UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 Broadway
New York, New York 10007-1866

FACT SHEET
FOR
DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
PERMIT TO DISCHARGE
INTO THE WATERS OF THE UNITED STATES

NPDES Permit No. PR0000591

Name and Address of Applicant:

Bacardi Corporation
P.O. Box 363549
San Juan, Puerto Rico 00936 - 3549

hereinafter referred to as "the permittee", is authorized to discharge from the following facility:

Bacardi Corporation
State Road No. 165, Km 2.6
Industrial Area
Cataño, Puerto Rico 00632

to receiving waters named:

Atlantic Ocean

Receiving Water Classification: SC

I. LOCATION OF DISCHARGE

The above named applicant has applied for a National Pollutant Discharge Elimination System (NPDES) permit, to the U.S. Environmental Protection Agency (EPA) to discharge into the designated receiving water. The location of the discharge, Outfall 001, is described by the following U.S.G.S. coordinates:

Outfall	Latitude	Longitude
001	18° 27' 59"	66º 09' 30"

A map showing the location of the facility is in Attachment I.

II. DESCRIPTION OF APPLICANT'S FACILITY AND DISCHARGE

The permittee is engaged in the production of ethyl alcohol in the form of rum (SIC No. 2085). This rum is produced by the fermentation and distillation of molasses. The facility currently operates at a maximum production rate of approximately 115,000 proof gallons per day, with an average production rate of approximately 83,600 proof gallons per day. Within the last three years the permittee has modified the production process to extract more product from the raw molasses. The operation of the plant includes periods of shutdown and start up, at intervals during the year of a few months apart. Process flow diagrams for different operational scenarios are included in Attachment I.

The Bacardi Corporation Distillery is located on the coast of San Juan Bay. Waste product generated throught the distillation of rum is treated by anaerobic digesters, designed to accommodate an average daily flow of 2 MGD and a maximum daily flow of 4 MGD. The permitted flow through the Bacardi outfall system is a daily maximum of 2 MGD. Bacardi has revised its operations since the issuance of the existing 2007 NPDES permit. Volume of production has decreased from previous levels, and the distillery operates approximately 143 days per year as opposed to year round operation. During shutdown periods, the treatment system is kept operational with minimal feed to maintain the biomass of the anaerobic treatment system. The flow during this period is significantly reduced to less than 10% of normal flow. This results in high bacterial concentration due to increased solids retention time in the anaerobic treatment units. The permittee has made several facility modifications since the last permit issuance. Additionally, the permittee has made several improvements to separate wastestreams and eliminate sources of bacterial contamination.

The flow of Bacardi discharge 001 is tied into a combined outfall which also discharges treated effluent from the Bayamón Regional Wastewater Treatment Plant (RWWTP) and the Puerto Nuevo RWWTP. The combined effluent is then discharged approximately 7,365 ft (2,246 m) from the shoreline into the Atlantic Ocean, at a location approximately 3,600 ft (1,097 m) north of Isla de Cabras, at a depth of 141 ft (43 m). The discharge is through a high-rate, Y-shaped diffuser consisting of two (2) legs that are each 1,010 ft (308 m) in length and a constant 84-inch diameter. The west leg of the diffuser has 100 bell- mouthed ports and the east leg of the diffuser has 102 bell-mouthed ports, each at 15 degrees from the horizontal. There are a total of 202 ports. On the west diffuser leg, there are 80 inshore ports that have a diameter of 6 in (15.2 cm), 19 offshore ports that have a diameter of 7 in (17.8 cm), and 1 10-inch (25.4 cm) port. On the east diffuser leg, there are 81 inshore ports that have a diameter of 6 in (15.2 cm), 20 offshore ports that have a diameter of 7 in (17.8 cm), and 1 10-inch port. The ports discharge on alternating sides of the diffuser and are evenly spaced at 10 ft (3.05 m) intervals. The diffuser is currently operated with all 202 ports open.

The outfall system is owned and operated by the Puerto Rico Aqueduct and Sewer Authority (PRASA) to dispose of treated effluents from the Bayamón and Puerto Nuevo RWWTPs. The Bayamón RWWTP and Puerto Nuevo RWWTP are municipal sewage treatment plants operated by the PRASA and their discharges are regulated by separate NPDES permits. The Atlantic

Ocean is classified as SC water in the Puerto Rico Water Quality Standards Regulation (PRWQSR), by the Environmental Quality Board (EQB) of the Commonwealth of Puerto Rico. A detailed description of the type and quantity of pollutants which are to be discharged is listed in the draft Permit.

