



GUAM WATERWORKS AUTHORITY

Good Water Always

578 N. Marine corps Drive, Tamuning, GU 96913-4111

Phone: (671) 647-2603 Fax: (671) 646-2335

April 19, 2016

Wil Castro
Director
Bureau of Statistics and Plans
Guam Costal Management Program
P. O. Box 2950
Hagåtña, GU 96932

VIA HAND DELIVERY AND ELECTRONIC MAIL

Subject: Federal Consistency Certification Application:
Ugum Surface Water Treatment Plant NPDES Permit Renewal for
discharge to Ugum River, Guam. NPDES Permit No. GU0020371

Bueñas yan saluda Mr. Castro,

Under Section 307 of the Coastal Management Act (CZMA), non-federal activities that are conducted under Federal licenses or permits are subject to review by the Government of Guam to insure consistency with CZMA. A proposal to renew a National Pollution Discharge Elimination System ("NPDES") permit for Guam Waterworks Authority (GWA) for the Ugum Surface Water Treatment Plan has been forwarded to Guam EPA for review and approval.

GWA certifies that the Ugum Surface Water Treatment Plant NPDES Permit Renewal for discharge to Ugum River, Guam activity complies with the enforceable policies of Guam Coastal Management Program (GCMP) and will be conducted in a manner consistent with such program.

We understand that your office may circulate this consistency certification among local government agencies that may be affected by the proposed activity. A timely response to this request for certification of compliance would be appreciated.

This request is submitted by GWA (the Applicant) in its own behalf. Please contact this writer by phone at (671)300-6885, or by e-mail at paulkemp@guamwaterworks.org if you have any questions.

Senseremente,



Paul J. Kemp

Assistant General Manager for Compliance and Safety

April 19, 2016

Date

cc:

James Paul Marincola

Water Division

USEPA Region IX

Pacific Islands Office (CMD-6)

75 Hawthorne St.

San Francisco, CA 94610

Encl: [1] Assessment Forms

[2] Project Description

[3] Summary of findings.

[4] Draft of NDPES permit.

[5] Draft of NPDES fact sheet.

GUAM COASTAL MANAGEMENT PROGRAM ASSESSMENT FORM

Date of Application: April 19, 2016

Name of Applicant: Guam Waterworks Authority

Address P.O. Box 3010
Tamuning, GU 96913-4111

Telephone No.: (671) 300-6885

Title of Proposed Project:
NPDES Permit Renewal : Ugum Surface Water Treatment Plant (SWTF)

Other applicable area(s) affected, if appropriate:

N/A

Est. Start Date: Ongoing Est. Duration: Ongoing

AGENCY REPRESENTATIVE INFORMATION

Name & Title: Becky Mitschele , Permit Writer

Agency/Organization: United States Environmental Protection Agency

Address: EPA, Region IX, WTR-2-3
75 Hawthorne St.
San Francisco, CA 94105

Telephone No. during business hours:
(415) 972-3492

Fax (415) 972 3545

Email mitschele,becky@epa.gov

CATEGORY OF APPLICATION (check one only)

☐ I Federal Agency Activity

☒ II Permit or License

☐ III Grants & Assistance

TYPE OF STATEMENT (check one only)

☒ Consistency

☐ General Consistency (Category I only)

☐ Negative Determination (Category I only)

☐ Non-Consistency (Category I only)

FEDERAL AUTHORITY FOR ACTIVITY

40 CFR 122.21

OTHER TERRITORIAL APPROVALS REQUIRED

Agency	Type of Approval	Application Date	Status
Guam EPA	401 Certification	04/10/15	Expected June 2016

COMPLETE FOLLOWING PAGES FOR BUREAU OF STATICS AND PLANS ONLY:

DATE APPLICATION RECEIVED:

OCRM NOTIFIED: _____ LC. AGENCY NOTIFIED: _____

APPLICANT NOTIFIED: _____PUBLIC NOTICE

GIVEN: _____

OTHER AGENCY REVIEW REQUESTED:

DETERMINATION: () CONSISTENT () NON-CONSISTENT () FURTHER INFORMATION REQUESTED

OCRM NOTIFIED: _____ LIC. AGENCY NOTIFIED: _____

APPLICANT NOTIFIED: _____

ACTION LOG: 1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

DATE REVIEW COMPLETED:

Project Description

The Ugum Surface Water Treatment Facility (SWTF) is the only drinking water treatment plant owned and operated by GWA. The facility is the major source of water supply for the Southern Public Water System, which serves the southern part of the island. Ugum SWTF is designed to process 4 mgd from the river, and discharges, on average 0.02 mgd back to the river over approximately 3 and half hours. (GWA 2014).

