

GUAM ENVIRONMENTAL PROTECTION AGENCY



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P.O. BOX 22439 GMF • BARRIGADA, GUAM 96921 • TEL: 475-1658/9 • FAX: 477-9402

DEC 0 4 2009

Mr. Richard Remigio NPDES Permits Office USEPA, Region 9 75 Hawthorne Street, WRT-5 San Francisco, CA 94105

RE: Section 401 Water Quality Certification for NPDES (Permit Renewal) for Guam Waterworks Authority, Agat-Santa Rita Wastewater Treatment Plant Route 2, Gaan Point, Agat, GU 96928, NPDES No. GU 0020222 401 WOC09-07b

Dear Mr. Remigio,

The Guam Environmental Protection Agency has reviewed the above subject application for permit renewal for the common outfall discharge at 13°24'48" N, 144'38'30"E at Tipalao Bay. The Water Quality classification at this location is "M-2" (Good), supporting primary and secondary water activities which include recreational boating, fishing, swimming and SCUBA diving.

The Guam EPA endorses the NPDES permit GU 002022, which establishes more protective effluent limits and increases monitoring requirements on the discharges; however, the Agency does not approve the Guam Water Works Authority (GWA) request to increase the dilution rate for the discharge (See attached GWA request dated January 30, 2009).

The Guam Environmental Protection Agency is issuing Section 401 Water Quality Certification for NPDES Permit GU002022 renewal. Water Quality Certification conditions may be added, amended, or changed and/or Water Quality Certification suspended or revoked to ensure discharge is in compliance with Guam Water Quality Standards. Water Quality Certification conditions are as follows:

I. <u>Mixing Zone:</u>

Guam EPA has received GWA's request to increase the dilution rate from 82:1 to 115:1 ratio to meet the water quality parameter which would require the most dilution (Orthophosphate) in the permitted NPDES discharge to meet Guam Water Quality Standards.

The Agency *denies the increase dilution rate request* of 115:1 for the mixing zone. The requested dilution increase stated in GWA's January 30, 2009 letter to the Agency for Tipalao Bay would be a backsliding of Guam's anti-degradation policy 5101.B. of the Guam Water Quality Standards and contrary to the Guam Water Pollution Control Act, Chapter 47, Title 10 GCA. In the absence of an approved dilution ratio for the mixing zone, the dilution ratio shall revert to the 82:1 ratio as previously permitted.

Enterococci, Fecal Coliform continue to indicate exceedances of permitted limits. Total Chlorine Residual was excluded from the effluent discharge sampling (Discharge Monitoring Report (DMR), May 2009). In this regard, GWA should evaluate and or modify the current treatment process for bacteria or change to a completely different treatment system to comply with Guam Water Quality Standards.

As a minimum, GWA will need to provide a report to identify that portion of the parameters attributed to the Agat WWTP effluent exceedances of the permitted limits. In addition, wastewater system information required are as follows:

- a. Evaluate and assess facility's Secondary Wastewater Treatment efficiency on the discharge permitted levels.
- b. Outfall sewer line and diffusers must be assessed and evaluated. All supporting maintenance records and assessment reports will be submitted to the Agency for review.

II. Environmental Impact Statement or Environmental Assessment

As of this date the Guam EPA has not received the required supporting documentation and information regarding the continued use of the previous approved mixing zone. The documents needed to be in the form of an Environmental Impact Statement (EIS) or Environmental Assessment (EA) acceptable to the Agency addressing impacts or consequences of the effluent to receiving waters or environment (Guam Water Quality Standards 2001 Revisions, Section 5104, C, part 1).

The permittee shall be required to submit an additional EIS or EA acceptable to Guam EPA if a determination of significant non-compliance occurs three or more times over the life span of the NPDES GU0020222 permit.

The discharger shall submit the required environmental assessment for all exceedances as identified in the quarterly Discharge Monitoring Reports within an agreed time table. Failure to provide the required Environmental Assessment will suspend or void this Water Quality Certification and fines will be levied.

III. Water Quality Monitoring:

Water Quality Monitoring is encompassed in the NPDES Permit to ensure existing water uses and the level of water quality necessary to protect the existing uses be maintained. Water Quality Monitoring will be required and follow monitoring parameters set-forth in the NPDES Permit.

Water Quality Monitoring is required in the NPDES Permit to ensure existing designated uses and the level of water quality necessary to protect the existing uses be maintained. Water Quality Monitoring will follow parameters and frequency identified in the NPDES Permit GU002022 Agat-Santa Rita Wastewater Treatment Plant.

However, if any sustained or significant non- compliance water quality discharge exceedance occurs, increase frequency in water monitoring and reporting to Guam EPA will be required. These monitoring increases will be based on parameter, frequency and concentration of the exceedance.