The PRASA Bayamón and Puerto Nuevo RWWTPs have been granted a modification from secondary treatment requirements under Section 301(h) of the Clean Water Act. A renewal of this modification is included as part of the current renewal of the NPDES permits for those facilities. The EPA Tentative Decision Document for the modification of permits under Section 301(h) of the Clean Water Act is included as part of the administrative record for the draft permits for the PRASA Puerto Nuevo and Bayamón RWWTPs.

III. DESCRIPTION OF LIMITATIONS AND CONDITIONS

A brief summary of the effluent limitations, monitoring requirements and other conditions of the draft permit are described in Attachment II.

IV. COMMONWEALTH CERTIFICATION REQUIREMENTS

A copy of the Commonwealth's certification requirements, based upon a final Water Quality Certificate (WQC) issued by the EQB dated June 3, 2010, is provided in Attachment III. Review and appeals of limitations and conditions attributable to this certification shall be made through the applicable Commonwealth procedures and may not be made through EPA procedures.

V. OCEAN DISCHARGE CRITERIA

Section 403(c) of the Clean Water Act (the Act) and the Ocean Discharge Criteria regulations at 40 CFR Part 125, Subpart M (45 FR 65942, October 3, 1980) provide that no permit for a discharge to the territorial sea, the contiguous zone, or the ocean may be issued except in compliance with the Ocean Discharge Criteria in section 403(c) of the Act. Since the combined wastewater from the Bayamón and Puerto Nuevo RWWTPs and Bacardi discharges to the territorial sea (i.e., the Atlantic Ocean), compliance with Ocean Discharge Criteria has been evaluated as part of the permit renewal process.

Discharges from the combined outfall for the Bayamón and Puerto Nuevo RWWTPs and the Bacardi WWTP have been evaluated for impacts to the marine environment as part of the EPA's review of PRASA's applications for a section 301(h) modification from secondary treatment requirements for the Bayamón and Puerto Nuevo RWWTPs. Under 40 CFR 125.122(b), discharges in compliance with section 301(h) shall be presumed not to cause unreasonable degradation of the marine environment. The EPA has determined that the discharges from the combined outfall meet the requirements of section 301(h) and, therefore, has concluded that discharges from the combined outfall, including those from Bacardi, will not cause unreasonable degradation to the marine environment.

VI. WHOLE EFFLUENT TOXICITY

EPA has included requirements for both acute and chronic whole effluent toxicity testing, as well as an effluent limitation for chronic toxicity. A discussion of the basis for these requirements is included as Attachment IV.

VII. ENVIRONMENTAL JUSTICE

Environmental Justice (EJ) is the right to a safe, healthy, productive and sustainable environment for all, where "environment" is considered in its totality to include the ecological, physical, social, political, aesthetic and economic environments. The EPA has performed an EJ analysis for the Bacardi Corporation facility in accordance with the President's Executive Order 12898 entitled "Federal Actions to Address Environmental Justice in Minority Population and Low-Income Populations" and its regional Interim Policy for Environmental Justice. Since the Bacardi WWTP and Bayamón RWWTP share an outfall and the Community of Concern (COC), Municipality of Cataño, the EPA has prepared an EJ analysis that includes both facilities. The EPA has prepared a separate EJ analysis for the Puerto Nuevo RWWTP service area because it is in a different COC. The EJ analyses are part of the Administrative Record and are available for review upon request.

In the EJ analysis, the EPA determined that the Municipality of Cataño is an EJ community based on demographic and income information that demonstrated that the average poverty level in the Cataño exceeds the threshold average for Puerto Rico, as established in EPA Region 2's Interim Policy for Environmental Justice. In addition, the EPA determined that the potential exists for a disproportionate and/or adverse environmental burden in the Municipality of Cataño based on a higher number of facilities in Cataño that are listed in the EPA environmental databases for toxic releases than the average number of facilities island-wide. In the NPDES permitting program, the public participation process provides opportunities to address EJ concerns by providing appropriate avenues for public participation, seeking out and facilitating involvement of those potentially affected, and including public notices in more than one language where appropriate. The EPA is committed to taking all necessary actions to minimize potential adverse impacts to the Municipality of Cataño from Bacardi RWWTP. The EPA has prepared a public notice for comment on the draft permit in both English and Spanish, and will address any EJ concerns that arise during the public comment period.