GWA upgraded the facility during 2007 to 2011 from a conventional filtration to a microfiltration system, as part of the GWA Stipulated Order for Preliminary Relief. The facility has operated solely on microfiltration since March 28, 2011. In the facility's previous design, the plant did not discharge wastewater.

The facility includes an intake structure in the river, a pumping station next to the riverbank at the intake structure, transmission lines, and a treatment plant. Raw water is pumped from Ugum River to a wetwell via pre-screens, when operational. The screens are back-flushed periodically to remove solids accumulated on the screen and discharged into the Ugum River. After screening, the raw water flows into flocculation tanks and then fed into contact tanks. Supernatant from the contact tanks is sent to membrane filters (Memcor CS System) for fine solids removal. Permeate is disinfected with chlorine prior to entering the distribution systems¹.

The membrane filters (Memcor System) require regular cleaning (i.e. membrane backwash cycle). The dirty backwash water is transferred to a recycle tank and clarifier to stabilize pH and neutralize the chlorine prior to discharging. The design capacity of the tank is 25,000 gallons, or 0.025 mgd. The facility may discharge multiple times a day if the filters are cleaned more than once per day. Filters are cleaned multiple times only after a high intensity rainfall event occurs after a prolonged dry period.

Solids are collected from the contact tanks and backwash water clarifiers and are sent to the sludge tank. Combined solids from the sludge tank are pumped into the sludge handling system. When the sludge handling system is not in operation, dewatered solids are hauled to a solids handling facility. See process flow diagram for Ugum SWTP.

The Guam Environmental Protection Agency ("GEPA") adopted water quality standards ("WQS") for different surface waterbodies, depending on the level of protection required. The WQS, revised in 2015, provides water quality criteria by surface waterbody classification. The Ugum River is located within the area classified as Category S-2, medium quality surface water(s). Category S-2 waters are used for recreational purposes, including whole body contact recreation, for use as potable water supply after adequate treatment is provided, and propagation and preservation of aquatic wildlife and aesthetic enjoyment. (GEPA 2001).

The facility discharges to the Ugum River at latitude 13° 19'74" N and 144° 44' 57" E through outfall 001, before the convergence with the Talofofu River, which flows into Talofofu Bay. This permit is a reissuance of the permit for the existing facility. No new construction, new pipelines land, habit or hydrology alternations are associated with this permit renewal.

¹ Chlorine is used in both the membrane system for clean-in-place/maintenance wash and the disinfection system before water enters the distribution system. During the dry season, pre-chlorination at the headworks also can occur.

The Ugum River is impaired due to turbidity, and in 2007, EPA approved a total maximum daily load (“TMDL”) for sediment². See section VI.B.1, Applicable Standards, Designated Uses, and Impairments of Receiving Water.

The discharge consists of clean-in-place washwater or maintenance washwater used to clean the filters. A maintenance wash occurs every 3 days and clean-in-place occurs every 2 weeks during normal operations. The frequency of the maintenance wash is designed to be a short version of the CIP cycle. The chemically treated water cleaning the filters contains sodium hypochlorite, citric acid, and sulfuric acid. The neutralization tanks use sodium hydroxide and sodium bisulfate to balance the pH and sodium meta-bisulfate to neutralize chlorine prior to discharge. The neutralized chlorine and acid wastes generated by the chemical cleaning process is discharged into the Ugum River downstream of the intake structure. general description of this facility, above, for further information.

Discharge is “batch” analyzed. If the washwater does not meet effluent limits and can’t be discharged, the washwater is pumped out by pumper trucks. The permittee then transports the washwater by tanker truck to Inarajan Wastewater Treatment Plant in Inarajan, Guam.

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. Significant changes from the previous permit term include mass effluent limits, effluent monitoring requirements, frequency of effluent monitoring for turbidity and receiving water monitoring requirements.