IV. Additional Water Quality Certification Conditions:

For the purposes of this certification significant non-compliance is defined as any exceedence of effluent limitation such as metals (monthly average or daily maximum) for any four or more months during a six month period. This requirement does not relieve the permittee from taking immediate action(s) whenever there is an exceedance of a permit limitation.

- 1. The permittee shall be required to submit all the required supporting documents and information to the Agency as mentioned above.
- 2. The discharger shall submit a Mixing Zone Application with all corresponding calculations, justifications, and environmental assessment within six months of the issuance of the 401 Water Quality Certification.
- 3. The discharger will continue to monitor for the following chlorinated pesticides: DDT, DDD, DDE, Chlordane, Cis-nonachlor, Chlorbenzene, Hiptachlor, Oxychlordane, Aldrin, BHC, Dieldrin, Endrin, and Endosulfan II, as previous investigations within the receiving waters resulted in detected levels of these chemicals in fish tissue. All waters shall be maintained

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free of toxic substances in concentrations that produce contamination in harvestable aquatic life to the extent it causes detrimental physiological, acute or chronic responses in humans or protected wildlife, when consumed (Section 5103, A.,11 Toxic Substances, ii.,Guam Water Quality Standards 2001 Revision).

- 4. The DMR for the Agat-Santa Rita Outfall discharge indicate some metals concentrations exceeded permitted limits. All NPDES Water Quality Monitoring for the receiving water shall be adhered to.
- 5. Best Judgment and Management Practices shall be implemented to prevent or minimize water quality degradation.
- The discharger will take immediate corrective actions or engineering measures to address significant non-compliance with water degradation and/or environmental problems and notify the Agency within 24 hours.
- 7. The discharger will adhere to any conditions and requirements set forth by the Guam Coastal Management Program of the Bureau of Statistics and Plans.

Sincerely,

LORILEE T. CRISOSTOMO

Administrator

Attachments:

* Section 401 Water Quality Certificate

- * Guam Waterworks Authority Agat STP Discharge Monitoring Report May 2009
- * Guam Waterworks Authority Mixing Zone Request (for dilution ratio increase) January 30, 2009

CC: ACOE, Guam Office
Bureau of Statistics & Plans, GCMP
Dept. of Agriculture, DAWR
Guam Waterworks Authority





GUAM ENVIRONMENTAL PROTECTION AGENCY

Section 401 Water Quality Certification: CONDITIONAL

Section 401 Water Quality Certification for NPDES (Permit Renewal for Agat-Santa Rita Common Outfall Discharge, Guam Waterworks Authority c/o Mr. Richard Remigio, USEPA, Region 9)

The Guam Environmental Protection Agency hereby issues a CONDITIONAL Section 401 Water Quality Certification: 401WQC 09-07b in accordance with the Clean Water Act, Public Law 95-127 and the Guam Water Quality Standards 2001 Revisions (GWQS), pursuant to the Guam Water Pollution Control Act, Chapter 47, Title 10 GCA. These discharge limits are authorized under Guam's anti-degradation policy GWQS 5101.B.

This CONDITIONAL Section 401 Water Quality Certification permit is only valid until all permit conditions are met. Then a new full 401WQC will be issued and will be valid for 5 years or until the associated NPDES GU0020222 expires.

The issuance of Water Quality Certification does not exempt or waive any other local and federal requirements or allow the applicant to injure or damage surrounding properties.

No person shall willfully deface, alter, forge, counterfeit, or falsify this certification.

LORILEE T. CRISOSTOMO

Administrator

Date:



GUAM WATERWORKS AUTHORITY

Good Water Always

578 N. Marine Corps Drive, Tamuning, GU 96913-4111 Phone: (671) 647-2605 Fax: (671) 646-2335

January 30, 2009

Lorilee T. Crisostomo Guam Environmental Protection Agency P.O. Box 22439 GMF Barrigada, GU 96921

Re: Mixing Zone Request for Tipalao Bay

Dear Ms. Crisostomo,

The deep ocean outfall at Tipalao Bay discharges secondary treated effluent from the Agat and Apra Harbor Wastewater Treatment Plants into the Philippine Sea. The outfall was designed with a diffuser on the end. The depth, distance from shore and diffuser were designed to enable the effluent from these facilities to meet Guam Water Quality Standards by using a mixing zone as defined in Section 5104C of those standards.

Specifically, the diffuser was designed with two 16 inch diameter diffuser ports located 120 feet below sea level and 1800 feet from shore. The dilution factors below are extremely conservative based upon the Feasibility Study prepared by CH2MHill. A copy of this report can be provided upon request.