VIII. PROCEDURES FOR REACHING A FINAL DECISION ON THE DRAFT PERMIT

Procedures for reaching a final decision on the permit are set forth in 40 CFR Part 124 and described in the public notice of the preparation of the draft permit. Included in the public notice are requirements for the submission of comments by a specified date, procedures for requesting a hearing and the nature of the hearing, and other procedures for participation in the final agency decision.

IX. ENDANGERED SPECIES ACT CONSULTATION

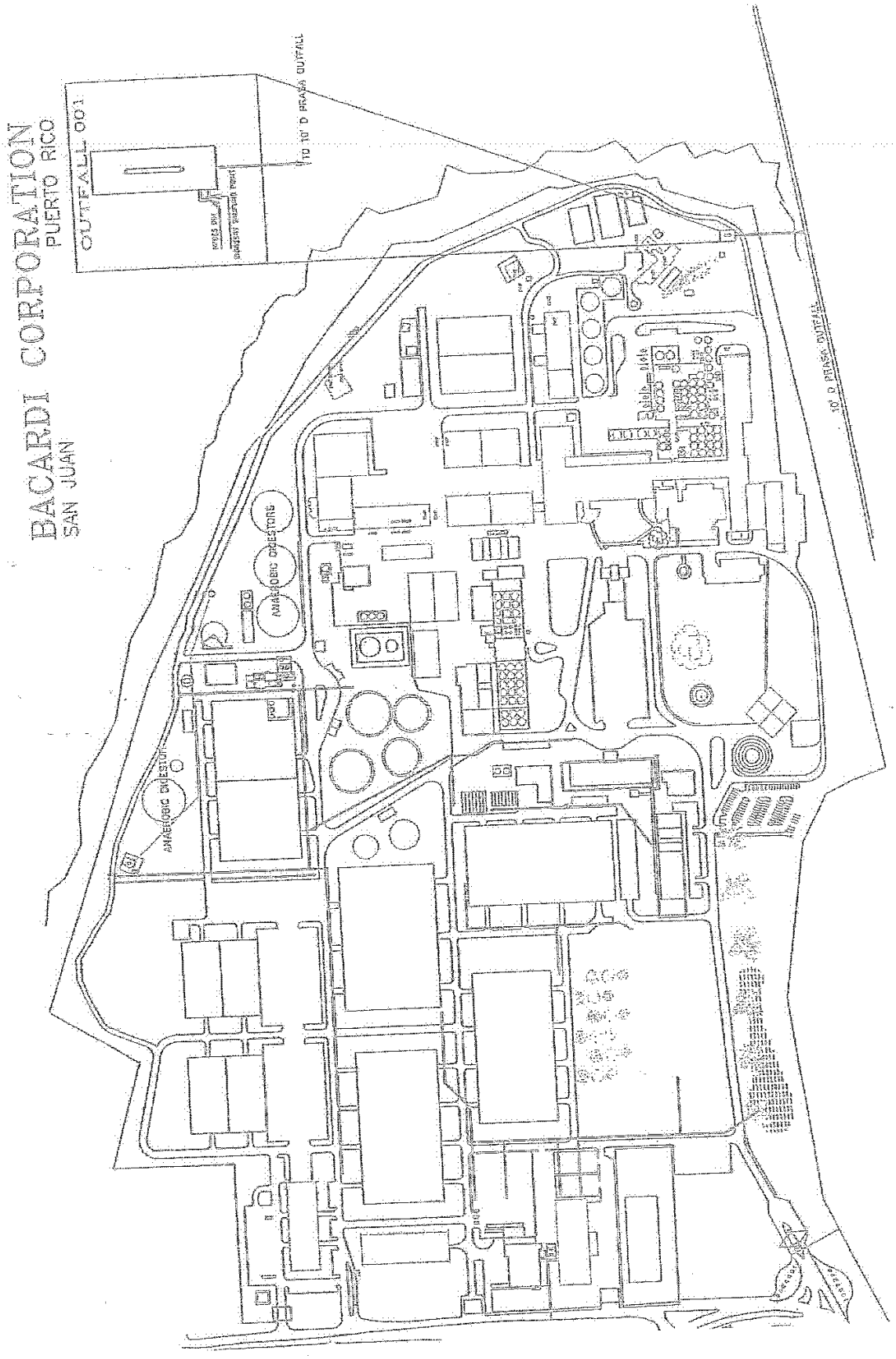
EPA Region 2 provides the U.S. Fish and Wildlife Service and the National Marine Fisheries Service of the National Oceanic and Atmospheric Administration an opportunity to comment on the draft NPDES permit. Additionally, an Endangered Species Act consultation with these services is conducted by PRASA for the combined outfall. EPA Region 2 has included a reopener clause in the permit to allow for the permit to be reopened in the event that consultation leads to permit requirements to protect threatened or endangered species.

