I. STATUS OF PERMIT

Commonwealth Utilities Corporation (the “permittee”) 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.

The permittee is currently discharging under NPDES permit MP0020028 issued on March 6, 2017. Pursuant to 40 CFR § 122.6, the terms of the existing permit are administratively extended until the issuance of a new permit.

This permittee has been classified as a Major discharger.

II. SIGNIFICANT CHANGES TO PREVIOUS PERMIT

<table>
<thead>
<tr>
<th>Permit Condition</th>
<th>Previous Permit (2017 – 2022)</th>
<th>Re-issued permit (2022 – 2027)</th>
<th>Reason for change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enterococcus Effluent Limitation</td>
<td>Maximum daily effluent limitation of 79,488 CFU/100mL</td>
<td>Maximum daily effluent limitation of 37,440 CFU/100mL</td>
<td>CNMI WQS</td>
</tr>
<tr>
<td>Nitrate-Nitrogen Effluent Limitation</td>
<td>No effluent limitation</td>
<td>Maximum daily effluent limitation of 144 mg/L</td>
<td>The discharge has reasonable potential to cause or contribute to an exceedance of the most</td>
</tr>
</tbody>
</table>
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

Fact Sheet

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<table>
<thead>
<tr>
<th>Asset Management Plan</th>
<th>Not required.</th>
<th>Required. Plan to be submitted to EPA within two years of effective date.</th>
<th>EPA requests the permittee to develop a plan to address operations and maintenance of the treatment plant and collection system.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Units for Settleable Solids Effluent Limitation</td>
<td>Effluent limitations for Settleable Solids were 1 mg/L and 2 mg/L.</td>
<td>Effluent limitations for Settleable Solids are 1 mL/L and 2 mL/L.</td>
<td>Revising the effluent limitation to include the appropriate units for Settleable Solids.</td>
</tr>
<tr>
<td>Units for Enterococcus Effluent Limitation</td>
<td>CFU/100 mL</td>
<td>MPN/100 mL</td>
<td>Maintain consistency with monitoring units.</td>
</tr>
<tr>
<td>Outfall number</td>
<td>Factsheet referred to Outfall 003</td>
<td>Corrected language in factsheet to refer only to Outfall 001</td>
<td>Typographical correction.</td>
</tr>
<tr>
<td>Narrative effluent limits</td>
<td>Included</td>
<td>Updated</td>
<td>Consistent with CNMI Water Quality Standards (2018)</td>
</tr>
</tbody>
</table>
Tinian Channel is a five-mile-wide channel to the southeast of Saipan, separating Saipan and Tinian. CNMI’s Water Quality Standards (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.

V. DESCRIPTION OF DISCHARGE

Table 1 shows data related to discharge from Outfall 001 based on permittee’s NPDES renewal application and supplemental data as well as 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$_5$ (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 are not limited in the current permit, including copper, lead, nickel, silver, zinc, nitrate + nitrite, total nitrogen, and ammonia.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Units$^{(1)}$</th>
<th>2017-2022 Permit Effluent Limitations</th>
<th>Effluent Data</th>
<th>Number of Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Average Monthly</td>
<td>Highest Average Monthly</td>
<td>Highest Average Weekly</td>
</tr>
<tr>
<td>Flow Rate</td>
<td>MGD</td>
<td>(2) -- (2) 1.75</td>
<td>--</td>
<td>3.23</td>
</tr>
<tr>
<td>Biochemical Oxygen Demand;</td>
<td>mg/L</td>
<td>30 45 -- 230</td>
<td>34.40 %</td>
<td>56</td>
</tr>
<tr>
<td>5-day (BOD$_5$)</td>
<td>lbs/day</td>
<td>751 1126 -- 3034</td>
<td>3203</td>
<td>--</td>
</tr>
<tr>
<td>Percent Removal</td>
<td></td>
<td>85 % (minimum)$^{(4)}$</td>
<td>34.40 %</td>
<td>56</td>
</tr>
<tr>
<td>Total Suspended Solids</td>
<td>mg/L</td>
<td>30 45 -- 231</td>
<td>504</td>
<td>--</td>
</tr>
<tr>
<td>(TSS)</td>
<td>lbs/day</td>
<td>751 1126 -- 2605</td>
<td>5935</td>
<td>--</td>
</tr>
<tr>
<td>Percent Removal</td>
<td></td>
<td>85 % (minimum)$^{(4)}$</td>
<td>9.10%</td>
<td>56</td>
</tr>
<tr>
<td>Settleable Solids</td>
<td>mL/L</td>
<td>1 -- 2</td>
<td>3.90</td>
<td>--</td>
</tr>
<tr>
<td>Oil and Grease</td>
<td>mg/L</td>
<td>-- -- 15</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>pH</td>
<td>Standard Units</td>
<td>Not &lt; 6.0 SU, Not &gt; 9.0 SU</td>
<td>7.10 – 8.00 (min-max)</td>
<td>56</td>
</tr>
</tbody>
</table>

