NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM FACT SHEET

Permittee and Mailing Address: Commonwealth Utilities Corporation
P.O. Box 501220
Saipan, MP 96950

Permitted Facility and Address: Sadog Tasi Wastewater Treatment Plant
Sadog Tasi Rd.
Saipan, MP 96950

Contact Person: Mr. John Riegel
Chief Engineer
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NPDES Permit No.: MP00200010

PART I. STATUS OF PERMIT

Commonwealth Utilities Corporation (hereinafter, "CUC" or the "permittee") has applied for renewal of its National Pollution Discharge Elimination System ("NPDES") permit pursuant to U.S. Environmental Protection Agency ("EPA") regulations set forth in Title 40, U.S. Code of Federal Regulations ("CFR"), Part 122.21, for the discharge of treated effluent from domestic wastewater through Saipan Lagoon outfall into Tanapag Harbor in Commonwealth of Northern Marianas Islands (CNMI). Because the CNMI Bureau of Environmental and Coastal Quality (BECQ) does not have primary regulatory responsibility for administering the NPDES permitting program, USEPA Region 9 has primary regulatory responsibility for the discharge. USEPA Region 9 is proposing to issue an NPDES permit incorporating both federal secondary treatment standards and CNMI water quality requirements.

The permittee is currently discharging to the Tanapag Harbor under the NPDES permit No. MP00200010, which became effective on July 1, 2008, and expired on June 30, 2013. Pursuant to 40 CFR 122.21, the terms of the existing permit are administratively extended until the issuance of a new permit.

PART II. Proposed permit changes – the table below provides an overview of change from the existing permit to the proposed permit.

Parameter/item	Existing Permit	Proposed Permit	Reason for Change
Toxicity	Acute toxicity – freshwater species	Chronic toxicity – marine species	Discharge into marine waters so marine species appropriate,

Parameter/item	Existing Permit	Proposed Permit	Reason for Change
Mixing zone	77:1	88:1	Pending BECQ approval
Nickel	Limit included	Limit removed	No Reasonable Potential
Enterococcus – compliance	Mean value	Geometric mean	Change in WQS
Fecal coliform	Receiving water monitoring only	Removed	Change in WQS; Maintain limit and monitoring for enterococcus
Chlorophyll a	Receiving water monitoring	Removed	Request of CUC
Receiving water monitoring	Weekly – all parameters	Monthly or Quarterly	Request of CUC
DMR submittal	Hardcopy accepted	Switch to e-reporting	EPA e-reporting Rule
Biosolids report	Hardcopy accepted	Switch to e-reporting	EPA e-reporting Rule

PART III. DESCRIPTION OF FACILITY

The permittee operates the Sadog Tasi WWTP, which overlooks Tanapag Harbor near Charlie Dock on the island of Saipan. The Sadog Tasi WWTP serves a population of approximately 20,000 people and receives entirely domestic wastewaters from a network of wastewater collection and transmission facilities known as the Central System. The WWTP also receives dairy wastes from Coca-Cola factory two to 3 times a year, septage from privately-owned septic tanks, and fats, oil and grease from various sources such as restaurant grease traps.

Sadog Tasi WWTP was originally permitted under Section 301(h) of the CWA to discharge primary treated effluent based on a treatment capacity of 1.63 MGD. However, to achieve federal secondary treatment standards for POTWs and to accommodate population growth in the service area, the facility was upgraded and expanded in 1995. The treatment plant further underwent major renovations during 2010-2011 to replace bubble diffuser system with floating mechanical aerators as well as rehabilitation of all mechanical components of the treatment system. The WWTP is currently designed to achieve secondary treatment using both physical and biological treatment processes, including influent screening, grit removal, diffuser system, aerated treatment using activated sludge, clarifiers, dewatering by belt filter press. Dried sludge cake is hauled to nearby landfill. The average flow rate reported by the permittee is 2.9 MGD.

The permittee estimates the total average daily wastewater flow from all industrial sources in the service area to less than 0.2 million gallons per day (MGD); there is likely occasional discharge of toxic/hazardous wastes into the wastewater collection system by different users.

Secondary treated wastewater is discharged through the Saipan Lagoon outfall, approximately 1,200 feet offshore into Tanapag Harbor. The outfall is a welded high density polyethylene (HDPE) pipe anchored to the bottom with concrete blocks, with the diffuser system resting on the harbor bottom at a depth of about 49 feet.

PART IV. DESCRIPTION OF RECEIVING WATER

CNMI Department of Environmental Quality ("BECQ") classifies Tanapag Harbor as a Class A marine receiving waterbody in the vicinity of Outfall 001, according to *CNMI Water Quality Standards, 2014 Revision* (Public Law 26-113, June 18, 2014). CNMI's water quality standards state that "water in this category is intended for general, commercial and industrial use, while allowing for protection of aquatic life, aesthetic enjoyment and compatible recreation with limited body contact. Specific intended uses include the following: shipping, boating and berthing, industrial cooling water, and marinas." Other uses are allowed as long as they are compatible with protection and propagation of fish, shellfish, and wildlife, and with compatible recreation with risk of water ingestion by humans.

PART V. DESCRIPTION OF DISCHARGE

A. Application Discharge Data

As part of the application for permit renewal, the permittee provided data from an analysis of the facility's treated wastewater discharge, shown in Table 1.