X. EPA CONTACT

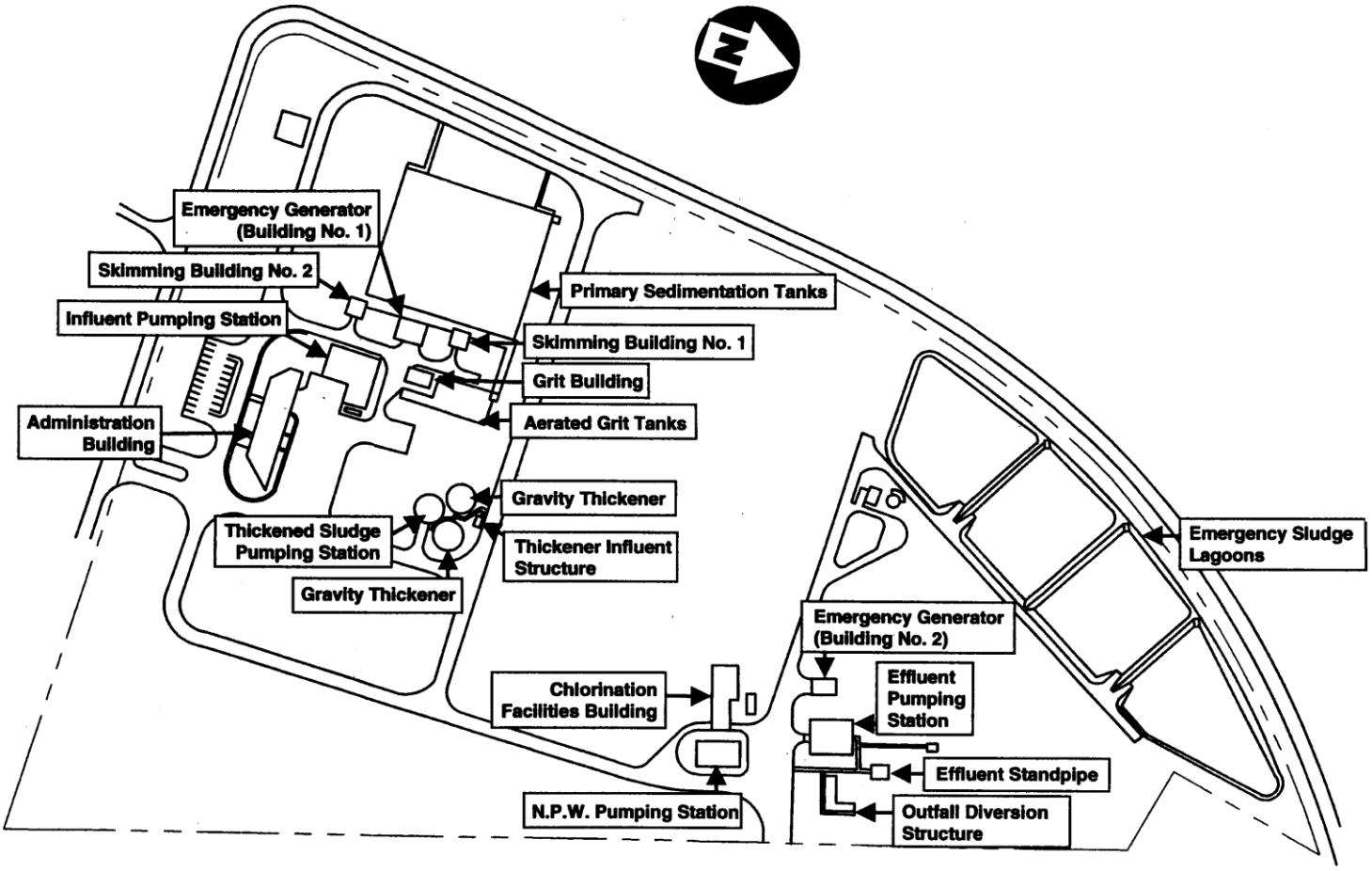
Additional information concerning the draft permit may be obtained between the hours of 8:00 A.M. and 4:30 P.M., Monday through Friday from the permit writer:

Ms. Karen O'Brien, P.E.
National Pollutant Discharge Elimination System Section
U.S. Environmental Protection Agency, Region 2
290 Broadway, 24th Floor
New York, New York 10007-1866
(212) 637-3754

ATTACHMENT 1: SITE LOCATION AND PROCESS DIAGRAMS



ATTACHMENT 1: SITE LOCATION AND PROCESS DIAGRAMS



ATTACHMENT 1: SITE LOCATION AND PROCESS DIAGRAMS

ATTACHMENT II

DESCRIPTION OF LIMITATIONS AND CONDITIONS

The effluent limitations, monitoring requirements, and other conditions of this permit are described in the draft permit. The effluent limitations in the permit are equivalent to the most stringent values specified in the applicable technology based guidelines or water quality based limitations. The anti-backsliding decisions are made in accordance with EPA Region 2 Antibacksliding Policy and the provisions of Clean Water Act §402(o).

Water Quality-Based Limits

Bacardi Discharge Outfall 001: Treated process, sanitary, utility, and miscellaneous wastewater.

EPA has based the water quality-based limitations for this permit on the final Water Quality Certificate (WQC) issued by the Puerto Rico Environmental Quality Board (EQB), dated June 3, 2010, pursuant to Section 401(d) of the Clean Water Act. Pursuant to the Water Quality Certification, EPA has established effluent limitations for the following parameters at Bacardi facility Outfall 001: Biochemical Oxygen Demand (BOD_5); Cadmium; Color; Copper; Dissolved Oxygen; Enterococci; Fecal Coliforms; Flow; Lead; Mercury; Nickel; Nitrogen; Oil and Grease; pH; Radioactive Materials; Silver; Solids and Other Matter; Sulfide (undissociated H_2S); Surfactants as Methylene Blue Activate Substances (MBAS); Suspended, Colloidal or Settleable Solids; Taste and Odor Producing Substances; Temperature; Thallium; Turbidity; and Zinc.

The permittee, in a joint request with the Puerto Rico Aqueduct and Sewer Authority (PRASA), requested a mixing zone for the combined discharge for the Bacardi and PRASA Puerto Nuevo RWWTP and Bayamón RWWTP. As part of the Water Quality Certification, EQB has defined a mixing zone for the following parameters: Cadmium, Color, Copper, Free Cyanide, Dissolved Oxygen, Enterococci, Fecal Coliforms, Lead, Mercury, Nickel, Nitrogen , pH, Silver, Sulfide, Surfactants, Temperature, Thallium, Turbidity, and Zinc.

Water quality-based effluent limitations included in the WQC incorporate the revised Critical Initial Dilution (CID) factor of one hundred and two (102) that was presented in the Mixing Zone Application for the Bayamón/Puerto Nuevo Regional Wastewater Treatment Plants and Bacardi Corporation Wastewater Treatment Plant Outfall System (January 2010). Where there are instances of a less stringent water quality based limitation than in the previous permit, it is the result of a calculation based on the approved mixing zone and the allowable discharge that will not cause or contribute to a violation of water quality standards at the edge of the mixing zone. Clean Water Act §402(o) and EPA Region 2 Antibacksliding Policy allow relaxation of effluent limitations if new information is available that was not available at the time of issuance for the previous permit. The final water quality certificate issued by the EQB on June 3, 2010 includes a bacterial mixing zone for fecal coliform and enterococcus, based on the January 2010 mixing zone application referenced above, which included new data,

calculations, and improvements to the facility to address sources of the bacteria. As such information was not available at the time of the last permit issuance, and EPA is only relaxing limits to the level of existing effluent quality, the relaxation of bacterial limits is consistant with EPA Region 2 Antibacksliding Policy.