$^{(1)}$ Units
$^{(2)}$ 2017 - 2022
$^{(4)}$ Minimum
### 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 draft 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$_5$), 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$_5$ and TSS.
**BOD\textsubscript{5}**

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 mg/L)(3.0 MGD)(8.345 conversion factor) = 751 lbs/day
- 7-day average – (45 mg/L)(3.0 MGD)(8.345 conversion factor) = 1126 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 mg/L)(3.0 MGD)(8.345 conversion factor) = 751 lbs/day
- 7-day average – (45 mg/L)(3.0 MGD)(8.345 conversion factor) = 1126 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. Dilution in the receiving water
3. Type of industry
4. History of compliance problems and toxic impacts
5. Existing data on toxic pollutants - Reasonable Potential Analysis

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

CNMI Water Quality Standards (2018) classify the waters surrounding the Agingan Wastewater Treatment Plant within a 1,000 foot radius of the outfall as 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.

Tinian Channel is not listed as impaired according to the CWA § 303(d) List of Water Quality Limited Segments because it is being addressed by an approved TMDL.

BECQ adopted the Saipan Coastal Bacteria TMDL\(^1\) in 2017 and EPA approved the TMDL in 2018. The enterococcus TMDL applies to Class A waters in Tinian Channel. The TMDL lists the following sources of bacteria into the Isley West and South Susupe Watershed which “receive loading from the wastewater treatment plant located on Point Agingan.”: sanitary sewer overflow, wastewater treatment plant, maintenance/construction runoff, road runoff, coastal zone erosion, recreational/tourist activities, and feral animals/wildlife.

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\(^1\) [https://www.deq.gov.mp/assets/wqs/saipan_final_tmdl_report.pdf](https://www.deq.gov.mp/assets/wqs/saipan_final_tmdl_report.pdf)
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 included in the 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. Those enterococcus specific wasteload allocations have been included in determining the effluent limitations for this permit; applicable dilution has also been included.

The TMDL also includes implementation actions for West Isley and South Susupe watersheds, listed below:

1. Support ongoing plans and operations for improvements to the municipal wastewater treatment plant outfall (especially regarding maintenance).
   a. Support active planning efforts to determine feasibility of increasing capacity for the treatment plant.
2. Increase access to restroom facilities and garbage bins.

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)). This discharge is in compliance with State water quality standards, so the discharge is 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 places 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.

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 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 prior permit and
this permit incorporate 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 Chronic 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 to 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 between January 2019 – 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.

