conducted of the effluent, demonstrating that most pollutants are discharged below detection levels.

This permit does not allow increased discharge flows or increased pollutant levels (either concentration or mass-based); therefore, due to the secondary treatment level being obtained, low levels of toxic pollutants present in the effluent, and water quality-based effluent limitations, the discharge is not expected to adversely affect receiving water bodies or result in any degradation of water quality.

As described in Section C, this permit contains effluent limitations for enterococcus that are consistent with the wasteload allocations within the approved 2018 Saipan Coastal Bacteria TMDL, therefore, Agingan WWTP treated discharges into the impaired water body are not expected to adversely affect recreational uses or other beneficial uses.

## VII. NARRATIVE WATER QUALITY-BASED EFFLUENT LIMITS

CNMI Water Quality Standards (2018) contain narrative water quality criteria applicable to the receiving water. The permit incorporates the applicable narrative water quality criteria found in Part 300 and Part 400 of CNMI Water Quality Standards (2018).

## 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 is required for certain pollutants or parameters where specific 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 no later than the end of the second year of the five-year permit term to ensure that the discharge does not contain toxic pollutants in concentrations that may cause or contribute to a violation of water quality standards. The permittee shall conduct the priority pollutants scan concurrent with an annual whole effluent toxicity test. Permit Attachment D provides a complete list of Priority Toxic Pollutants, including identifying the volatile compounds that should be collected using grab sample procedures. The permittee shall 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, unless otherwise specified in the permit or by EPA. 40 CFR § 131.36 provides a complete list of Priority Toxic Pollutants.

### C. Whole Effluent Toxicity (WET) Requirements

The CWA requires that all waters be suitable for aquatic life, which includes the protection and propagation of fish, shellfish, and wildlife. To protect aquatic life from the toxic effects of pollutants or combinations of pollutants, this permit includes toxicity effluent limits. Toxicity effluent limits are important because chemical-specific environmentally protective levels for toxicity to aquatic life have not been developed for most individual chemicals and compounds. These chemicals and compounds can eventually make their way into effluent. To determine compliance with toxicity effluent limits, this NPDES permits requires the discharger to sample effluent and test it for toxicity in a laboratory using EPA's Whole Effluent Toxicity (WET) test methods. WET tests demonstrate toxicity due to present, but unknown, toxicants (including possible synergistic and additive effects), signaling whether there may be a toxic effect on aquatic life from the discharge.

EPA's WET methods are systematically designed to expose sensitive life stages of a test species (e.g., fish, invertebrate, algae) to an NPDES effluent sample and a control sample. During the toxicity test, the test organisms may show a difference in biological response such as early life stages that grow too slowly or abnormally, or death. At the end of a toxicity test, the different biological responses of the organisms in the effluent group and the organisms in the control group are summarized using common descriptive statistics (e.g., means, standard deviations, coefficients of variation). The effluent and control groups are then compared using an applicable inferential statistical approach (i.e., hypothesis testing or point estimate model) chosen by the permitting authority and specified in the NPDES permit. The chosen statistical approach is compatible with both the experimental design of the WET method and the applicable toxicity water quality standard. Based on this statistical comparison, a toxicity test will demonstrate that the effluent is either toxic or not toxic, in relation to the permit's toxicity limit for the effluent. EPA's WET methods are specified under 40 CFR § 136 and/or in applicable water quality standards. The permittee shall conduct a whole effluent toxicity test once per permit term.

In this permit, EPA requires the permittee analyze WET test data using the Test of Significant Toxicity (TST) statistical approach. This statistical approach is described in *National Pollutant Discharge Elimination System Test of Significant Toxicity Technical Document* (EPA 833-R-10-004, 2010; TST Technical Document) and Denton DL, Diamond J, and Zheng L. 2011. Test of significant toxicity: A statistical application for assessing whether an effluent or site water is truly toxic. *Environ Toxicol Chem* 30:1117-1126. This statistical approach supports important choices made within a toxicity laboratory which favor quality data and EPA's intended levels for statistical power when true toxicity is statistically determined to be unacceptably high ( $\geq 25$  percent effect (PE)), or acceptably low ( $< 10$  PE). Example choices are practices supporting healthy test organisms, increasing the minimum recommended replication component of the WET method's experimental design (if needed), technician training, etc. TST results do not often differ from other EPA-recommended statistical approaches using hypothesis testing (Diamond D, Denton D, Roberts J, Zheng L. 2013. Evaluation of the Test of Significant Toxicity for determining the toxicity of effluents and ambient water samples. *Environ Toxicol Chem* 32:1101-1108.). The TST maintains EPA's desired low false positive rate for WET methods—the probability of declaring toxicity when true toxicity is acceptably low  $\leq 5\%$ —when quality toxicity laboratories conduct toxicity tests (TST Technical Document; Fox JF, Denton DL, Diamond J, and Stuber R. 2019. Comparison of false-positive rates of 2 hypothesis-test approaches in relation to laboratory toxicity test performance. *Environ Toxicol Chem* 38:511-523.). Note: The false positive rate is a long-run property for the toxicity laboratory conducting a WET method. A low false positive rate is indicted by a low long-run toxicity laboratory control coefficient of variation for the test species/WET method, using a minimum of 30 to 50 toxicity tests.

For ocean discharges governed by CWA § 403(c) and implementing regulations, the choice of TST is also based on EPA's recommendation to apply statistical considerations linking NPDES monitoring data, performance, and decision-making prior to data collection. See *CWA § 403: Procedural and Monitoring Guidance* (EPA 842-B-94-003, 1994), pages 37, 38, 209. Examples of such statistical considerations include defining acceptable type I ( $\alpha$ ) and type II ( $\beta$ ) errors<sup>3</sup>; applying power analysis to evaluate the appropriate number of replicates (n) based on a

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<sup>3</sup> Type I error ( $\alpha$ ) is the error of rejecting the null hypothesis that should have been accepted. Type II ( $\beta$ ) error is the error of accepting the null hypothesis that should have been rejected. For

prior knowledge of variation observed in historical data; etc.). Accordingly, statistical rigor (trustworthiness) is considered by EPA under 40 CFR § 125.122(a) in choosing the TST statistical approach for this permit because such components are explicitly considered.