Table 1. Application Discharge Data (2011-2013).

Parameter	Units	Discharge Data[1]	
		Maximum Daily	Average Daily
Flow	MGD	3.2	1.58
pH	Standard Units	(min-max)	
Biochemical Oxygen Demand, 5-day (BOD_5)	mg/L	43	7
Total Suspended Solids (TSS)	mg/L	139	15
Settleable Solids	mg/L	6	1.3
Nitrogen - total[2] Based	mg/L	33.1	13.1
Nitrate - total	mg/L	13	84
Ammonia (as N)	mg/L	7.1	2.8
Phosphorus – total	mg/L	2.4	1.8
Orthophosphate	mg/L	n/r	n/r
Copper –total	ug/L	29	13.4
Nickel – total	ug/L	8.2	4.1
Silver – total	ug/L	0.21	0.02
Zinc – total	ug/L	120	43.2
Enterococcus	CFU/100 mL	24,196	11,950
Total Residual Chlorine	ug/L	n/r	n/r
Oil & Grease	ug/L	0	0

(1) Based on permittee's NPDES renewal application and supplemental data.
(2) Nitrogen total is sum of reported ammonia, kjeldahl nitrogen and nitrate+nitrite values.

B. Recent Discharge Monitoring Report (DMR) Data (2012-2015)

Table 2 provides a summary of effluent limitations and monitoring data based on the facility's most recent 4 years of DMRs as reported into EPA's ICIS data base.

Table 2. Discharge Monitoring Report Data for years 2012-2015.

Parameter	Units	Current Permit Effluent Limitations			DMR Highest Reported value
		Average Monthly	Average Weekly	Maximum Daily	
Flow Rate	MGD	Monitoring Only	--	Monitoring Only	
pH	S.U.		--		
Biochemical Oxygen Demand (5-day)	mg/L	30		45	741
	lbs/day	1201		1801	--
Total Suspended Solids	mg/L	30		45	1142
	lbs/day	1201		1801	
Settleable solids	mg/L	1		2	6
Nitrogen total	mg/L	29		58	377
Nitrite total	mg/L	19		39	197
Ammonia	mg/L	0.8		2	6
Phosphorus total	mg/L	2		4	127
Orthophosphate	mg/L	2		4	93
Copper total	ug/L	2.4		4.8	57
Nickel total	ug/L	6.7		13.4	9.7
Silver total	ug/L	0.9		1.9	1.1
Zinc total	ug/L	45		90	220
Enterococci	CFU/ 100 mL	2230		4474	24,196
Total Residual Chlorine	ug/L	6.2		12.4	n/r
oil & grease		n/a		n/a	113

(1) Discharger did not use chlorine for disinfection, therefore chlorine monitoring was not required.
(2) Oil & Grease data not reported into ICIS

C. Inspection Report

EPA issued a final Stipulated Order to Commonwealth Utility Corporation (CUC) on March 11, 2009. The Stipulated Order required CUC to update, amongst other things, the wastewater treatment Operations and Maintenance (O&M) Manual both Sadog Tasi and Agingan facilities. EPA is still communicating with each facility regarding the O&M manual.

PART VI – DETERMINATION OF NUMERIC EFFLUENT LIMITATIONS

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

A. Applicable Technology-Based Effluent Limitations

EPA developed technology-based treatment standards for municipal wastewater treatment plants in accordance with Section 301(b)(1)(B) of the Clean Water Act. 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_5 and 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)(4.8 MGD)(8.345 conversion factor) = 1202 lbs/day
7-day average – (45 mg/L)(4.8 MGD)(8.345 conversion factor) = 1803 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 Act, 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)).

Therefore, effluent limits for BOD_5 and TSS are established in the permit as stated above.

Settleable Solids

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:

30-day average - 1 ml/L
Daily maximum - 2 ml/L

Settleable solids effluent limits are also included here to provide quick and inexpensive quality control on facility operations.

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)).

Effluent limitations were established using:

1. CNMI water quality standards, revised and approved by CNMI on June 18, 2002; amended September 2004, and amended on April 2014.
2. National Recommended Water Quality Criteria, December 2013; and
3. Best Professional Judgment

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

The CNMI water quality standards (approved by CNMI BECQ in 2002, amended in 2004 and 2014) establish water quality criteria for marine waters which for the protection of designated beneficial uses. The CNMI water quality standards categorize Tanapag Harbor as Class A marine waterbody. Class A marine waters are protected for recreational and aesthetic enjoyment. Other uses are allowed as long as they are compatible with protection and propagation of fish, shellfish, and wildlife, and with compatible recreation with risk of water ingestion by humans.

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 Tanapag Harbor is not listed as impaired according to the CWA Section 303(d) List of Water Quality Limited Segments.