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 99th percentile based on an assumed lognormal distribution of daily effluent values (sections 3.3.2 and 5.5.2 of EPA's TSD). EPA calculated the projected maximum effluent concentration for each pollutant using the following equation:

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

Where, “$C_e$” is the reported maximum effluent value and the multiplier factor is obtained from Table 3-1 of the TSD.
Table 2. Summary of Reasonable Potential Statistical Analysis:

<table>
<thead>
<tr>
<th>Parameter(1)</th>
<th>Maximum Observed Concentration</th>
<th>Parameter(1)</th>
<th>RP Multiplier</th>
<th>Projected Maximum Effluent Concentration</th>
<th>Most Stringent Water Quality Criterion</th>
<th>Most Stringent Water Quality Criterion Adjusted with Approved Dilution (288:1)</th>
<th>Statistical Reasonable Potential ?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enterococcus</td>
<td>80,653 CFU/100mL</td>
<td>56</td>
<td>2.2</td>
<td>117,436.6 CFU/100mL</td>
<td>35 CFU/100mL</td>
<td>10,080 CFU/100mL</td>
<td>Y</td>
</tr>
<tr>
<td>Total Nitrogen</td>
<td>22 mg/L</td>
<td>2</td>
<td>7.4</td>
<td>162.8 mg/L</td>
<td>0.75 mg/L</td>
<td>216 mg/L</td>
<td>N</td>
</tr>
<tr>
<td>Total Ammonia</td>
<td>2.2 mg/L</td>
<td>2</td>
<td>7.4</td>
<td>16.28 mg/L</td>
<td>0.21(2) mg/L</td>
<td>60.48 mg/L</td>
<td>N</td>
</tr>
<tr>
<td>Nitrate-Nitrogen</td>
<td>20 mg/L</td>
<td>2</td>
<td>7.4</td>
<td>148 mg/L</td>
<td>0.50 mg/L</td>
<td>144 mg/L</td>
<td>Y</td>
</tr>
<tr>
<td>Copper, total</td>
<td>20 μg/L</td>
<td>1</td>
<td>13.2</td>
<td>264 μg/L</td>
<td>3.1 μg/L</td>
<td>892.8 μg/L</td>
<td>N</td>
</tr>
<tr>
<td>Lead, total</td>
<td>5 μg/L</td>
<td>1</td>
<td>13.2</td>
<td>66 μg/L</td>
<td>8.1 μg/L</td>
<td>2333 μg/L</td>
<td>N</td>
</tr>
<tr>
<td>Nickel, total</td>
<td>50 μg/L</td>
<td>1</td>
<td>13.2</td>
<td>660 μg/L</td>
<td>8.2 μg/L</td>
<td>2,361.6 μg/L</td>
<td>N</td>
</tr>
<tr>
<td>Silver, total</td>
<td>5 μg/L</td>
<td>1</td>
<td>13.2</td>
<td>66 μg/L</td>
<td>1.9 μg/L</td>
<td>547 μg/L</td>
<td>N</td>
</tr>
<tr>
<td>Zinc, total</td>
<td>200 μg/L</td>
<td>1</td>
<td>13.2</td>
<td>2640 μg/L</td>
<td>81 μg/L</td>
<td>23,328 μg/L</td>
<td>N</td>
</tr>
<tr>
<td>Toxicity</td>
<td>Pass (0)</td>
<td>6</td>
<td>--</td>
<td>--</td>
<td>Pass (0)</td>
<td>--</td>
<td>N</td>
</tr>
</tbody>
</table>

(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.

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 weekly.

BODs, TSS, and Settleable Solids
Limits for BOD₅, TSS, and settleable solids are established for POTWs as described above and are incorporated into the permit. Under 40 CFR § 122.45(f), mass limits are also required for BOD₅ and TSS. Based on the design flow, the mass-based limits are included in the permit.

**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 (daily maximum of 15 mg/l) 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 change in the applicable WQS. Therefore, the proposed permit establishes a maximum daily effluent limitation of 37,440 CFU/100mL and retains an average monthly effluent limitation of 10,080 CFU/100mL. Monitoring is required weekly.

**Nitrate-nitrogen**

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

**Receiving Water Monitoring**

EPA has retained monthly receiving water monitoring for enterococcus, dissolved oxygen, pH, and turbidity, as well as quarterly monitoring for total nitrogen, total phosphorus, and orthophosphate in the permit.