The following chronic toxicity test results are DMR submissions representative of the effluent discharge monitored during the previous permit term. Results are analyzed using the TST statistical approach described in Appendix B of the TST Technical Document.

**Table 3. Chronic Toxicity Data Summary and Reasonable Potential Determination.**

| Toxicity test initiation & completion date | Test species/WET method                             | Chronic toxicity test did not reject (Fail "1"), or rejected (Pass "0"), TST null hypothesis | Associated Percent Effect | Number of replicates (n) | Reasonable potential if Fail (1) or associated PE $\geq 10$ |
|--|---|--|---------------------------|--------------------------|---|
| 9/19/2018                                  | Strongylocentrotus purpuratus/Chronic Fertilization | Pass "0"   | -3.22%                    | 8                        | N   |
| 8/28/2019                                  | Strongylocentrotus purpuratus/Chronic Fertilization | Pass "0"   | 1.85%                     | 8                        | N   |
| 2/16/2021                                  | Strongylocentrotus purpuratus/Chronic Fertilization | Pass "0"   | -0.26%                    | 8                        | N   |
| 8/17/2021                                  | Strongylocentrotus purpuratus/Chronic Fertilization | Pass "0"   | -2.41%                    | 8                        | N   |

EPA analyzed the above data and determined that the discharge does not have reasonable potential for chronic toxicity because no chronic toxicity test result is Fail (1) and no associated PE (Percent (%) Effect) value is  $\geq 10$ . This indicates toxicity is not present in the effluent at a higher level than acceptable (see Table 3 and section 1.4 in TST Technical Document). Thus, no chronic toxicity WQBELs are required for the permitted discharge (40 CFR § 122.44(d)(1)). However, monitoring and reporting for both the median monthly and maximum daily effluent results for the parameter of chronic toxicity are required, so that effluent toxicity can be assessed in relation to CWA requirements for the permitted discharge (see Part I, Table 2 in NPDES permit).

In accordance with 40 CFR § 122.44(d)(1)(ii), in setting the permit's levels for chronic toxicity and conditions for discharge, EPA is using a test species/chronic short-term WET method and a discharge Instream Waste Concentration (IWC) representing conservative assumptions for effluent dilution necessary to protect receiving water quality. The IWC is a discharge-specific term based on the permit's authorized mixing zone or initial dilution.

toxicity tests, the true population mean ( $\mu$ ) refers to the mean for a theoretical statistical population of results from indefinite repetition of toxicity tests on the same control water and sample (e.g., a 24-hour composite sample of effluent). For an individual toxicity test, there must be a statistical analysis to determine if the null hypothesis is rejected in favor of the alternative hypothesis—in other words, that the difference in sample and control means is real and not simply reflective of random variation among the tested organisms.



Generally, the dilution model result “S” from Visual Plumes/Cormix is used. S is the volumetric dilution factor, i.e. 1 volume effluent is diluted with S – 1 volumes surface water) =  $[(V_e + V_a) / V_e]$ . Following the mass balance equation, if the dilution ratio  $D = Q_s / Q_e$ , then  $[(Q_e + Q_s) / Q_e] = 1 + D = S$ .

For this discharge,  $S = 1$  (i.e., no authorized dilution). The discharge-specific IWC = 1 to 1 dilution (1:1, 1/1) = 100% effluent. The IWC made by the toxicity laboratory is mixed as 1 part solute (i.e., effluent) to 0 parts dilutant (1: (1 – 1)) for a total of 1 part.

The TST’s null hypothesis for chronic toxicity ( $H_0$ ) is: In-stream Waste Concentration (IWC) mean response (% effluent)  $\leq 0.75$  Control mean response. The TST’s alternative hypothesis is ( $H_a$ ): IWC mean response (% effluent)  $> 0.75$  Control mean response. For this permit, results obtained from a single chronic toxicity test are analyzed using the TST statistical approach, where the required chronic toxicity IWC for Discharge Point Number 001 is 100% effluent.

Permit Part II.C.3 describes the WET method (Fertilization Test Method 1008.0) and test species to be used for this effluent monitoring, requiring the permittee to conduct chronic toxicity monitoring using either the purple sea urchin or the eccentric sand dollar via U.S. mainland laboratories. For NPDES samples for toxicity testing, the sample hold time begins when the 24-hour composite sampling period is completed (or the last grab sample in a series of grab samples is taken) and ends at the first time of sample use (initiation of toxicity test). 40 CFR § 136.3(e) states that the WET method’s 36-hour hold time cannot be exceeded unless a variance of up to 72-hours is authorized by EPA. In a June 29, 2015, inter-office memorandum, EPA Region 9 authorized a hold time variance of up to 72-hours applicable only to Pacific Island Territory permittees **which ship the NPDES sample to the continental U.S. for toxicity testing**, with conditions (see NPDES permit).

For POTWs, it is not practicable (40 CFR § 122.45(d)) for EPA to set an average (median) weekly effluent limit, in lieu of a maximum daily effluent limit. This is because discharges of unacceptable toxicity—true chronic toxicity  $\geq 25$  PE, the TST’s chronic toxicity RMD—are not adequately restricted by two effluent limits (median weekly and median monthly) each using a median of up to 3 toxicity test results. Under such limits, a highly toxic (chronic, acute) discharge could occur with no restriction. Moreover, using two such median limits further decreases the probability that an effluent with unacceptable toxicity will be caught, resulting in a permitted discharge which under-protects the aquatic life from unacceptable chronic toxicity.