2. Dilution in the Receiving Water

Because the Sadog Tasi WWTP discharge is through a submerged outfall and diffuser system, initial dilution of the discharge with receiving waters is primarily controlled by the momentum and buoyancy of the freshwater effluent plume (i.e., discharge-induced mixing). A critical initial dilution value of 77:1 (expressed as parts seawater per part wastewater) was calculated for the Saipan Lagoon outfall in 2001. The 2001 mixing Zone Analysis is attached herein as Appendix B to this report. The zone of initial dilution for the outfall is 49 feet as a radius around the outfall/diffuser structure. The mixing zone approval expired in 2006. In the discharger's 2013 application, CUC indicates they have submitted requests for a new mixing zone approval representing an increase in the dilution value from 77:1 to 88:1. This proposed permit has incorporated the new dilution credit values for enterococcus and nutrients. CNMI BECQ has not determined if the mixing zone applies to other pollutants. Therefore, dilution of the effluent has been considered in the development of water quality-based effluent limits applicable to the discharge of enterococcus and nutrients.

3. 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 assuming a coefficient of variation of 0.6 and the 99 percent confidence interval of the 99th percentile based on an assumed lognormal distribution of daily effluent values (sections 3.3.2 and 5.5.2 of EPA's TSD). EPA calculated the projected maximum effluent concentration for each pollutant using the following equation:

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

Where, "C_e" is the reported maximum effluent value and the multiplier factor is obtained from Table 3-1 of the TSD. The projected maximum effluent concentration is compared directly to the applicable water quality criterion to determine the reasonable potential for effluent concentration to exceed the receiving water criterion.

Summary of Reasonable Potential Statistical Analysis:

Parameter[(1)]	**Maximum Observed Concentration**	***n***	**RP Multiplier**	**Projected Maximum Effluent Concentration**	**Most Stringent Water Quality Criterion**	**Statistical Reasonable Potential?**
Settleable solids	6 mg/L	>20	2.3	13.8	0.5 mg/L	Y
Enterococcus	24,196 CFU/100mL	>100	2.3	55,650	35 CFU/100mL	Y
Nitrogen – total	377 mg/L	>20	2.3	867	0.75 mg/L	Y
Nitrate-Nitrogen	197 mg/L	>20	2.3	453	0.5 mg/L	Y
Ammonia	6 mg/L	>20	2.3	13.8	~0.57 mg/L	Y
Phosphate - total	127 mg/L	>20	2.3	292	0.05 mg/L	Y
Orthophosphate	93 mg/L	>20	2.3	214	0.05 mg/L	Y
Oil & Grease	113	>20	2.3	260	n/a	n/a
Copper – total	57 ug/L	9	3.2	182	5.8 ug/L	Y
Nickel – total	9.7 ug/L	9	3.2	31.0	75 ug/L	N
Silver – total	1.1 ug/L	9	3.2	3.5	2.2 ug/L	Y
Zinc – total	220 ug/L	9	3.2	704	95 ug/L	Y

[(1)] For purposes of RP analysis, parameters measured as Non-Detect are considered to be zeroes. Only parameters with Maximum Observed Concentration >0 are included in this analysis.

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.

Appendix A provides example calculations for determining the numeric water quality-based effluent limits.

Flow

40 CFR 122.41(e) states that a permittee shall at all times properly operate and maintain all facilities and systems of treatment and control which are installed or used by a permittee to achieve compliance with the conditions of a permit. Operating at design capacity is critical to ensuring that a treatment system functions properly. As stated in the application, the design

capacity for Sadog Tasi is 4.8 MGD. Mass-based limits have been established for flow consistent with the design capacity of the facility.

BOD_5 and TSS

Limits for BOD_5 and TSS are established for POTWs as described in section A above and are incorporated into the permit. Under 40 CFR Section 122.45(f), mass limits are also required for BOD_5 and TSS. Based on the design flow, the mass-based limits are included in the permit.

pH

Technology-based standards for POTWs require pH limits between 6.0 and 9.0 Standard Units.

Oil & Grease

EPA considers Oil & Grease as a conventional pollutant pursuant to 304(a)(4) of the CWA and 40 CFR 401.16. The CNMI water quality standards indicates that waters shall not contain detectable as a visible film, or sheen of oil or petroleum. Effluent data was collected for Oil & Grease in the previous permit term. Monitoring is required for quarterly sampling and analysis of oil & grease in effluent.

Nitrogen – total and nitrate-nitrogen

Data shows that the discharger has the ability to exceed applicable nitrogen-total and nitrate-nitrogen standards.

The CNMI water quality standards include a Criteria Maximum Concentration ("CMC") and a Criteria Chronic Concentration ("CCC"). Since both are necessary to protect beneficial uses and the CCC is more stringent, effluent limitations have been set using CCC criteria.

The permittee is required to report maximum daily and average monthly nitrogen-total and nitrate-nitrogen concentrations.

Ammonia

Data shows that the discharger has the ability to exceed applicable ammonia standards. The CNMI water quality standards contain ammonia criteria which are pH-dependent.

The CNMI water quality standards include a Criteria Maximum Concentration ("CMC") and a Criteria Chronic Concentration ("CCC"). Since both are necessary to protect beneficial uses and the CCC is more stringent, effluent limitations have been set using CCC criteria.

The permittee is required to report maximum daily and average monthly ammonia (as N) concentrations.

Phosphorus – total and Orthophosphate

Data shows that the discharger has the ability to exceed applicable phosphorus-total and ortho-phosphate standards.

The CNMI water quality standards include a Criteria Maximum Concentration ("CMC") and a Criteria Chronic Concentration ("CCC"). Since both are necessary to protect beneficial uses and the CCC is more stringent, effluent limitations have been set using CCC criteria.