**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-NH₃ and ionized-NH₄⁺, as N) in their renewal application. EPA used critical pH, temperature, and salinity values measured in the receiving water to convert the CNMI UIA criterion to a total ammonia criterion by 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 UIA 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 (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 have reasonable potential, so no effluent limits are established for ammonia.

Chlorine
The discharger does not currently disinfect the discharge, therefore there is no reasonable potential to exceed water quality standards for chlorine. However, if the facility does begin to disinfect, the discharge will be required to meet 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.

Due to the water quality-based effluent limitations established in the permit, the discharge is not expected to adversely affect receiving water bodies or result in any degradation of water quality.

VII. NARRATIVE WATER QUALITY-BASED EFFLUENT LIMITS

CNMI Water Quality Standards (2018) contain narrative water quality standards applicable to the receiving water. Therefore, the permit incorporates applicable narrative water quality standards.

VIII. MONITORING AND REPORTING REQUIREMENTS

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

A. Effluent Monitoring and Reporting

The permittee shall conduct effluent monitoring to evaluate compliance with the draft 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 draft permit. All monitoring data shall be reported on monthly DMRs and submitted quarterly as specified in the draft permit. All DMRs are to be submitted electronically to EPA using NetDMR.

B. Priority Toxic Pollutants Scan

A Priority Toxic Pollutants scan shall be conducted during the fourth year of the five-year permit term to ensure that the discharge does not contain toxic pollutants in concentrations that may cause a violation of water quality standards. The permittee 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 draft permit or by EPA. 40 CFR § 131.36 provides a complete list of Priority Toxic Pollutants.

C. Whole Effluent Toxicity (WET) Requirements

Aquatic life is a public resource protected in surface waters covered by the CWA. As evidence that CWA requirements protecting aquatic life from chronic and acute toxicity are met in surface waters receiving the NPDES discharge, samples are collected from the effluent and tested for toxicity in a laboratory using EPA’s WET methods. These aquatic toxicity test results are used to determine if the NPDES effluent causes toxicity to aquatic organisms. Toxicity testing is important because for scores of individual chemicals and compounds, chemical-specific environmentally protective levels for toxicity to aquatic life have not been developed, or set as water quality standards. In due course, some such chemicals and compounds can eventually make their way into effluents and their receiving surface waters. When this happens, toxicity tests of effluents can demonstrate toxicity due to present, but unknown, toxicants (including possible synergistic and additive effects), signaling a water quality problem for aquatic life.

EPA’s WET methods are systematically-designed instructions for laboratory experiments that expose sensitive life stages of a test species (e.g., fish, invertebrate, algae) to both an NPDES effluent sample and a negative control sample. During the toxicity test, each exposed test organism can show a difference in biological response; some will be undesirable differences. Examples of undesirable biological responses include, but are not limited to, eggs not fertilized, 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 level for the effluent,
which is set to protect the quality of surface waters receiving the NPDES discharge. EPA’s WET methods are specified under 40 CFR § 136 and/or in applicable water quality standards.

EPA recommends inferential statistical approaches that a permitting authority chooses from to set a protective level for toxicity in an NPDES discharge. The statistical approach chosen for this permit is based on bioequivalence hypothesis testing and is called the Test of Significant Toxicity (TST) statistical approach. It 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 (≥ 25 PE, Percent (%) Effect), 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 ≤ 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 (α) and type II (β) errors; applying power analysis to evaluate the appropriate number of replicates (n) based on a 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.

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2 Type I error (α) is the error of rejecting the null hypothesis that should have been accepted. Type II (β) error is the error of accepting the null hypothesis that should have been rejected. For toxicity tests, the true population mean (µ) 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.
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.