Species sensitivity screening for chronic toxicity is not an automatic requirement in this permit. However, the permit retains a species sensitivity screening condition as an option for the permitting authority to exercise, particularly when the quality of the permitted discharge has changed, or is expected to change, during the permit term.

## IX. SPECIAL CONDITIONS

### A. Biosolids

Standard requirements for the monitoring, reporting, recordkeeping, and handling of biosolids in accordance with 40 CFR § 503 are incorporated into the permit. The permit also includes, for dischargers who are required to submit biosolids annual reports, which include

major POTWs that prepare sewage sludge and other facilities designated as “Class 1 sludge management facilities”, electronic reporting requirements. Permittees shall submit biosolids annual reports using EPA’s NPDES Electronic Reporting Tool (“NeT”) by February 19<sup>th</sup> of the following year.

### **B. Capacity Attainment and Planning**

The permit requires that a written report be filed within ninety (90) days if the average dry-weather wastewater treatment flow for any month exceeds 90 percent of the annual dry weather design capacity of the waste treatment and/or disposal facilities.

### **C. 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 and implement appropriate pollution prevention measures or Best Management Practices (BMPs) designed to prevent pollutants from entering Tinian Channel and other surface waters while performing normal processing operations at the facility.

In accordance with section 304(e) of the CWA and 40 CFR § 122.44(k), the permittee shall develop and implement appropriate Best Management Practices (BMPs) designed to control site runoff, spillage or leaks, sludge or waste disposal, and drainage from raw material storage which are associated with or ancillary to the maintenance, transportation, and storage of petroleum products or other potential pollutants at the facility that may contribute significant amounts of such pollutants to surface waters. This includes, but it not limited to:

1. Good housekeeping: the permittee must keep all exposed areas of the facility in a clean, orderly manner where such exposed areas could contribute pollutants to storm water and non-storm water discharges;
2. Minimizing exposure: where practicable, industrial materials and activities should be protected to prevent exposure to rain or runoff.
3. Preventive inspections and maintenance: timely inspections and maintenance of storm water and non-storm water management devices, (e.g., cleaning oil/water separators) as well as inspecting, testing, maintaining, and repairing facility equipment and systems to avoid breakdowns or failures that may result in discharges of pollutants to surface waters.
4. BMPs for seagoing vessels (see permit Part II.D.1.d.)

### **D. Asset Management**

40 CFR § 122.41(e) requires permittees to properly operate and maintain all facilities and systems of treatment and control which are installed or used by the permittee to achieve compliance with the conditions of this permit. Asset management planning provides a framework for setting and operating quality assurance procedures and ensuring the permittee has sufficient financial and technical resources to continually maintain a targeted level of service. Asset management requirements have been established in the permit to ensure compliance with the provisions of 40 CFR § 122.41(e).

The permit requires the permittee to develop an Asset Management Plan (AMP), specific to the Agingan wastewater treatment plant, due within two years of permit effective date. The permittee is currently receiving technical support from EPA in form of contractor assistance to develop the AMP. EPA will review and comment on the AMP. Once EPA approves the AMP, then the permittee is expected to implement the plan and retain it on site throughout the permit term.

The permittee shall also review and update their existing Emergency Response Plan or equivalent to describe protocols and equipment necessary to respond to emergencies (e.g., power outages) that could result in untreated or partially treated discharges from the WWTP into receiving waters and degrade water quality. The existing emergency response plan shall be updated before the end of the permit term and then retained on site and available upon request by EPA or BECQ.

### **E. Inspection of Outfall and Diffuser and Summary Report**

The permit requires the permittee to inspect and report on the condition of the outfall pipe and diffuser within the three years of permit effective date. The previous inspection was completed around 2010. Concurrent with the outfall inspection, the permittee is also required to assess the benthic physical habitat and marine organisms via visual observation regarding corals or fish habitat that may exist within 200 ft. radius of the outfall terminus. The permit also requires the permittee to submit an inspection plan prior to performing the outfall inspection and benthic habitat assessment. EPA and NMFS will review and comment on the proposed inspection plan prior to the inspection. The summary report is due within 180 days after the date of the outfall inspection and benthic habitat assessment. Summary report requirements are described in Part II.H. of the permit.

### **F. Receiving Water Monitoring**

EPA has retained receiving water monitoring in the permit. The purpose of this receiving water monitoring is to determine compliance, based in part on the approved mixing zone conditions and dilution value therein; i.e., evaluate if the effluent pollutant levels, upon reaching the edge of the mixing zone, have met the ambient water quality standards. The permit requires receiving water monitoring for enterococcus, dissolved oxygen, and pH at three monitoring locations and reduced the monitoring frequency from monthly to quarterly. EPA has retained receiving water monitoring for turbidity, temperature, total nitrogen, total phosphorus, and orthophosphate in the permit, and reduced the monitoring frequency from quarterly to twice per year. The permit clarifies the location of Site 41 (reference site) as being located approximately 1000-1200 meters away from and up current from the edge of the zone of mixing, free from influence by the mixing zone. The permit defines the minimum frequency of monitoring in the receiving waters. The special conditions within the permit provide the permittee with the option of submitting a receiving water monitoring plan that may propose changes to locations, frequency, and parameters. The permittee must submit this proposed receiving water monitoring plan to EPA for review and approval prior to switching over to the proposed receiving water monitoring plan. Once EPA has evaluated the permittee's receiving water monitoring plan, EPA may need to re-open the permit to be consistent with federal regulations at 40 CFR §§ 122 and