The permittee is required to report maximum daily and average monthly phosphorus-total and ortho-phosphate (as N) concentrations.

Copper, Silver, Zinc - total

Data shows that the discharger has the ability to exceed certain metal standards. The CNMI water quality standards for metals in seawater are not hardness-dependent.

The CNMI water quality standards include a Criteria Maximum Concentration ("CMC") and a Criteria Chronic Concentration ("CCC"). Since both are necessary to protect beneficial uses and the CCC is more stringent, effluent limitations have been set using CCC criteria.

The permittee is required to report maximum daily and average monthly metal-specific concentrations for copper, silver and zinc.

Enterococcus

The CNMI water quality standards establish criteria for marine waters for enterococcus. The reasonable potential analysis demonstrated a potential to exceed water quality standards for enterococcus. Therefore, limitations have been established consistent with water quality objectives for enterococcus as the representative indicator pathogen.

Chlorine

The discharger do not currently disinfect their discharge, therefore they do not have a reasonable potential to exceed water quality standards for chlorine. However, once the facility does begin to disinfect, they will be required to meet applicable chlorine criteria. The permit has carried over previous limitations for chlorine effective upon initiation of disinfection.

D. Anti-Backsliding

Section 402(o) of the CWA prohibits the renewal or reissuance of an NPDES permit that contains effluent limits less stringent than those established in the previous permit, except as provided in the statute. The permit has removed effluent limits for nickel based on no reasonable potential to exceed water quality standards. This new information provides rationale for not including effluent limits for this parameter; this is consistent with backsliding provisions within CWA Section 402(o).

E. Anti-degradation Policy

EPA's anti-degradation policy at 40 CFR 131.12 and CNMI WQS Section 5101.B. require that existing water uses and the level of water quality necessary to protect the existing uses be

maintained. As described in this document, the permit establishes effluent limits and monitoring requirements to ensure that all applicable water quality standards are met. The permit does not include a mixing zone; therefore, these limits will apply at the end of pipe without consideration of dilution in the receiving water. Due to the low levels of toxic pollutants present in the effluent, treatment prior to discharge, and water quality based effluent limitations, it is not expected that the discharge will adversely affect receiving water bodies or result in any degradation of water quality.

F. Toxicity Testing Requirement

The draft permit proposes a "no chronic toxicity" discharge trigger in 100 percent effluent where compliance is evaluated using a single-concentration toxicity test result (reported as pass/fail), rather than a multi-concentration test result (reported as a point estimate, e.g., LC_{50}). While this approach does not yield information regarding the level of toxicity present in the diluted effluent, USEPA Region 9 believes that this approach provides a reasonable balance between the need for semi-annual compliance monitoring and cost savings resulting from the use of single-concentration rather than multi-concentration testing considering the fact that the approved testing facility may be located in Hawaii or even farther away. If toxicity (as defined) is detected, then additional multi-concentration testing may be recommended by USEPA Region 9.

This permit changes toxicity testing to use of marine species since the discharge flows into Tanapag Harbor, which are marine waters. At the beginning of the permit term, the permittee is expected to perform a species sensitivity test, whereby three different trophic level species - fish, invertebrate and alga/plant are evaluated using chronic toxicity methods. Once the most sensitive marine species is identified via the sensitivity test, then permittee will continue to conduct toxicity testing using only the one most sensitive species through remainder of permit term for compliance purposes. EPA is available to provide additional technical support to the permittee to complete the species sensitivity test.

VII. NARRATIVE WATER QUALITY-BASED EFFLUENT LIMITS

Sections 5103 and 5104 of CNMI water quality standards contain narrative water quality effluent limits that apply to Class A marine waters and that are applicable to the effluent. The permit proposes narrative water quality-based effluent limits consistent with those included within the CNMI 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 proposed 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 proposed permit. All monitoring data shall be reported on monthly DMR forms and submitted quarterly as specified in the proposed permit.

Due to the nature of the discharge, the permit incorporates 8-hour composite samples for BOD and TSS samples and 24-hour composites for other parameters.

B. Priority Toxic Pollutants Scan

A Priority Toxic Pollutants scan shall be conducted during the second or third 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 proposed permit or by EPA. 40 CFR 131.36 provides a complete list of Priority Toxic Pollutants.

C. Whole Effluent Toxicity Testing

The permit establishes semi-annual tests for chronic toxicity. Chronic toxicity testing evaluates reduced growth/reproduction at 100 percent effluent. Chronic toxicity is to be reported based on the Test of Significant Toxicity ("TST").

D. Receiving Water Monitoring and Mixing Zone Study

The permit incorporates receiving water monitoring requirements for nutrients as well as the development of a mixing zone study. The discharger can use data gathered during the permit term to request a mixing zone from CNMI BECQ prior to requesting a permit revision or applying for their next permit.

The permit requires the permittee to continue to monitor for pollutants or parameters with technology-based effluent limits (i.e., oil and grease) and water quality-based effluent limits (i.e., pH) in the effluent for the duration of the permit. Pollutants or parameters with water quality-based effluent limits shall be monitored once per month with grab sampling methods.