<table>
<thead>
<tr>
<th>Toxicity test initiation &amp; completion date</th>
<th>Test species/WET method</th>
<th>Chronic toxicity test did not reject (Fail “1”), or rejected (Pass “0”), TST null hypothesis</th>
<th>Associate d PE</th>
<th>Number of replicates (n)</th>
<th>Reasonable potential if Fail (1) or associated PE ≥ 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>9/19/2018</td>
<td>Strongylocentrotus purpuratus/Chronic Fertilization</td>
<td>Pass “0”</td>
<td>-3.22%</td>
<td>8</td>
<td>N</td>
</tr>
<tr>
<td>8/28/2019</td>
<td>Strongylocentrotus purpuratus/Chronic Fertilization</td>
<td>Pass “0”</td>
<td>1.85%</td>
<td>8</td>
<td>N</td>
</tr>
<tr>
<td>2/16/2021</td>
<td>Strongylocentrotus purpuratus/Chronic Fertilization</td>
<td>Pass “0”</td>
<td>-0.26%</td>
<td>8</td>
<td>N</td>
</tr>
<tr>
<td>8/17/2021</td>
<td>Strongylocentrotus purpuratus/Chronic Fertilization</td>
<td>Pass “0”</td>
<td>-2.41%</td>
<td>8</td>
<td>N</td>
</tr>
</tbody>
</table>

In accordance with 40 CFR § 122.44(d)(1), reasonable potential for chronic toxicity has not been established. This is because no chronic toxicity test result is Fail (1) indicating unacceptable toxicity is not present in the effluent and no associated PE (Percent (%) Effect) value is ≥ 10 indicating toxicity at a level higher than acceptable is not present in the effluent (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. 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 = [(Ve + Va) / Ve]. Following the mass balance equation, if the dilution ratio D = Qs / Qe, then [(Qe + Qs) / Qe] = 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 (H₀) is: In-stream Waste Concentration (IWC) mean response (% effluent) ≤ 0.75 Control mean response. The TST’s alternative hypothesis is
(H₀): 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 0.35% effluent.

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 ≥ 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 I sludge management facilities”, electronic reporting requirements. Permittees shall submit biosolids annual reports using EPA’s NPDES Electronic Reporting Tool (“NeT”) by February 19th 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 draft permit operate as technology-based limitations on
effluent discharges that reflect the application of Best Available Technology and Best Control Technology. Therefore, the draft permit requires that the permittee develop (or update) and implement a Pollution Prevention Plan with appropriate pollution prevention measures or BMPs designed to prevent pollutants from entering 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.

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 permittee shall also develop and update, as necessary, an 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.

E. Inspection of Outfall and Diffuser and Summary Report

This 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. It is uncertain as to when the previous inspection was completed (possibly 2010). This future inspection will concurrently assess the benthic habitat via visual observation regarding corals or fish habitat that may exist within 200 ft. radius of the outfall terminus. The summary report is due within 90 days after completing the inspection and shall also describe the permittee’s plans and timeline to address any necessary repairs and/or maintenance to the outfall pipe or diffuser system.
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 disproportionately impacted communities.

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. In addition to these permits, 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 less burdened communities.

B. Impact to Threatened and Endangered Species

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

Action Area

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 which reaches the shore at Agingan Point. Past a 600-foot radius, the effluent will be highly
diluted after mixing with the surround 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.

Environmental Baseline
The environmental baseline includes the wastewater treatment plant and its existing discharges through the outfall into Tinian Channel. The permit does not authorize the construction or expansion of the treatment facility or collection system, nor does it authorize the discharge of higher pollutant concentrations. EPA’s analyses consider the effects of continuing the discharge. The effects of the terrestrial footprint of the facility on listed species or turtle nesting is not considered in EPA’s determinations.

Listed Species Near the Action Area
On January 4, 2022, EPA contacted the National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife’s (USFWS) Pacific Islands Offices requesting a list of threatened and endangered species in the vicinity of the outfall. USFWS and NMFS responded to EPA with a list 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 this project, including: not likely to adversely affect (NLAA) and no effect (NE).