EPA may impose more stringent limitations and conditions, as well as include clarifying addendums to the EQB WQC. Such cases are noted below.

Suspended, Colloidal, or Settleable Solids

A footnote (#) was added in Table A-1 under the parameter Suspended, Colloidal, or Settleable Solids to clarify that testing for these parameters should be conducted for Settleable Solids.

Special Condition 5: Sulfide (Undissociated H_2S)

The Final WQC issued by EQB includes an effluent limitation and monitoring requirement for sulfide (undissociated H_2S). The Final WQC does not specify an analytical method for sulfide (as undissociated H_2S) in Special Condition No. 5 of the WQC, only that an approved EPA analytical method must be utilized that achieves the lowest possible detection level. EPA has included footnote "@" for sulfide in Table A.1 of the draft permit which specifies the methodology that must be used for calculating undissociated H_2S from the dissolved Sulfide concentration and clarification to Special Condition No. 5 for reporting sulfide (undissociated H_2S) concentrations when sample results are below detection limits.

Bacterial Limitations

EPA has retained the interim limitations for bacterial parameters (Enterococci, Fecal Coliforms) that are currently applicable to the discharge based on existing effluent quality limits proposed in the draft 2011 EPA and Bacardi Corporation Consent Decree modification to the 2008 Consent Decree with the Bacardi Corporation (*U.S. v Bacardi Corporation*, Civil Action No. 3:08-cv-1825).

These limitations are more stringent than those included as part of the EQB WQC. These limitations are achievable by the permittee during normal operational conditions. While EPA notes the mixing zone approved in the EQB water quality certificate dated June 3, 2010, publicly owned treatment works (POTWs) and industrial facilities should be held to the level of discharge achievable through treatment rather than assume all assimilative capacity of the receiving water, particularly for bacterial parameters.

Given the difficulty the permittee has encountered with bacterial levels when resuming operations following periods of shutdown, EPA proposes to apply the higher EQB limitations solely for the three week period following start-up of operations. Due to the variability in operations, EPA has included a weekly sampling requirement for fecal coliform and enterococcus, which is more frequent than the monthly sampling included in the EQB water quality certificate.

Whole Effluent Toxicity

EPA has included an effluent limitation for Whole Effluent Toxicity (WET) for the combined discharge of the Bacardi, and PRASA Bayamón RWWTP and Puerto Nuevo RWWTP. WET monitoring requirements have also been included for the combined discharge and the discharge 001 from the Bacardi facility. Similar monitoring requirements have been incorporated into the NPDES permits for the PRASA Bayamón RWWTP and Puerto Nuevo RWWTP. A detailed discussion of WET requirements is included as Attachment IV to this fact sheet.

Technology-Based Limits

Discharge Outfall 002:
The limitations for mass loading of BOD_5 and TSS from the previous permit have been retained. For BOD Percent Removal, EPA calculated the percentage remaining from the percentage removed (100 - % removal), and performed an EEQ analysis on those results. This resulted in a 95th Percentile EEQ value for Monthly Average Percent Removal BOD of **71.7%**.

EPA has also retained the Quarterly Average Percent Removal requirement, based on weekly sampling results. The averaging over a quarter of weekly results will reduce the impact of the retention time lag in comparing influent to effluent results. EPA has retained the minimum quarterly average limit of **70%**. Falling below this minimum value will trigger a requirement to demonstrate to EPA that the lower percentage removal observed was due solely to lower loading amounts flowing into the anaerobic treatment system.

Discharge Outfall 003:

BOD_5 - The 30-day average effluent limitation and the 30-day average percent removal limitation in the draft permit are technology based BCT (Best Conventional Pollutant Control Technology) limits based on Best Professional Judgement (BPJ) using the Effluent Limitations Guidelines (ELG) for secondary treatment described in 40 CFR §133.102(a)(1) and (3), respectively. These limitations are equal to or more stringent than the existing NPDES permit in accordance with the antibacksliding requirements in 40 CFR § 122.44(l). Both the 30-day average limit and the daily maximum limit are included to ensure compliance with secondary treatment requirements.