² The Ugum River was delisted from Guam’s 303(d) list of impaired waters because EPA approved a sediment TMDL in 2007.

Summary of Findings

This facility is subject to Guam review for consistency with the Coastal Zone Management Act. The applicant has reviewed Guam Coastal Management policies; discussion for each policy may be found below:

DEVELOPMENT POLICIES (DP):

DP1. Shore Area Development

Intent: To insure environmental and aesthetic compatibility of shore area land uses.

Policy: Only those uses shall be located within the Seashore Reserve which:

- enhance, are compatible with or do not generally detract from the surrounding coastal area's aesthetic and environmental quality and beach accessibility; or
- can demonstrate dependence on such a location and the lack of feasible alternative sites.

Discussion:

The facility is not located within the Seashore Reserve.

DP2. Urban Development

Intent: To cluster high impact uses such that coherent community design, function, infrastructure support and environmental compatibility are assured.

Policy: Commercial, multi-family, industrial and resort-hotel zone uses and uses requiring high levels of support facilities shall be concentrated within urban districts as outlined on the Land Use Districting Map.

Discussion:

The facility is not in an urban district however the infrastructure support network for the facility has already been developed and is in place.

DP3. Rural Development

Intent: To provide a development pattern compatible with environmental and infrastructure support suitability and which can permit traditional lifestyle patterns to continue to the extent practicable.

Policy: Rural districts shall be designated in which only low density residential and agricultural uses will be acceptable. Minimum lot size for these uses should be one-half acre until adequate infrastructure including functional sewer is provided.

Discussion:

The facility does not interfere with rural districts where low density residential and agricultural uses are prevalent.

DP4. Major Facility Siting

Intent: To include the national interest in analyzing the siting proposals for major utilities, fuel, and transport facilities.

Policy: In evaluating the consistency of proposed major facilities with the goals, policies, and standards of the Comprehensive Development and Coastal Management Plans, the Territory shall recognize the national interest in the siting of such facilities including those associated with electric power production and transmission, petroleum refining and transmission, port and air installations, solid waste disposal, sewage treatment and major reservoir sites.

Discussion:

The facility has already been sited. The facility was built in 1994 and is a Category S-2, medium quality surface water, as defined by the Guam Environmental Protection Agency (“GEPA”) and serves the Southern Public water system.

DP5. Hazardous Areas

Intent: Development in hazardous areas will be governed by the degree of hazard and the land use regulations.

Policy: Identified hazardous lands, including flood plains, erosion-prone areas, air installations, crash and sound zones and major fault lines shall be developed only to the extent that such development does not pose unreasonable risks to the health, safety or welfare of the people of Guam, and complies with the land use regulations.

Discussion:

The facility is not located in a hazardous area.

DP6. Housing

Intent: To promote efficient community design placed where the resources can support it.

Policy: The government shall encourage efficient design of residential areas, restrict such development in areas highly susceptible to natural and manmade hazards, and recognize the limitations of the island’s resources to support historical patterns of residential development.

Discussion:

The facility does not include or directly affect local housing.

DP7. Transportation

Intent: To provide transportation system while protecting potentially impacted resources.

Policy: The Territory shall develop an efficient and safe transportation system, while limiting adverse environmental impacts on primary aquifers, beaches, estuaries and other coastal resources.

Discussion:

The facility does not provide transportation for the Territory.

DP8. Erosion and Siltation

Intent: To control development where erosion and siltation damage is likely to occur.

Policy: Development shall be limited in areas of 15% or greater slope by requiring strict compliance with erosion, sedimentation, and land use districting guidelines, as well as other related land use standards for such areas.

Discussion:

The facility is not located on an area with a slope of 15% or greater.

RESOURCES POLICIES (RP):

RP1. Air Quality

Intent: To control activities to insure good air quality.

Policy: All activities and uses shall comply with all local air pollution regulations and all appropriate Federal air quality standards in order to ensure the maintenance of Guam's relatively high air quality.

Discussion:

No significant air pollution will be released by this facility.

RP2. Water Quality

Intent: To control activities that may degrade Guam's drinking, recreational, and ecologically sensitive waters.