<table>
<thead>
<tr>
<th>Status</th>
<th>Species/listing Name</th>
<th>Designated Critical Habitat</th>
<th>Affect</th>
</tr>
</thead>
<tbody>
<tr>
<td>T</td>
<td>Mariana fruit bat (<em>Pteropus mariannus mariannus</em>)</td>
<td>No</td>
<td>NE</td>
</tr>
</tbody>
</table>

*ESA action area also includes the facility footprint
NPDES Permit No. MP0020028

<table>
<thead>
<tr>
<th>Status</th>
<th>Species/Listing Name</th>
<th>Designated Critical Habitat</th>
<th>Affect</th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td>Nightingale reed warbler (<em>Acrocephalus luscinia</em>)</td>
<td>No</td>
<td>NE</td>
</tr>
<tr>
<td>E</td>
<td>Mariana gray swiftlet (<em>Aerodramus vanikorensis bartschi</em>)</td>
<td>No</td>
<td>NE</td>
</tr>
<tr>
<td>E</td>
<td>Mariana common moorhen (<em>Gallinula chloropus guami</em>)</td>
<td>No</td>
<td>NE</td>
</tr>
<tr>
<td>E</td>
<td>Humped tree snail (<em>Partula gibba</em>)</td>
<td>No</td>
<td>NE</td>
</tr>
<tr>
<td>E</td>
<td>Central West Pacific green sea turtle(^1) (<em>Chelonia mydas</em>)</td>
<td>No</td>
<td>NLAA</td>
</tr>
<tr>
<td>E</td>
<td>Hawksbill sea turtle (<em>Eretmochelys imbricata</em>)</td>
<td>No</td>
<td>NLAA</td>
</tr>
<tr>
<td>T</td>
<td>Indo-West Pacific scalloped hammerhead shark (<em>Sphyrna lewini</em>)</td>
<td>No</td>
<td>NLAA</td>
</tr>
<tr>
<td>T</td>
<td>Oceanic Whitetip Shark (<em>Carcharhinus longimanus</em>)</td>
<td>No</td>
<td>NLAA</td>
</tr>
<tr>
<td>T</td>
<td>Giant Manta Ray (<em>Manta birostris</em>)</td>
<td>No</td>
<td>NLAA</td>
</tr>
<tr>
<td>T</td>
<td>Corals (<em>Acropora globiceps</em>, <em>Acropora retusa</em>, and <em>Seriatopora aculeata</em>)</td>
<td>Proposed</td>
<td>NLAA</td>
</tr>
</tbody>
</table>

\(^1\) 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 grey 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 grey swiftlets forage over a wide variety of terrain capturing insects while flying.

Mariana grey 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 grey 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.

Marine Species

Central West Pacific green sea turtle and hawksbill sea turtle

The central west pacific green sea turtle and hawksbill sea turtle have been sighted in the nearshore waters of the CNMI. Both species of turtles forage and rest in shallow waters and in coral reefs. Green turtles eat a variety of plants, invertebrates, seagrass, and marine algae. Hawksbill turtles eat a variety of sponges, sea anemones, and jellyfish. Sea turtles are threatened
by the loss of nesting and feeding habitats, excessive egg collection by humans, and illegal human take. Both turtles also suffer stranding due to entanglement, shark bites, boat strikes, and infectious disease.

The permit establishes limits that will ensure the protection of aquatic life at the outer edges of the mixing zone and beyond. 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. While specific information for the benthos of the mixing zone is not available, it is unlikely there are abundant corals in this area due to the depth of the water. Marine algae and plants may be present; however, there is no information regarding potential abundance of these organisms within the mixing zone.

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 or other sand-compacting activities.