Total Suspended Solids - The 30-day average and 7-day average effluent limitations and the 30-day average percent removal limitation are technology based BCT (Best Conventional Pollutant Control Technology) limits based on Best Professional Judgement (BPJ) using the Effluent Limitations Guidelines (ELG) for secondary

treatment described in 40 CFR § 133.102(b)(1) and (3), respectively. These limitations are equal to or more stringent than the existing NPDES permit in accordance with the antibacksliding requirements in 40 CFR § 122.44(l).

Permit Expiration: This permit is being issued for a term of five years.

General Conditions: These conditions apply to all permits as required by 40 CFR Part 122.41.

ATTACHMENT III

RETURN RECEIPT REQUESTED

June 3, 2010

Julio Torreulla, P.E.
Environmental and Safety Director
Bacardí Corporation
P.O. Box 363549
San Juan, Puerto Rico 00936-3549

Dear engineer Torruella:

Re: Modified Water Quality Certificate
and Authorize an Interim Mixing Zone (IMZ)
Bacardí Corporation
State Road No. 165, Km. 2.6
Industrial Area
Cataño, Puerto Rico
NPDES No. PR0000591

We have received and reviewed the application for a permit under Section 402, National Pollutant Discharge Elimination System (NPDES), of the Federal Clean Water Act, as amended (33 U.S.C. 466 *et seq.)* (the Act) for the referenced facility.

Pursuant to Section 401 (a) (1) of the Act, after due consideration of the applicable provisions established in the Puerto Rico Water Quality Standards Regulation (PRWQSR), as amended and in Sections 208(e), 301, 302, 303, 304(e), 306 and 307 of the Act, it is certified that there is reasonable assurance as determined by the Environmental Quality Board (EQB) that the allowed discharge will not cause violations to the applicable water quality standards at the receiving water body if the limitations and monitoring requirements on Table A-1 are met.

The conditions specified in the aforementioned table shall be incorporated into the NPDES permit in order to satisfy the provisions of Section 301 (b) (1) (C) of the Act.

If you have any objection to the Water Quality Certificate (WQC), you have the right to request reconsideration to the EQB within the statutory period (twenty (20) calendar days from the date that the WQC is received).

The EQB reserves the right to comment at a later date concerning other environmental aspects of the discharge.

Angel O. Berrios Silvestre, P.E.
Associate Member

Wanda E. García Hernández
Alternate Member

Pedro J. Nieves Miranda, Esq.
Chairman

c: Ms. Michelle Josilo, EPA-Region 2

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SPECIAL CONDITIONS

NPDES No. PR0000591

These special conditions are an integral part of the Water Quality Certificate (WQC) and shall be incorporated into the NPDES permit in order to satisfy the provisions of Section 301(b)(1)(C) of the Federal Clean Water Act (CWA) as amended (33 U.S.C. 466 et. seq.):

1. The flow of discharge 001 shall not exceed the limitation of 7,570.80 m^3/day (2.0 MGD) as daily maximum. No increase in flow shall be authorized without a recertification from the Puerto Rico Environmental Quality Board (EQB). [1,4,5]

2. No toxic substances shall be discharged, in toxic concentrations, other than those allowed as specified in the NPDES permit. Those toxic substances included in the Permit Renewal Application, but not regulated by the permit, shall not exceed those concentrations as specified in the applicable regulatory limitations. [1,2]

3. The samples taken for the analysis of cyanide and mercury shall be analyzed using the analytic method approved by the Environmental Protection Agency (EPA) with the lowest possible detection level, in accordance with Section 6.2.3 of the Puerto Rico Water Quality Standards Regulation (PRWQSR), as amended. [4]

4. All sample collection, preservation, and analysis shall be carried out in accordance with the Code of Federal Regulation (CFR) Number 40, Part 136. A licensed chemist authorized to practice the profession in Puerto Rico shall certify all chemical analyses. All bacteriological tests shall be certified by a licensed microbiologist or a medical technician authorized to practice the profession in Puerto Rico. [1,3]

5. The permitee shall use the approved EPA analytical method, with the lowest possible detection limit, in accordance with 40 CFR Part 136 for Sulfide (as S). Also, the permitee shall complete the calculations specified in Method 4500-S^{-2} F, Calculation of Un-ionized Hydrogen Sulfide, of Standards Methods 18th Edition, 1992, to determine the concentration of undissociated H_2S. If the sample results of Dissolved Sulfide are below the detection limit of the approved EPA method established in the 40 CFR Part 136, then, the concentration of undissociated H_2S should be reported as "below detection limit". [2,3]