124. EPA may separately request the permittee provide receiving water results via email in spreadsheet format.

### **G. Compliance Schedule for Enterococcus Effluent Limitations**

When a discharger cannot immediately comply with a WQBEL upon the effective date of an NPDES permit, the permit may, when appropriate, specify a schedule of compliance leading to compliance with CWA and regulations (see 40 CFR § 122.47). The permit for Agingan WWTP establishes a more stringent WQBEL for enterococcus based on a revised water quality standard (CNMI Water Quality Standards, 2018). In determining whether a compliance schedule for enterococcus is appropriate to include in the permit, EPA considered the following information, in accordance with EPA’s 2007 Memo<sup>4</sup>, titled Compliance Schedules for Water Quality-Based Effluent Limitations in NPDES Permits, and applicable regulations:

#### *CNMI Water Quality Standards*

Compliance schedules are allowed only if the territory has indicated in its water quality standards that it intends to allow them. Part 65-130-455 (f) of CNMI Water Quality Standards (2018) states “BECQ authorizes the use of compliance schedules for water quality-based effluent limitations in national pollution discharge elimination system (NPDES) permit issued by the permitting authority.” Thus, EPA has determined the CNMI water quality standards allow for the inclusion of a compliance schedule.

#### *Discharger Compliance*

In order to grant a compliance schedule, EPA must determine the permittee cannot immediately comply with the WQBEL upon effective date of the permit. In the 2017-2022 permit term, the maximum daily discharge concentration of enterococcus was above the new maximum daily effluent limitation of 37,440 MPN/100mL in 35% of the reported samples. This new final maximum daily effluent limit is based on a recently (2018) revised WQS. Additionally, the permittee submitted the following as part of a comment in response to the public notice draft permit: “Should currently proposed Enterococci limits be established without a corresponding compliance schedule and necessary grant funding, permit exceedances will result.” Based on this information, EPA has determined the discharger cannot immediately comply with the WQBEL based on the revised water quality standard upon the effective date of the permit.

#### *Appropriateness of Compliance Schedule*

During the 2017-2022 permit term, enterococcus concentrations above 37,440 MPN/100 mL (the maximum daily effluent limit) were concurrent with times when the WWTP was having operational issues with the clarifier and aerators. The permittee currently has both approved plans and funding for WWTP upgrades to replace the aerator, process flow pipe, and install a rotary fine screen and grit chamber at the headworks. These upgrades will improve system performance and should lower enterococcus concentrations in the effluent. Due to the need for treatment plant upgrades to meet the daily maximum enterococcus effluent limitation in the permit, EPA has determined a compliance schedule is appropriate.

#### *Compliance Schedule and Actions*

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<sup>4</sup> [https://www3.epa.gov/npdes/pubs/memo\\_complianceschedules\\_may07.pdf](https://www3.epa.gov/npdes/pubs/memo_complianceschedules_may07.pdf)

EPA has included a compliance schedule in the permit for the maximum daily effluent limit for enterococcus. The actions associated with the compliance schedule include WWTP upgrades in accordance with the ASADRA workplan reviewed and approved by EPA. These upgrades shall be completed by the date specified in the workplan, and no later than May 1, 2024. The upgrades are designed to improve effluent quality and the near term schedule specified above are expected to lead to compliance with the final maximum daily effluent limit for enterococcus as soon as possible.

Compliance with the maximum daily effluent limitation of 37,440 MPN/100mL for enterococcus is required by May 1, 2024. Within 14 days of this date, the permittee shall report to EPA compliance or non-compliance with final requirements contained in the compliance schedule of this permit. See 40 C.F.R. § 122.41(l)(5).

## **X. 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 communities who experience disproportionate impacts.

EPA conducted a screening level evaluation of vulnerabilities in the community posed to local residents near the vicinity of the permitted wastewater treatment plant using EPA's EJSCREEN tool. The purpose of the screening is to identify areas disproportionately burdened by pollutant loadings and to consider demographic characteristics of the population living in the vicinity of the discharge when drafting permit conditions.

In CNMI, EPA is aware of several environmental burdens facing communities including air emissions from petroleum power generation and bacteriological impairments for streams and beaches across the territory. Most notably, Typhoon Yutu occurred in October 2018, this caused catastrophic destruction and subsequent power outages on CNMI and resulted in inconsistent drinking water supply.

EPA is aware of the potential for cumulative burden of the permitted discharge on the impacted community and will issue this permit consistent with the CWA, which is protective of all beneficial uses of the receiving water, including human health. The permit includes bacteria limits that are more stringent than the previous permit term to protect human health consistent with CNMI's Water Quality Standards (2018). In addition to the permit, EPA provides support to CUC through compliance and State Revolving Funding assistance. Continued engagement across all water programs is critical to establish consistent expectations and resources to support water and wastewater infrastructure. In consideration of the above, EPA believes the permitted discharges to marine waters 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 communities with less environmental burdens.