In accordance with federal regulations, the permittee must conduct a Priority Toxics Pollutants scan once during the permit cycle, preferably prior to fourth year of permit cycle so effluent results can be reviewed prior to next permit cycle and to ensure the discharge does not contain toxic pollutants in concentrations that may cause violation of water quality standards. If the scan results indicate that a limit has actually been exceeded or there is a reasonable potential for such a limit to be exceeded, then during next cycle, this permit may include appropriate numeric limits for those parameters with exceedances.

The draft permit also requires photo documentation of the discharged effluent once per quarter. All monitoring, sampling, and analyses shall be performed as described in the most recent edition of 40 CFR 136, unless otherwise specified in the draft permit. All monitoring data must

be reported on monthly DMR forms and submitted quarterly to EPA and the CNMI Bureau of Environmental and Coastal Quality ("CNMI BECQ"), as specified in the permit.

PART IX - SPECIAL CONDITIONS

Permits issued by EPA require State review and certification under Section 401 of the Clean Water Act (CWA) ensures that the permit will comply, not only with applicable Federal standards under the CWA, but also with State water quality standards. Therefore EPA will forward this draft permit and factsheet to CNMI BECQ and request CWA Section 401(a)(1) certification.

A. CWA Section 401 certification.

As described immediately above, CNMI BECQ is authorized to issue CWA Section 401 certification related to this NPDES permit. BECQ will review the draft permit and may identify additional conditions to be added to the final permit. EPA will include these conditions in the final permit.

B. Biosolids

Standard requirements for the monitoring, reporting, recordkeeping, and handling of biosolids in accordance with 40 CFR Part 503 are incorporated into the permit.

The permittee shall submit a report to the EPA Biosolids Coordinator 60 days prior to disposal of biosolids. The report shall discuss the quantity of biosolids produced, the treatment applied to biosolids including process parameters, disposal methods, and, if land applied, analyses for Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Molybdenum, Nickel, Zinc, and Selenium, and organic-N, ammonium-N, and nitrate-N, all expressed in mg/kg biosolids on a 100% dry weight basis. The permittee shall comply with all standards for biosolids use and disposal at Section 405(d) of the CWA, and 40 CFR Parts 257, 258 and 503.

C. Pretreatment

There are no pretreatment requirements in this permit.

PART X – OTHER CONSIDERATIONS UNDER FEDERAL LAWS

A. Endangered Species Act

The discharge is inland surface waters and therefore the US Fish and Wildlife Service is the federal agency with jurisdiction over the receiving water. EPA obtained a list of threatened and endangered species from the US Fish and Wildlife Service. The list includes twelve animal species and one plant species as follows: Little Marianas Fruit Bat (*Pteropus tokudae*), Marianas Fruit Bat or Marianas Flying Fox (*Pteropus marianus marianus*), Mariana Crow (*Corvus kubaryi*), CNMI Micronesian Moorhen (*Gallinula chloropus CNMI*), CNMI Rail (*Rallus*

owstoni), Mariana Gray Swiftlet (*Aerodramus vanikorensis bartschi*), Bridled White-eye (*Zosterops conspicillatus conspicillatus*), and the Hyun Lagu (*Serianthes nelsonii*).

Within U.S. Pacific Areas, National Marine Fisheries Service (NMFS) recently identified several marine mammals, sea turtles, fish and coral species as threatened or endangered under the Endangered Species Act (NMFS update, Jan. 2015). The list includes: Blue Whale (*Balaenoptera musculu*s), Fin Whale (*Balaenoptera physalus*), Humpback whale (*Megaptera novaeangliae*), Sei whale (*Balaenoptera borealis*), Sperm whale (*Physeter macrocephalu*s), Dugong (*Dugong dugon*), Green Sea Turtle (*Chelonia mydas*), Hawksbill Sea Turtle (*Eretmochelys imbricate*), Leatherback Sea Turtle (*Dermochelys coriacea*), North Pacific Loggerhead Sea Turtle (*Caretta caretta*), Olive Ridley Turtle (*Lepidochelys olivacea*), and the Scalloped Hammerhead shark (*Sphyrna lewini*). Within CNMI waters, NOAA has confirmed three species as threatened – *Seriatopora aculeata, Acropora globiceps, and Acropora retusa*.

Of the two confirmed species of coral, only *Seriatopora aculateate* has a listed habitat depth greater than 10 meters. *Seriatopora aculateate* has a listed depth range of up to 40 meters. The Agingan outfall for the discharge is at 125 feet (about 38 meters). The 2011 NMFS Status Review Report issued prior to listing indicated that none of the proposed species is exclusive to CNMI and concluded that none of the land-based pollution sources, including treated wastewater discharges, are unlikely to produce extinction at a global scale.

Top threats to corals to corals include ocean warming, ocean acidification, dredging, coastal development, coastal point source pollution, agricultural and land use practices, disease, predation, reef fishing, aquarium trade, physical damage from boats and anchors, marine debris, and aquatic invasive species. In particular, *Seriatopora aculateate* is most susceptible to ocean warming, disease, acidification, sedimentation, nutrients, predation, and collection and trade. The proposed permit includes limitations for sediment in the form of total suspended solids. While the discharge has not demonstrated a reasonable potential for violating water quality standards for nutrients, monitoring is required for total nitrogen and total phosphorus. EPA has therefore determined the outfall may affect, but is not likely to adversely affect threatened corals in the vicinity of the outfall.