Policy: Safe drinking water shall be assured and aquatic recreation sites shall be protected through the regulation of uses and discharges that pose a pollution threat to Guam's waters, particularly in estuaries, reef, and aquifer areas.

Discussion:

The facility discharges consists of clean-in-place washwater or maintenance washwater used to clean the filters. The facility discharges to Ugum River. This discharge is permitted under the NPDES program by U.S. EPA Region 9 and is required to meet permit conditions such that the

effluent from the facility will meet applicable Guam Water Quality Standards (2015). 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.

For further assessment of effluent impacts and determination of permit conditions and limits by EPA, please reference proposed NPDES permit and fact sheets (attached).

RP3. Fragile Areas

Intent: To protect significant cultural areas, and natural marine and terrestrial wildlife and plant habitats.

Policy: Development in the following types of fragile areas shall be regulated to protect their unique character:

- historical and archeological sites
- wildlife habitats
- pristine marine and terrestrial communities
- limestone forests
- mangrove stands and other wetlands

Discussion:

The facility does not interfere with any of the above areas. 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.

Bats: The facility is not located in an area designated as critical habitat for bat's food or , habitat for the Mariana Fruit Bat.

Birds: Seven Endemic Bird Species: Many of these seven bird species are known to occur in the northern part of the island, miles away from the facilities discharge. The discharge will not affect the Mariana fruit bat or the Guam Micronesian kingfisher.

The Ugum River contribute to the stagnant water in the floodplain and is one of many surface waters contributing to the floodplain. Guano of swiftlets have been found near Talofof Bay. The discharge will not affect the Mariana Common Moorhen or the Mariana Swiftlet.

RP4. Living Marine Resources

Intent: To protect marine resources in Guam's waters.

Policy: All living resources within the territorial waters of Guam, particularly corals and fish, shall be protected from over harvesting and, in the case of marine mammals, from any taking whatsoever.

Discussion:

The facility does not harvest or take any aquatic species.

Within U.S. Pacific Areas, National Marine Fisheries recently added 15 coral species as threatened under the Endangered Species Act. Specifically within Guam waters, 3 species have been

confirmed, 9 are possible and 3 are deemed unlikely. The proposed permit includes limitations for sediment in the form of total suspended solids. The discharge is also to inland water, approximately 2 miles upstream of the marine environment. Therefore, the discharge will not affect any listed marine species.

The proposed 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. The proposed permit does not directly discharge to areas of essential fish habitat. The proposed permit will not adversely affect essential fish habitat.

RP5. Visual Quality

Intent: To protect the quality of Guam's natural scenic beauty.

Policy: Preservation and enhancement of, and respect for the island's scenic resources shall be encouraged through increased enforcement of and compliance with sign, litter, zoning, subdivision, building and related land-use laws. Visually objectionable uses shall be located to the maximum extent practicable so as not to degrade significant views from scenic overlooks, highways and trails.

Discussion:

The facility does not visually interfere with scenic overlooks, highways or trails.

RP6. Recreation Areas

Intent: To encourage environmentally compatible recreational development.

Policy: The Government of Guam shall encourage development of varied types of recreational facilities located and maintained so as to be compatible with the surrounding environment and land uses, adequately serve community centers and urban areas and protect beaches and such passive recreational areas as wildlife and marine conservation areas, scenic overlooks, parks and historical sites.

Discussion:

The facility is not located on and does not interfere with Territorial recreational facilities.

RP7. Public Access

Intent: To ensure the right of public access.

Policy: The public's right of unrestricted access shall be ensured to all non-federally owned beach areas and all Territorial recreation areas, parks, scenic overlooks, designated conservation areas and their public lands; and agreements shall be encouraged with the owners of private and federal

property for the provision of releasable access to and use of resources of public nature located on such land.

Discussion:

The facility is not located on a beach area or Territorial recreational area, park, scenic overlook, designated conservation area or otherwise public land. The facility does not hinder access to recreational areas, parks or public lands. Access to the facility itself is restricted to qualified personnel to ensure public safety.

RP8. Agricultural Lands

Intent: To stop urban types of development on agricultural land.

Policy: Critical agricultural land shall be preserved and maintained for agricultural use.

Discussion:

The facility is not located on and does not interfere with agricultural land.