## **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.

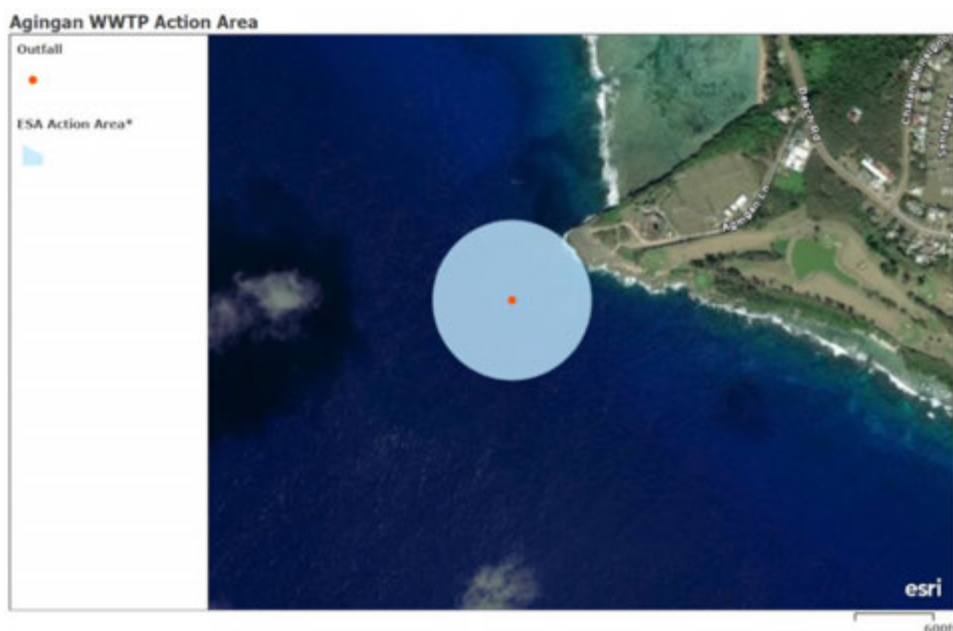
On January 4, 2022, EPA requested lists of endangered or threatened species in the project area from the National Marine Fisheries Service (NMFS) and US Fish and Wildlife (FWS). EPA received an email response from NMFS on January 5, 2022, and a letter from FWS on January 11, 2022. Both responses have been incorporated into this evaluation.

### *Action Area*

Agingan WWTP discharges into Tinian Channel offshore of Agingan Point. The facility and its outfall are established and there are no plans for new construction to expand the WWTP facility, nor new pipelines or hydrology alterations that will cause disruption of land or removal of land-based habitat.

The facility outfall is located 600 feet offshore of Agingan Point at longitude 145° 41' 18.29" E, latitude 15° 7' 7.88" N. The outfall diffuser ports are 94 feet deep on the seafloor of Tinian Channel. The mixing zone area, as described by BECQ's Zone of Mixing approval (dated January 17, 2023) is at the end of the outfall in Tinian Channel. The mixing zone is defined according to the location and dimensions of the active outfall diffuser ports (i.e., 94 feet deep and 200 feet in all directions). This area in the immediate vicinity of the discharge point to the boundary of the mixing zone is also equivalent to the "zone of initial dilution."

The action area is defined as the area of the mixing zone, which extends in a 200-foot radius around the facility outfall, and the immediate waters outside the mixing zone in a 600-foot radius from the facility outfall, which reaches the shore at Agingan Point. Past a 600-foot radius, the effluent will be highly diluted after mixing with the surrounding waters, or the effluent will reach the shore. The terrestrial footprint of the facility, which is located on Agingan Point, is also part of the action area.



\*ESA action area also includes the facility footprint

#### Listed Species Near the Action Area

USFWS and NMFS provided lists of threatened and endangered species in the vicinity of the discharge, listed below. The listed status of each species is shown (E = endangered, T = threatened), as is the anticipated level of affect associated with the permit issuance, including: not likely to adversely affect (NLAA) and no effect (NE).

| Status | Species/Listing Name   | Designated Critical Habitat | Affect |
|--------|--|-----------------------------|--------|
| T      | Mariana fruit bat ( <i>Pteropus mariannus mariannus</i> )                    | No                          | NE     |
| E      | Nightingale reed warbler ( <i>Acrocephalus luscinia</i> )                    | No                          | NE     |
| E      | Mariana gray swiftlet ( <i>Aerodramus vanikorensis bartschi</i> )            | No                          | NE     |
| E      | Mariana common moorhen ( <i>Gallinula chloropus guami</i> )                  | No                          | NE     |
| E      | Humped tree snail ( <i>Partula gibba</i> )                                   | No                          | NE     |
| E      | Central West Pacific green sea turtle <sup>1</sup> ( <i>Chelonia mydas</i> ) | No                          | NLAA   |
| E      | Hawksbill sea turtle ( <i>Eretmochelys imbricata</i> )                       | No                          | NLAA   |
| T      | Indo-West Pacific scalloped hammerhead shark ( <i>Sphyrna lewini</i> )       | No                          | NLAA   |
| T      | Oceanic Whitetip Shark ( <i>Carcharhinus longimanus</i> )                    | No                          | NLAA   |

| Status | Species/Listing Name                       | Designated Critical Habitat | Affect |
|--------|--|-----------------------------|--------|
| T      | Giant Manta Ray ( <i>Manta birostris</i> ) | No                          | NLAA   |
| T      | Corals ( <i>Acropora globiceps</i> )       | Proposed                    | NLAA   |

1) Includes turtle nesting

## Terrestrial Species

### *Mariana Fruit Bat*

Mariana fruit bats typically roost in colonies in undisturbed native limestone forests, and may occasionally use coconut groves and strand vegetation for roosting. They feed on nectar, fruits, and leaves from plants including papaya, figs, and breadfruit, among others. Fruit bats drink from streams and rivers by skimming the surface of the water and licking the water from their fur. Species decline is mainly due to habitat loss and predation.

This species is not likely to come into contact with, consume, or consume food from the receiving water. Thus, EPA has determined that the action will not affect the Mariana fruit bat.

### *Nightingale Reed Warbler*

Nightingale reed warblers occur in upland and wetland habitats including taangatagan forests, tall mixed secondary forests, marshes, forest and marsh edges, among others. Nightingale reed warblers do not typically occur on beach strand. Nightingale reed warblers are generalist insectivores and carnivores, eating various invertebrates including insects, insect larvae, beetles, lizards, snails, and spiders. Threats to the species include habitat loss, habitat degradation, predators, invasion of habitat by non-native plants, typhoons, fires, and human disturbance.

