

US EPA ARCHIVE DOCUMENT



GUAM ENVIRONMENTAL PROTECTION AGENCY



AHENSIAN PRUTEKSION LINA'LA GUAHAN

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

DEC 04 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 002022
401 WQC09-07b

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. Mixing Zone:

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 exceedance 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

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.
6. 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.

B. Dungen FOR

LORILEE T. CRISOSTOMO
Administrator

12.04.2009
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 Tupalao Bay

Dear Ms. Crisostomo,

The deep ocean outfall at Tupalao 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 $S_a = (C_c - C_a)/(C_s - C_a)$. (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

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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,

A handwritten signature in black ink, appearing to read "Len Olive", written in a cursive style.

Len Olive
General Manager

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)		NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) DISCHARGE MONITORING REPORT (DMR)							Form Approved OMB No. 2040-0004 Approval expires 9-30-05			
NAME: Guam Waterworks Authority ADDRESS: Agat STP P.O. Box 3010 Hagatna, GU 96932 FACILITY: Agat STP LOCATION: Agat, GU 96922		GU0020222 PERMIT NUMBER					001 A DISCHARGE NUMBER					
		MONITORING PERIOD										
		FROM	YEAR	MO	DAY	TO	YEAR	MO	DAY			
			2009	5	1		2009	5	31			
NOTE: Read instructions before completing this form.												
PARAMETER		QUANTITY OR LOADING			QUANTITY OR CONCENTRATION			NO.EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE		
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM				UNITS	
ENTEROCOCCI, COLONY FORMING UNITS 61211 1 0 0	SAMPLE MEASUREMENT					133871	173287	(32)	5	4/31	DISCRETE	
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT					35 MO AVG	57 DAILY MX	CFU/ 100ML		WEEKLY	DISCRETE	
COLIFORM, FECAL GENERAL 74055 1 0 0	SAMPLE MEASUREMENT					1715135	2419170	(32)	5	4/31	DISCRETE	
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT					200 MO AVG	400 HI WK AV	CFU/ 100ML		WEEKLY	DISCRETE	
BOD, 5-DAY PERCENT REMOVAL 81011 K 0 0	SAMPLE MEASUREMENT				62%			(23)	1	1/31	CALCTD	
PERCENT REMOVAL	PERMIT REQUIREMENT				85 MO AVG			PERCENT		ONCE/ MONTH	CALCTD	
SOLIDS, SUSPENDED REMOVAL 81011 K 0 0	SAMPLE MEASUREMENT				61%			(23)	1	1/31	CALCTD	
PERCENT REMOVAL	PERMIT REQUIREMENT				85 MO AVG			PERCENT		ONCE/ MONTH	CALCTD	
AMMONIA & AMMONIUM- TOTAL 82230 1 0 0	SAMPLE MEASUREMENT			(26)		9.80	11.29	(28)		5/31	COMP24	
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	REPORT MO AVG	REPORT DAILY MX	LBS/ DAY		REPORT MO AVG	REPORT DAILY MX	MG/L		ONCE/ MONTH	COMP24	
	SAMPLE MEASUREMENT											
	PERMIT REQUIREMENT											
	SAMPLE MEASUREMENT											
	PERMIT REQUIREMENT											
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.					TELEPHONE		DATE			
LEONARD J. OLIVE, SCD, PE GENERAL MANAGER							671	647-2603	2009	7	28	
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT		AREA CODE		YEAR		MO		DAY		
COMMENT AND EXPLANATION OF ANY VIOLATIONS (See O & M Report VIOLATIONS)		 07/27/2009										
ENTEROCOCCI DAILY MAX (1/4) AND MONTHLY AVERAGE FECAL COLIFORM DAILY MAX (1/4) AND MONTHLY AVERAGE BOD BELOW 85% REMOVAL TSS BELOW 85% REMOVAL												

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)		NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) DISCHARGE MONITORING REPORT (DMR)						Form Approved OMB No. 2040-0004 Approval expires 9-30-05		
NAME: Guam Waterworks Authority		GU0020222 PERMIT NUMBER			001 A DISCHARGE NUMBER					
ADDRESS: Agat STP		MONITORING PERIOD								
P.O. Box 3070		FROM			TO					
Nagaña, GU 96932		YEAR	MO	DAY	YEAR	MO	DAY			
FACILITY: Agat STP		2009	5	1	2009	5	31			
LOCATION: Agat, GU 96932		NOTE: Read instructions before completing this form.								

PARAMETER		QUANTITY OR LOADING			QUANTITY OR CONCENTRATION			NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE	
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM				UNITS
ENTEROCOCCI, COLONY FORMING UNITS 01211 1 0 0	SAMPLE MEASUREMENT					133871	173287	(32)	5	4/31	DISCRETE
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT					35 MO AVG	57 DAILY MX	CFU/ 100ML		WEEKLY	DISCRETE
GOLIFORM, FECAL GENERAL 74055 1 0 0	SAMPLE MEASUREMENT					1715135	2419170	(32)	5	4/31	DISCRETE
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EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	REPORT MO AVG	REPORT DAILY MX	LBS/ DAY		REPORT MO AVG	REPORT DAILY MX	MG/L		ONCE/ MONTH	COMP24
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I can assure that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	<i>Paul J. Kemp</i>	TELEPHONE	DATE
LEONARD J. OLIVE, SCD, PE GENERAL MANAGER			671 647-2603	2009 7 23
TYPED OR PRINTED	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR MO DAY

CORRECTION AND EXPLANATION OF ANY VIOLATIONS (See 6.5 in Report)

VIOLATIONS
ENTEROCOCCI DAILY MAX (1/4) AND MONTHLY AVERAGE
FECAL COLIFORMS DAILY MAX (1/4) AND MONTHLY AVERAGE
BOD BELOW 85% REMOVAL
TSS BELOW 85% REMOVAL

07/27/2009