A highly conservative design dilution of 115:1 was developed in the Feasibility Study. This dilution factor is designed for the maximum flow of the outfall design and therefore for much higher flows that can be anticipated in the current permit cycle, and to meet the parameter requiring the most dilution (Orthophosphate) using the USEPA formula $Sa = (C_e - C_a)/(C_s C_a)$. (Upon request, GWA will provide the calculations using updated concentration data.) This means that for other parameters, much greater than required or requested dilution is provided by the outfall. GWA is requesting a dilution factor of 115:1 for the following parameters:

- Chronic toxicity
- Metals: Aluminum, Arsenic, Cadmium, Chromium, Copper, Lead, Manganese, Silver, Zinc, Iron, Nickel
- Suspended Solids
- Fecal coliform
- Enterococci
- Total Chlorine Residual
- Ammonia

GWA is formally requesting that GEPA approve a mixing zone for the above parameters. If you need any more information to support this request, please contact Senior Wastewater Engineer Julie Shane at jshane@guamwaterworks.org or 647-2612.

Regards,

Len Olive

General Manager

PERMITTEE NAME/ADDRESS (Include NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES ocility Name/Location if Different) DISCHARGE MONITORING REPORT (DMR) Form Approved. OMB No. 2040-0004 Approval expires 9-30-85 GU0020222 001 A MANIE: Guam Waterworks Authority PERMIT NUMBER DISCHARGE NUMBER ADDRESS: Agat STP P.O. Box 3010 MONITORING PERIOD Hagatna, GU 96932 YEAR MO DAY DAY YEAR MO FACILITY: Agat STP FROM 2009 TO 2009 31 LOCATION: Agat, GU 96928 NOTE: Read instructions before completing this form. PARAMETER QUANTITY OR LOADING QUANTITY OR CONCENTRATION FREQUENCY SAMPLE NO.EX OF ANALYSIS TYPE AVERAGE MAXIMUM UNITS MINIMUM AVERAGE MAXIMUM UNITS ENTEROCOCCI, SAMPLE (3Z) COLONY FORWING UNITS MEASUREMENT 133871 173287 5 4/31 DISCRETE PERMIT 61211 1 0 0 35 57 CFU/ EFFLUENT GROSS VALUE REQUIREMENT DAILY MX 100ML WEEKLY DISCRETE MO AVG COLIFORM, FECAL SAMPLE (3Z) GENERAL MEASUREMENT 4/31 DISCRETE 1715135 2419170 5 74055 1 0 0 PERMIT 200 CFU/ 400 REQUIREMENT **EFFLUENT GROSS VALUE** HI WK AV 100ML WEEKLY DISCRETE MO AVG **BOD, 5-DAY PERCENT** SAMPLE (23) REMOVAL MEASUREMENT 62% 1/31 CALCTD 81011 K 0 0 PERMIT 85 ONCE/ PERCENT REMOVAL REQUIREMENT MO AVG PERCENT MONTH CALCTD SOLIDS, SUSPENDED SAMPLE (23) REMOVAL MEASUREMENT 61% 1/31 CALCTD 31011 K 0 0 PERMIT ONCE/ 85 PERCENT REMOVAL REQUIREMENT MONTH CALCTD MO AVG PERCENT -MILINOMINA & AIMONIUM-SAMPLE (26) (28) MEASUREMENT TOTAL. 5/31 COMP24 9.80 11.29 82230 7 0 0 PERMIT REPORT REPORT LBS/ REPORT REPORT ONCE/ EFFLUENT GROSS VALUE REQUIREMENT WO AVG DAILY MX DAY MO AVG DAILY MX MG/L MONTH COMP24 SAMPLE MEASUREMENT PERMIT REQUIREMENT SAMPLE MEASUREMENT PERMIT REQUIREMENT NAME/TITLE PRINCIPAL EXECUTIVE OFFICER certify under penalty of law that this document and all attachments were prepared under my lirection or supervision in accordance with a system designed to assure that qualified personnal TELEPHONE DATE properly gather and evaluate the information submitted. Based on my inquiry of the person or LEONARD J. OLIVE, SCD. PE 2009 28 persons who manage the system, or those persons directly responsible for gathering the information, GENERAL MANAGER 671 647-2603 the Information submitted is, to the best of my knowledge and belief, true, accurate, and complete. am aware that there are significant penalties for submitting false information, including the possibility SIGNATURE OF PRINCIPAL EXECUTIVE AREA NUMBER YEAR MO DAY TYPED OR PRINTED of fine and it COMMENT AND EXPLANATION OF ANY VIOLATIONS (See O & M Report of fine and Imprisonment for knowing violations. OFFICER OR AUTHORIZED AGENT CODE MOLATIONS ENTEROCOCCI DAILY MAX (4/4) AND MONTHLY AVERAGI FECAL COLIFORM DAILY MAX (4/4) AND MONTHLY AVERAGE 07/27/2009 BOD BELOW 85% REMOVAL TSS BELOW 85% REMOVAL

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