Nightingale reed warblers do not occur within beach strand or marine habitats, or eat marine organisms. Thus, this species is not likely to come into contact with, consume, or consume food from the receiving waters. EPA has determined the action will not affect the nightingale reed warbler.

### *Mariana Gray Swiftlet*

The Mariana grey swiftlet is the only resident swift in the Marianas Islands. A 2020 population study estimates there are 3,817 individuals in 9 colonies on Saipan. This species belongs to a genus of swiftlet with the rare ability of echolocation which allows them to reside in caves. Mariana gray swiftlets forage over a wide variety of terrain capturing insects while flying.

Mariana gray swiftlets are not known to occur within marine habitats, eat marine organisms, or drink saltwater. Thus, this species is not likely to come into contact with, consume, or consume food from the receiving waters. EPA has determined the action will not affect the Mariana gray swiftlet.

### *Mariana Common Moorhen*

Mariana common moorhens inhabit tropical freshwater lakes, marshes, swamps, and wet rice paddies. They may also occur in rivers and streams. 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 mainly 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 not known to occur within marine habitats, eat marine organisms, or drink saltwater. Thus, this species is not likely to come into contact with, consume, or consume food from the receiving waters. EPA has determined the action will not affect the Mariana common moorhen.

#### *Humped Tree Snail*

The humped tree snail occurs in cool and shaded forest habitats. This snail species prefers 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 humped tree snail occurs within forest habitats and gets water from puddles on the ground and the moisture in leaves. This species is not likely to come into contact with, consume, or consume food from the receiving waters. Thus, EPA has determined that the action will not affect this species.

#### *Summary*

EPA has determined reissuance of the NPDES permit for Agingan WWTP will not affect the Mariana fruit bat, nightingale reed warbler, Mariana gray swiftlet, Mariana common moorhen, or humped tree snail.

### **Marine Species**

EPA has completed a biological evaluation for marine species near the action area and determined reissuance of the NPDES permit for this facility may affect but is not likely to adversely affect the following species.

- Central West Pacific green sea turtle (*Chelonia mydas*)
- Hawksbill sea turtle (*Eretmochelys imbricata*)
- Indo-West Pacific scalloped hammerhead shark (*Sphyrna lewini*)
- Oceanic Whitetip Shark (*Carcharhinus longimanus*)
- Giant Manta Ray (*Manta birostris*)
- Corals (*Seriatopora aculeata*)

EPA's Biological Evaluation, as shared with the NMFS, is summarized below and available in the permit record.

#### *Central West Pacific green sea turtle and Hawksbill sea turtle*

The Central West Pacific green sea turtle and hawksbill sea turtle are listed as Endangered under the ESA, and are found in the western pacific, including CNMI. Both species of sea turtles have been sighted and/or tagged by NMFS scientists in the CNMI near Managaha Island and the surrounding Marine Conservation Area. Primary habitat for sea turtles includes beaches for

nesting, open ocean convergence zones, and coastal areas for benthic feeding. Threats to sea turtles include bycatch in fishing gear, direct harvest of turtles and eggs, loss and degradation of nesting and foraging habitat, predation of eggs and hatchlings, vessel strikes, ocean pollution/marine debris, and climate change.

If a turtle were to enter the mixing zone, they would be transitory and would not be expected to stay within the mixing zone for long periods, as there is no known preferred turtle habitat within the mixing zone. This leaves little time for harmful effects to occur. Based on a review of recovery plans and available studies, EPA is not aware of scientific information or studies documenting negative effects on sea turtles from the pollutants in the discharge. Pollutants of concern in the effluent for the facility include bacteria, oil and grease, and nutrients. Additionally, the permit establishes limits that will ensure the protection of aquatic life at the outer edges of the mixing zone and beyond to waters of the harbor.

EPA has determined that the action may affect but is not likely to adversely affect the central west Pacific green sea turtle and hawksbill turtle. EPA has determined that the action will have no effect on sea turtle nesting habitat because the effects of the proposed action do not include facility construction, land-disturbance, or other sand-compacting activities.

#### *Indo West Pacific Scalloped Hammerhead Shark and Oceanic Whitetip Shark*

Oceanic whitetip sharks are listed as threatened under the ESA and typically live offshore in deep water. Oceanic whitetip sharks are found in tropical and subtropical oceans throughout the world and individuals of this species typically live offshore in deep water. Primary threats to oceanic whitetip sharks include incidental bycatch in commercial fisheries and harvest for international shark fin trade.

The Indo West Pacific Scalloped Hammerhead Shark is listed as threatened under the ESA and are found worldwide residing in coastal warm temperate and tropical seas to depths of 1000 meters. These sharks have been observed close in shore and can be found in shallow waters (less than 3 m.). The biggest threat to the Hammerhead Shark is incidental bycatch in commercial fishing and used in shark fin trade.

Giant manta rays are listed as threatened under the ESA and occur worldwide in tropical, subtropical, and temperate oceans. There have been unconfirmed sightings of giant manta rays off the coast of the CNMI. They are commonly found offshore and in productive coastal areas in shallow and deep waters, but they may also occur in estuaries, inlets, bays, and intercoastal waterways. Giant manta rays are migratory, seasonally visiting productive coastlines and offshore pinnacles and seamounts. Primary threats to giant manta rays include overfishing, bycatch, and harvest for international trade. Other threats include marine pollution/debris, vessel strikes, entanglement, and recreational fishing interactions.

The Oceanic Whitetip Shark, Indo-Pacific Scalloped Hammerhead Shark, and Giant Manta Ray were recently listed in January 2018 and both species do not have developed Recovery Plans. Threats to both species relate to foreign fishing practices and not water quality. EPA has determined that both these species have no nexus with the ocean discharges from the discharges, beyond the possibility of incidental contact. If a member of the species were to enter the near

vicinity of the discharges and react negatively to any component of the wastewater, the species is sufficiently mobile to depart, or traverse, the maximum affected area very quickly. Thus, minimal exposure time for sub-lethal or harmful effects to occur. Based on a review of available information, EPA is not aware of scientific information or studies documenting negative effects on sharks or manta rays from these types of effluent discharges to ocean waters.