**Indo-west Pacific scalloped hammerhead shark and oceanic whitetip shark**

The indo-west Pacific scalloped hammerhead shark and oceanic whitetip shark are pelagic species that are generally found offshore in open ocean waters. Both species are top predators and feed primarily on fish, squid, and rays. They are surface-dwelling and prefer water waters in the surface mixed layer. Threats to these species include incidental bycatch in commercial fishing and shark finning.

The permit establishes limits that will ensure the protection of aquatic life at the outer edges of the mixing zone and beyond. If a shark 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 are no known preferred habitat features within the mixing zone. EPA has determined that the action may affect, but is not likely to adversely affect the Indo-west Pacific scalloped hammerhead shark and oceanic whitetip shark.

**Giant Manta Ray**

The giant manta ray is a migratory species that makes seasonal visits to embayments and productive coastlines areas. This species utilizes sandy bottom habitat, seagrass beds, and shallow water and reefs where they eat large quantities of zooplankton. Threats to the giant manta ray include commercial fishing, with the species both targeted and caught as bycatch in fisheries throughout its range.

The permit establishes limits that will ensure the protection of aquatic life at the outer edges of the mixing zone and beyond. If a giant manta ray 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 are no known preferred habitat features within the mixing zone. EPA has determined that the action may affect, but is not likely to adversely affect the giant manta ray.

**Corals**

There are three species of corals potentially present near the action area: *Acropora globiceps*, *Acropora retusa*, and *Seriatopora aculeata*. These three coral species are stony corals, which are a type of reef building coral. They occur in shallow reef environments in the western pacific. The two species of the *Acropora* genus occur at a depth of 0-8 meters, and *Seriatopora aculeata* occurs at depths between 3-40 meters. In order to establish and thrive in an area, reef-building corals need the water temperature to be within a certain range (typically 25-30 °C), as well as hard substrate, enough light, adequate water flow, and good water quality. The main threats to these species include climate change, ocean warming, ocean acidification, disease, habitat degradation, land-based sources of pollution, unsustainable fishing, and small population size.

The permit establishes limits and receiving water monitoring that will ensure the protection of aquatic life at the outer edges of the mixing zone and beyond. Due to the depth of the outfall, it is unlikely the two species of the *Acropora* genus occur within the mixing zone. *Seriatopora aculeata* may occur within the mixing zone, but occurrence cannot be confirmed as there is minimal available information about the benthos within the mixing zone.

A 2021 scientific study[^3] 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. Concentrations of parameters in the effluent are expected to be below the listed LOAELs at the edge of the mixing zone.

Due the potential for corals be affected by the effluent within the mixing zone and the minimal information available on coral coverage within the mixing zone, EPA has determined the action may affect, but is not likely to adversely affect the three listed species of coral, *Acropora globiceps*, *Acropora retusa*, and *Seriatopora aculeata*.

NOAA Fisheries has proposed critical habitat for two of these three species in CNMI at depth of 0 – 40 meters. As of 2015, a NOAA survey of sites near Tinian Channel did not identify the presences of the three ESA listed species, although numerous other corals were observed and site conditions may have changed since that date. The definition of critical habitat includes areas occupied by the species that have essential habitat features which may require special management and are within U.S. waters. The outfall and mixing zone fall within the proposed critical habitat area, although it is unknown whether the mixing zone contains essential habitat features. The discharge may physically alter the seafloor in the mixing zone, due to solids and semi-solids that may settle, and will alter the water quality within the mixing zone. Due to the potential for essential habitat features to occur within the mixing zone, EPA has determined the discharge may affect, but is not likely to adversely affect proposed coral habitat.

**Conclusion**

[^3]: https://static1.squarespace.com/static/569b10311115e0984d208e2f/t/60f52f78a9adb72803bcee9d/1626681211455/Nalley+et+al+2021+STOTEN+Coral+pollutant+thresholds.pdf
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, humped tree snail. EPA has determined reissuance of the NPDES permit for this facility may affect, but is not likely to adversely affect Central West Pacific green sea turtle, Hawksbill sea turtle, Indo-West Pacific scalloped hammerhead shark, Oceanic Whitetip Shark, Giant Manta Ray, the three listed species of corals.