The permit is a reissuance of a permit for an existing facility. No new construction, new pipelines, land, habitat, or hydrology alterations are associated with the permit reissuance. The effluent limitations in this reissued permit are all as stringent as or more stringent than those in the previous permit. The effluent limits in the permit will not result in acute or chronic exposures to contaminants that would affect federally listed threatened and endangered species, or impair any designated critical habitat. The effluent limits and monitoring requirements in the permit are designed to be fully protective of the beneficial uses of the receiving waters.

Thus, EPA believes that this permit reissuance will not affect any federally listed threatened and endangered species under the NOAA National Marine Fisheries or US Fish and Wildlife Services jurisdictions that may be present in the area of discharge. 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.

EPA will provide both Services with copies of this fact sheet and the draft permit during the public notice period.

B. Impact to Coastal Zones

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

CNMI Department of Environmental Quality has not yet issued a CZMA consistency letter.

C. 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 (NMFS), 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) in marine environments.

The proposed permit requires compliance with CNMI water quality standards designed to be compatible with the protection and propagation of fish, shellfish, and wildlife. EPA believes that the discharge in compliance with this permit will have no adverse effect on EFH and is proposing to issue the permit at this time. EPA is however, providing NMFS with a copy of the draft permit and fact sheet in order that NMFS may review and comment on EPA's conclusion concerning the potential effects of the proposed discharges on EFH. EPA may decide that changes to the permit may be warranted based on receipt of new information that is provided to it by any persons, including the Services during the public notification process, and will consider their comments in making the final permit decision.

A reopener clause has been included in the permit should new information become available to indicated that the requirements of the permit need to be modified, such as monitoring indicating that the discharge causes or contributes to exceedances above water quality criteria or new information concerning total residual chlorine.

D. Impact to National Historic Properties

Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to consider the effect of their undertakings on historic properties either listed on, or eligible for listing on, the National Register of Historic Places. Pursuant to federal requirements of NHPA

and 36 CFR 800.3(a)(1), EPA has determined that the draft permit does not have the potential to affect any historic or cultural properties.

PART XI - ADMINISTRATIVE INFORMATION

A. Public Notice

In accordance with 40 CFR 124.10, the EPA Director shall give public notice that a draft NPDES permit has been prepared under 40 CFR 124.6(d) by mailing a copy of the notice to the permit applicant and other federal and state agencies, and through publication of a notice in a daily or weekly newspaper within the area affected by the facility.

B. Public Comment Period

EPA issued a public notice from March XX to April XX, 2016 soliciting public comment on the permit; no comments were received.

C. Public Hearing

In accordance with 40 CFR 124.12, the EPA Director shall hold a public hearing whenever she finds, on the basis of requests, a significant degree of public interest in a draft permit. The Director may also hold a public hearing when, for instance, such a hearing might clarify one or more issues involved in the permit decision. Public notice of such hearing shall be given as specified in 40 CFR 124.10.

D. Water Quality Certification Requirements

In accordance with 40 CFR 124.53, under section 401of the Act, EPA may not issue a permit until a certification is granted or waived in accordance with that section by the State or Territory in which the discharge originates or will originate. EPA shall send CNMI EPA a copy of the draft permit, a statement that EPA cannot issue or deny the permit until the Territory of CNMI has granted or denied certification under 40 CFR 124.55, or waived its right to certify, and a statement that the Territory of CNMI will be deemed to have waived its right to certify unless that right is exercised within a specified reasonable time not to exceed 60 days from the date the draft permit is mailed to CNMI EPA unless EPA Regional Administrator finds that unusual circumstances require more a longer time. Territorial certification under section 401 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.

CNMI BECQ has not yet provided 401 certification for this permit. Upon receipt, EPA will incorporate BECQ conditions into the final permit.

Appendix A. Calculations for Water quality based effluent limitations

WQBEL Calculation for Enterococci

Acute, chronic, and human health wasteload allocations (WLAs) are calculated based on applicable CNMI water quality standards, using the following steady-state mass balance equation:

$$C_e = C_r + D_c (C_r - C_b)$$
$$= WLA$$

"C_r" is the water quality criterion (in mg/l, μg/l, CFU per 100 mL or TU). "D_c" is the critical initial dilution value of 88:1 (or 88) and "C_b" is the background seawater concentration (or 0).

Using the September 2004 CNMI water quality standards for enterococci in Class A waters, the 30-day geometric mean ($C_{r\ chronic}$) is 35 CFU per 100 mL (as CFU/100 mL) and the daily maximum ($C_{r\ acute}$) is 276 CFU/100 mL.

Acute = C_e	=	$C_r + D_c (C_r - C_b)$	=	276 + 88 (276 - 0)
	=	acute WLA	=	24,564 CFU/100 mL
Chronic C_e	=	$C_r + D_c (C_r - C_b)$	=	35 + 88 (35 - 0)
	=	chronic WLA	=	3115 CFU/100 mL

Following TSD Table 5-1 for acute water quality criteria protecting aquatic life, a value of 0.321 is used as the statistical multiplier for back-calculating the acute long-term average (LTA) when the acute wasteload allocation is established at the 99th percentile occurrence probability. EPA estimates that the CV of the pollutant in the effluent is 0.6.