EPA has determined that the action may affect, but is not likely to adversely affect the Oceanic Whitetip Shark, Giant Manta Ray, and the Indo-West DPS Scalloped Hammerhead Shark.

### *Corals*

In 2014, NMFS listed 20 coral reef species as threatened, including 15 in the Indo-Pacific. Of those species, three are believed present in CNMI: *Acropora globiceps*, *Acropora retusa*, and *Seriatopora aculeata*. In 2020, NMFS proposed critical habitat for these coral species in the CNMI. *A. globiceps* occurs on upper reef slopes, reef flats, and adjacent habitats in depths ranging from 0 to 8 meters. *A. retusa* occurs in shallow reef slope and back-reef areas, such as upper reef slopes, reef flats, and shallow lagoons, and its depth range is 0 to 5 meters. The coral species *S. aculeata* occurs in a broad range of habitats on the reef slope and back-reef, including but not limited to upper reef slopes, mid-slope terraces, lower reef slopes, reef flats, and lagoons in a depth range of 3 to 40 meters.

The facility outfall is at 28-meter depth, which is deeper than the habitat range of *Acropora globiceps* and *Acropora retusa*, since neither species is believed to occur in habitat below 8 meters deep. Furthermore, the physical location of each outfall and the mixing zone is not located near the proximity of known coral habitats. EPA believes the discharges have no nexus with these two coral species.

Although discharges have the potential to interact with *Seriatopora aculeata*, EPA believes the impacts will be minimal based on conditions including monitoring results, proposed permit conditions, effluent limitations, and facility operations for disinfection.

A recent scientific study (Nalley, et al., 2021) evaluated the water quality thresholds for coastal contaminants on corals. The results present the lowest-observed adverse effect levels (LOAEL) for contaminants for various coral species. For example, copper levels at approximately 50 ug/L showed adverse effects to coral gamete fertilization success and larval survival. Coral adult photosynthetic efficiency was more vulnerable to similar concentrations of the herbicide Diuron. This study, which includes analysis of numerous studies, describes that pollutants can cause reductions in coral reproductive function, recruitment, growth rates, and a survivorship of both larvae and adult coral species.

EPA evaluated monitoring results of effluent from each facility that show no chronic toxicity and no detections of priority pollutants; e.g., metals, PAHs, legacy pesticides, other priority organic pollutants within the full list of priority pollutants. Thus, no biological, nor chemical test result (including copper) indicates a ‘toxic’ threat to this coral species. Also, the effluent concentrations are expected to be below the listed LOAELs at the edge of the mixing zone.

EPA's has determined that continued wastewater discharge from the treatment plants under the proposed permits may affect, but not likely to adversely affect *Seriatopora aculeata*.

#### *Critical Habitat for Corals*

NMFS has proposed critical habitat for two coral species in CNMI at depth of 0-40m. This critical habitat encompasses the coast waters surrounding Saipan Island. In 2015, NOAA reported on coral surveys surrounding various islands of CNMI. The closest location to the Agingan outfall is Coral Ocean Point where many coral species were observed; however, none of the three ESA listed species was identified at this site, so coral habitat is likely to exist. There were three sites within Managaha Marine Conservation Area and two listed coral species were identified at these three sites. Whereas species present and habitat conditions may change at each outfall site, EPA assumes that coral critical habitat is likely within the general area.

As previously stated, the discharge will be sufficiently dispersed at the edge of mixing zone to meet CNMI water quality standards in the proposed critical habitat. EPA has concluded the permit renewal may affect but is not likely to adversely affect proposed coral critical habitat.

#### *Conclusion*

On June 14, 2022, EPA provided NMFS with a copy of the draft fact sheet, draft permit, and Biological Evaluation to initiate informal consultation. EPA submitted a revised Biological Evaluation on July 29, 2022. NMFS concurred with EPA's determination in a letter dated August 26, 2022.

If, in the future, EPA obtains information or is provided information that indicates that there could be adverse impacts to federally listed species, EPA will contact the appropriate agency or agencies and initiate consultation, to ensure that such impacts are minimized or mitigated.

### **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 July 29, 2022, EPA received a CZMA consistency certification from the CNMI Division of Coastal Resources Management for the Agingan WWTP 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 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). The U.S. Environmental Protection Agency (EPA) is assessing the effects of re-issuance of two

proposed National Pollutant Discharge Elimination System (NPDES) permits on Essential Fish Habitat (EFH) in the CNMI.

EFH has been designated in the Marianas and 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 meters around each of the Mariana Islands. Thus, the waters and seafloor surrounding Saipan are designated EFH. The EFH in the Marianas is designated to support various life stages of Bottomfish and Pelagics. Bottomfish EFH designations include the benthos, which includes habitat forming EFH (e.g., corals), from the shoreline to the 400-meter isobath.

These EFH designations encompass the outfall and mixing zone for the facility. Thus, the facility discharges into designated EFH. The vessel transit pathway (approximately 10 miles) along the west coast is also assumed to be within the EFH designation.

There is minimal site-specific information regarding the habitat characteristics in the vicinity of the outfall. The CNMI Resilience Report<sup>5</sup> (2015) indicates that coral may be present in the vicinity of the Agingan outfall. Based on this best available information, EPA assumes that EFH characteristics may occur near the outfall and within the mixing zone.