EPA will provide the USFWS and NMFS with a copy of the draft fact sheet and the draft permit and initiate informal consultation with NMFS.

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 [Date], EPA received a 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 new mandates for the National Marine Fisheries Service, regional fishery management councils and other federal agencies to identify and protect important marine and anadromous fish species and habitat. The MSA requires Federal agencies to make a determination on Federal actions that may adversely impact Essential Fish Habitat (EFH).

The Fishery Ecosystem Plan for the Pacific Remote Island Areas (hereinafter “Fishery Ecosystem Plan”)4 includes EFH and Habitat Areas of Particular Concern (HAPC) designations for the Marianas. The Fishery Ecosystem Plan designates EFH as the marine water column from the surface to a depth of 1,000 meters from the shoreline to the outer boundary of the Exclusive Economic Zone (200 nautical miles), and the seafloor from the shoreline out to a depth of 400 m around each of the Mariana Islands. This EFH is designated to support various life stages of coral, bottomfish, crustaceans, and pelagic fish.

The facility discharges into Tinian Channel through Outfall 001, located approximately 600 feet offshore and 94 feet below the surface of the water. EFH designations encompass the outfall and mixing zone; thus, the facility discharges into designated EFH.

Little is known about the habitat characteristics within the mixing zone, so it is assumed that EFH characteristics may occur within the mixing zone. 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. Outside the mixing zone, EPA has established effluent limitations to protect aquatic life and chronic toxicity to minimize adverse effects and ensure that marine species in the receiving water are protected. Additionally, the draft permit contains technology-based effluent limits and numerical and narrative water quality-based effluent limits as necessary for the protection of applicable aquatic life uses, including limiting settleable and suspended solids, nutrients and bacteria. 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 concludes the permit renewal and associated treated discharges will have no adverse effect on essential fish habitat outside the mixing zone, while there may be adverse effects to EFH within the 200-foot mixing zone. EPA will provide NMFS with a copy of the draft fact sheet and the draft permit and initiate informal consultation with NMFS.

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

For States, Territories, or Tribes with EPA approved water quality standards, on March 17, 2022 the discharger was required to seek certification from the affected State, Territory, or Tribe that the draft permit will meet all applicable water quality standards. 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. If the State, Territory, or Tribe does not respond within 60 days of March 17, 2022, it will be deemed to have waived certification.

XI. STANDARD CONDITIONS

A. Reopener Provision

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

B. Standard Provisions

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

XII. ADMINISTRATIVE INFORMATION

A. Public Notice (40 CFR § 124.10)

The public notice is the vehicle for informing all interested parties and members of the general public of the contents of a draft NPDES permit or other significant action with respect to an NPDES permit or application.
B. Public Comment Period (40 CFR § 124.10)

Notice of the draft permit will be placed in a daily or weekly newspaper in the CNMI and on the EPA website, with a minimum of 30 days provided for interested parties to respond in writing to EPA. The draft permit and fact sheet will be posted on the EPA website for the duration of the public comment period. After the closing of the public comment period, EPA is required to respond to all significant comments at the time a final permit decision is reached or at the same time a final permit is actually issued.

C. Public Hearing (40 CFR § 124.12)

A public hearing may be requested in writing by any interested party. The request should state the nature of the issues proposed to be raised during the hearing. A public hearing will be held if EPA determines there is a significant amount of interest expressed during the 30-day public comment period or when it is necessary to clarify the issues involved in the permit decision.

XIII. CONTACT INFORMATION

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

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

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


CNMI BECQ. 2022. Clean Water Act Section 401 certification letter provided to EPA via email, [pending].

CNMI BECQ. 2022. Mixing Zone approval letter provided to EPA via email, [pending].

CNMI DCRM, 2022. Coastal Zone Management Act, consistency certification letter provided to EPA via email, [pending].