Acute LTA = acute WLA × *acute WLA multiplier factor*
= 24,564 x 0.321
= 7885 CFU/100 mL

Following TSD Table 5-2 for chronic water quality criteria protecting aquatic life, a value of 0.527 is used as the statistical multiplier for back-calculating the chronic long-term average when the chronic wasteload allocation is established at the 99th percentile occurrence probability and EPA estimates that the CV of the pollutant in the effluent is 0.6:

Chronic LTA = chronic WLA × *chronic WLA multiplier factor*
= 3115 × 0.527
= 1641.6 CFU/100 mL

Following TSD Section 5.4, the lowest of the acute or chronic long-term average is selected and used to calculate maximum daily and average monthly water quality-based effluent limits:

Minimum LTA = chronic LTA
= 1641.6 CFU/100 mL

If the minimum long-term average is based on a water quality criterion protecting aquatic life, then the statistical procedure outlined in TSD Table 5-2 is used to calculate maximum daily and average monthly water quality based effluent limits (WQBELs). In this procedure, EPA estimates that the CV of pollutants in the effluent is 0.6 and chooses the statistical multiplier factor of 3.11 to calculate a maximum daily water quality based effluent limit established at the 99th percentile occurrence probability:

Maximum daily WQBEL = minimum LTA × *LTA multiplier factor*
= 1641.6 x 3.11
= **5105 CFU/100 mL for enterococci**

Continuing with this procedure, EPA estimates that the CV of pollutants in the effluent is 0.6, assumes that the minimum number of effluent samples per month is four, and chooses the statistical multiplier factor of "1.55" to calculate an average monthly water quality based effluent limit established at the 95th percentile occurrence probability:

Average monthly WQBEL = minimum LTA × *LTA multiplier factor*
= 1641.6 x 1.55
= **2544 CFU/100 mL for enterococci**

WQBEL Calculation for Nutrients

Acute, chronic, and human health wasteload allocations (WLAs) are calculated based on applicable CNMI water quality standards, using the following steady-state mass balance equation:

$C_e = C_r + D_c (C_r - C_b)$
$= WLA$

"C_r" is the water quality criterion (in mg/l, μg/l, CFU per 100 mL or TU). "D_c" is the critical initial dilution value of 88:1 (or 88) and "C_b" is the background seawater concentration (or 0).

Using the September 2004 CNMI water quality standards for nitrogen -total in Class A waters is 0.75 mg/L.

Acute = C_e = $C_r + D_c (C_r - C_b)$ = 0.75 + 88 (0.75 - 0)
= acute WLA = 66.75 mg/L

Following TSD Table 5-1 for acute water quality criteria protecting aquatic life, a value of 0.321 is used as the statistical multiplier for back-calculating the acute long-term average (LTA) when the acute wasteload allocation is established at the 99th percentile occurrence probability. EPA estimates that the CV of the pollutant in the effluent is 0.6.

Acute LTA = acute WLA × *acute WLA multiplier factor*
= 66.75 x 0.321
= 21.43 mg/L

Following TSD Table 5-2 for chronic water quality criteria protecting aquatic life, a value of 0.527 is used as the statistical multiplier for back-calculating the chronic long-term average when the chronic wasteload allocation is established at the 99th percentile occurrence probability and EPA estimates that the CV of the pollutant in the effluent is 0.6:

Chronic LTA = chronic WLA × *chronic WLA multiplier factor*
= 66.75 × 0.527
= 34.8 mg/L

Following TSD Section 5.4, the lowest of the acute or chronic long-term average is selected and used to calculate maximum daily and average monthly water quality-based effluent limits:

Minimum LTA = acute LTA
= 21.43 mg/L

If the minimum long-term average is based on a water quality criterion protecting aquatic life, then the statistical procedure outlined in TSD Table 5-2 is used to calculate maximum daily and average monthly water quality based effluent limits (WQBELs). In this procedure, EPA estimates that the CV of pollutants in the effluent is 0.6 and chooses the statistical multiplier factor of 3.11 to calculate a maximum daily water quality based effluent limit established at the 99th percentile occurrence probability:

Maximum daily WQBEL = minimum LTA × *LTA multiplier factor*
= 21.43 x 3.11
= **67 mg/L for Nitrogen-total**

Continuing with this procedure, EPA estimates that the CV of pollutants in the effluent is 0.6, assumes that the minimum number of effluent samples per month is four, and chooses the statistical multiplier factor of "1.55" to calculate an average monthly water quality based effluent limit established at the 95th percentile occurrence probability:

Average monthly WQBEL = minimum LTA × *LTA multiplier factor*
= 21.43 x 1.55
= **33 mg/L for Nitrogen-total**

WQBEL Calculations for Toxic Metals

As the mixing zone for copper, silver, nickel and zinc is not authorized by CNMI BECQ, then acute, chronic, and human health wasteload allocations are calculated using the following modified steady-state mass balance equation:

$C_e = C_r = WLA$

"C_r" is the water quality criterion (in mg/l, µg/l, or TU).

Sample Step-by-Step Calculations for Copper

(1) Using the September 2004 CNMI WQS incorporating EPA's 2004 National recommended water quality criteria for copper (EPA-822-H-04-001), the saltwater acute criterion ($C_{r\ acute}$) is 4.8 µg/l, the saltwater chronic criterion ($C_{r\ chronic}$) is 3.1 µg/l, and the human health (organisms only) criterion ($C_{r\ human}$) is 1,300 µg/l.