EPA has determined the permit renewal and associated treated discharge will have no adverse effects on essential fish habitat outside the mixing zone, while there may be adverse effects to EFH within the mixing zone, based on the following considerations:

- Inside the zone of mixing, pollutant levels may exceed applicable water quality criteria, in accordance with the mixing zone policy in CNMI WQS. Potential adverse effects to essential habitat within the mixing zone include possible settling of solids and semi-solids onto the seafloor. Additionally, EFH may be negatively affected by the levels of dissolved or sorbed pollutants in the mixing zone, which can be toxic to aquatic marine life and the habitat they depend on.
- At the edge of the mixing zone and beyond, the discharge must meet water quality criteria for Class A marine waters, including standards for the protection of aquatic life. WQS for the protection of aquatic life were adopted to allow for the protection and propagation of marine organisms, including fish, shellfish and other aquatic organisms, corals, and other reef-related resources. These standards include narrative criteria as well as numeric criteria for bacteria, pH, and nutrients.
- Monitoring results of effluent from the facility show no chronic toxicity and no detections of priority pollutants (e.g. PAHs, legacy pesticides, other priority organic pollutants within the full list of priority pollutants) except low levels of copper, lead, nickel, silver, and zinc. There is not reasonable potential for these detected metals to exceed applicable water quality standards at the edge of the mixing zone.
- The facility does not apply chlorination for disinfection; thus, the discharge is unlikely to be contribute to ‘bleaching’ (via chlorine) of nearby coral. In addition, ongoing upgrades

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<sup>5</sup>[http://data.nodc.noaa.gov/coris/library/NOAA/CRCP/project/204/CNMI\\_Resilience\\_Maynard\\_et\\_al\\_CRCP\\_Tech\\_Memo\\_22.pdf](http://data.nodc.noaa.gov/coris/library/NOAA/CRCP/project/204/CNMI_Resilience_Maynard_et_al_CRCP_Tech_Memo_22.pdf)

to the WWTP (planned and funded for next two years) will continue to improve the quality of effluent flowing through the outfall.

- A recent scientific study<sup>6</sup> (Nalley, et al., 2021) evaluated the water quality thresholds for coastal contaminants on corals. The results present the lowest-observed adverse effect levels (LOAEL) for contaminants for various coral species. The effluent concentrations are expected to be below the listed LOAELs at the edge of the mixing zone.
- The permit retains receiving water monitoring for several parameters, including pH, dissolved oxygen, nutrients, and enterococci.
- The permit retains chronic toxicity testing once per year.
- Regarding vessel transit and potential interactions with the designated essential fish habitat areas and fish and coral species, there may be motor noise that reaches these organisms although it would be intermittent and occur for a short time. EPA assumes that during transit the vessel pathway is thru deeper waters (say 10-20 m.) and generally avoids driving thru the shallower waters). The vessel motor may release small amounts of hydrocarbons into waters (surface only) and this will disperse quickly and to insignificant levels. Thus, there would be minimal harmful effects due to vessel motor noise, hydrocarbon compounds or vessel transit.

### *Conclusions*

EPA has concluded the permit renewal and associated treated discharge may adversely affect EFH, specifically within the zone of initial dilution.

EPA has included requirements in the permit to minimize impacts to EFH, including an outfall inspection and benthic habitat assessment, emergency response plan update, and pollution prevention requirements.

On June 14, 2022, EPA provided NMFS with a copy of the draft fact sheet, draft permit, and EFH assessment to initiate informal consultation. EPA submitted a revised EFH assessment on July 29, 2022. NMFS replied on July 20, 2022, and concurred with EPA's determination. NMFS included several specific BMPs related to receiving water monitoring and continued coordination with NMFS regarding the outfall inspection and benthic habitat assessment by the permittee. NMFS concluded the "permit requirements, including increased monitoring and new BMPs, are suitable to ensure that adverse effects to EFH will be no more than minimal and that any mixing zone-specific adverse effects can be integrated into the next permit renewal process."

A reopener clause has been included in the permit should new information become available to indicate that the requirements of the permit need to be modified.

EPA's complete EFH Assessment, as shared with the NMFS, is available in the permit record.

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<sup>6</sup><https://static1.squarespace.com/static/569b10311115e0984d208e2f/t/60f52f78a9adb72803bcee9d/1626681211455/Nalley+et+al+2021+STOTEN+Coral+pollutant+thresholds.pdf>

**E. Water Quality Certification Requirements (40 CFR §§ 124.53 and 124.54)**

For States, Territories, or Tribes with EPA approved water quality standards, certification from the affected State, Territory, or Tribe that the draft permit will meet all applicable water quality standards is required for permit issuance. 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.

On January 17, 2023, EPA received a CWA 401 Water Quality Certification from BECQ (dated December 6, 2022). The permittee shall comply with all requirements set forth in BECQ's 401 Water Quality Certification. See permit Attachment E.

**XI. STANDARD CONDITIONS****A. Reopener Provision**

In accordance with 40 CFR §§ 122 and 124, this permit may be modified by EPA to include or modify effluent limits, monitoring requirements, 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 was placed in a local newspaper within the area affected by the facility and on the EPA website, starting on June 11, 2022, and ending on July 18, 2022; this comment period met the minimum of 30 days for interested parties to respond in writing to EPA. The permit and fact sheet were posted on the EPA website for the duration of the public comment period. EPA also requested that CUC include summary information about the public comment period on its website and add URL link to EPA's website for specific public notice information. EPA received written comments from one commenter. EPA developed a response to comments document to respond to all significant comments and made corresponding changes to the permit and factsheet as part of the final permit decision and issuance.

**C. Public Hearing (40 CFR § 124.12)**

A public hearing may be requested in writing by any interested party who submitted comments during the public notice period. 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 the permit may be directed to:

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

EPA Region IX  
[R9NPDES@epa.gov](mailto:R9NPDES@epa.gov)



**XIV. REFERENCES**

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