Acute C_e = 4.8 µg/l = acute WLA

Chronic C_e = 3.1 µg/l = chronic WLA

(2) Following TSD Table 5-1 for acute water quality criteria protecting aquatic life, a value of 0.321 is used as the statistical multiplier for back-calculating the acute long-term average (LTA) when the acute wasteload allocation is established at the 99th percentile occurrence probability. EPA estimates that the coefficient of variation (CV) of the pollutant in the effluent is 0.6.

Acute LTA = acute WLA × *acute WLA multiplier factor*
= 4.8 x 0.321
= 1.54 µg/l

(3) Following TSD Table 5-2 for chronic water quality criteria protecting aquatic life, a value of 0.527 is used as the statistical multiplier for back-calculating the chronic long-term average when the chronic wasteload allocation is established at the 99th percentile occurrence probability and EPA estimates that the CV of the pollutant in the effluent is 0.6:

Chronic LTA = chronic WLA × *chronic WLA multiplier factor*
= 3.1 × 0.527
= 1.63 µg/l

(4) Following TSD Section 5.4.4 for human health water quality criteria, the human health wasteload allocation is established as the human health long-term average:

Human health LTA = human health WLA
= 1,300 µg/l

(5) Following TSD Section 5.4, the lowest of the acute, chronic or human health long-term average is selected and used to calculate maximum daily and average monthly water quality-based effluent limits:

Minimum LTA = Acute LTA

= 1.54 μg/l

(6) If the minimum long-term average is based on a water quality criterion protecting aquatic life, then the statistical procedure outlined in TSD Table 5-2 is used to calculate maximum daily and average monthly WQBELs. In this procedure, EPA estimates that the CV of pollutants in the effluent is 0.6 and chooses the statistical multiplier factor of 3.11 to calculate a maximum daily water quality-based effluent limit established at the 99th percentile occurrence probability:

Max daily WQBEL = minimum LTA × *LTA multiplier factor*
= 1.54 x 3.11
= **4.8 μg/l for copper**

(7) Continuing with this procedure, EPA estimates that the CV of pollutants in the effluent is 0.6, assumes that the minimum number of effluent samples per month is four, and chooses the statistical multiplier factor of "1.55" to calculate an average monthly water quality based effluent limit established at the 95th percentile occurrence probability:

Avg month WQBEL = minimum LTA × *LTA multiplier factor*
= 1.54 x 1.55
= **2.4 μg/l for copper**

WQBEL Calculation for Total Residual Chlorine

Under the CNMI WQS, EPA determined that no mixing zone would be authorized for chlorine. Therefore,

$C_e = C_r$
= WLA

"C_r" is the water quality criterion (in mg/l, μg/l, or TU).

Using the September 2004 CNMI water quality standards for TRC in Class A waters, the 30-day geometric mean ($C_{r\ chronic}$) is 7.5 μg/l and the daily maximum ($C_{r\ acute}$) is 13 μg/l.

Acute = C_e = 13 μg/l
= acute WLA

Chronic C_e = 7.5 μg/l
= chronic WLA

Following TSD Table 5-1 for acute water quality criteria protecting aquatic life, a value of 0.321 is used as the statistical multiplier for back-calculating the acute long-term average (LTA) when the acute wasteload allocation is established at the 99th percentile occurrence probability. EPA estimates that the CV of the pollutant in the effluent is 0.6.

Acute LTA = acute WLA × *acute WLA multiplier factor*
= 13 x 0.321
= 4.2 μg/l

Following TSD Table 5-2 for chronic water quality criteria protecting aquatic life, a value of 0.527 is used as the statistical multiplier for back-calculating the chronic long-term average when the chronic wasteload allocation is established at the 99th percentile occurrence probability and EPA estimates that the CV of the pollutant in the effluent is 0.6:

Chronic LTA = chronic WLA × *chronic WLA multiplier factor*
= 7.5 × 0.527
= 4.0 μg/l

Following TSD Section 5.4, the lowest of the acute or chronic long-term average is selected and used to calculate maximum daily and average monthly water quality-based effluent limits:

Minimum LTA = chronic LTA
= 4.0 μg/l

If the minimum long-term average is based on a water quality criterion protecting aquatic life, then the statistical procedure outlined in TSD Table 5-2 is used to calculate maximum daily and average monthly water quality based effluent limits (WQBELs). In this procedure, EPA estimates that the CV of pollutants in the effluent is 0.6 and chooses the statistical multiplier factor of 3.11 to calculate a maximum daily water quality based effluent limit established at the 99th percentile occurrence probability:

Maximum daily WQBEL = minimum LTA × *LTA multiplier factor*
= 4.0 x 3.11
= **12.44 μg/l for TRC**

Continuing with this procedure, EPA estimates that the CV of pollutants in the effluent is 0.6, assumes that the minimum number of effluent samples per month is four, and chooses the statistical multiplier factor of "1.55" to calculate an average monthly water quality based effluent limit established at the 95th percentile occurrence probability:

Average monthly WQBEL = minimum LTA × *LTA multiplier factor*
= 4.0 x 1.55
= **6.2 μg/l for TRC**