6. The solid wastes (sludge, screenings and grit) generated due to the treatment system operation shall be:

a. Disposed in compliance with the applicable requirements established in the 40 CFR, Part 257. A semiannual report shall be submitted to EQB and EPA notifying the method or methods used to dispose the solid wastes generated in the facility. Also, copy of the approval or permit applicable to the disposal method used shall be submitted, if any.

b. Transported adequately in such way that access is not gained to any body of water or soil. In the event of a spill of solid waste on land or into a body of water, the permittee shall notify the Point Sources Permits Division of EQB's Water Quality Area in the following manners:

1) By telephone communication within a term no longer than twenty four (24) hours after the spill (787) 767-8073.

2) By letter, within a term no longer than five (5) days after the spill.

These notifications shall include the following information:

a) Spill material
b) Spill volume
c) Measures taken to prevent the spill material to gain access to any body of water

This special condition does not relieve the permittee from its responsibility to obtain the corresponding permits from the EQB's Solids Wastes Program and other state and federal agencies, if any. [4,6]

7. A log book should be kept for the material removed from the treatment system, such as sludge, screenings and grit, detailing the following items:

a. Removed material, date and source of it.
b. Approximate volume and weight.
c. Method by which it is removed and transported.
d. Final disposal and location.
e. Person that offers the service.

A copy of the Non-Hazardous Solid Waste Collection and Transportation Service Permit issued by the authorized official from the EQB should be attached to the log book. [3]

8. The sludge produced within the facility due to the operation of the treatment system shall be analyzed and all constituents shall be identified as required by "Standards for the Use or Disposal of Sewage Sludge" (CFR Number 40, Part 503). The sludge shall be disposed properly in such manner that water pollution or other adverse effects to surface waters or to ground water do not occur. [4,6]

9. If any standard or prohibition to the sanitary sludge disposal is promulgated and said prohibition or standard is more stringent than any condition, restriction, prohibition or standard contained in the NPDES permit, such permit shall be modified accordingly or revoked and reissued to be adjusted with regard to such prohibition or standard. [6]

10. No changes in the design or capacity of the treatment system will be permitted without the previous authorization of EQB. [5]

11. Prior to the construction of any additional treatment systems or prior to the modification of the existing one, the permittee shall obtain the approval of the engineering report, plans and specifications from EQB. [5]

12. The permittee shall install, maintain and operate all water pollution control equipment in such manner as to be in compliance with the applicable Rules and Regulations. [1,4]

13. The flow measurement device for the discharge 001 shall be periodically calibrated and properly maintained. Calibration and maintenance records must be kept in compliance with the applicable Rules and Regulations. [4,5]

14. The sampling point for discharge 001 shall be located immediately after the primary flow measuring device of the effluent of facility.

15. The sampling point for discharge 001 shall be labeled with a 18 inches x 12 inches (minimum dimensions) sign that reads as follows:

"PUNTO DE MUESTREO PARA LA DESCARGA 001"

16. All water or wastewater treatment facilities, whether publicly or privately owned, must be operated by a person licensed by the Potable Water and Wastewater Treatment Plants Operators Examining Board of the Commonwealth of Puerto Rico. [4]

17. The EQB has defined and authorized a Mixing Zone (MZ) pursuant to Article 5 of the PRWQSR. [3]

a. The MZ is delineated by the following points (See Diagram-I):

	Geographic Coordinates *
Point 1	Lat. 18º 29.181' Long. 66º 08.518'
Point 2	Lat. 18º 29.202' Long. 66º 08.503'
Point 3	Lat. 18º 29.100 Long. 66º 08.340'
Point 4	Lat. 18º 29.097' Long. 66º 08.150'
Point 5	Lat. 18º 29.072' Long. 66º 08.150'
Point 6	Lat. 18º 29.075' Long. 66º 08.348'

* NAD 83 State Plane Coordinates

The diffuser configuration is a one hundred twenty (120) degree "Y" type consisting of two (2) legs of one thousand ten (1,010) feet long and a constant diameter of eighty four (84) inches. A total of one hundred two (102) ports along each diffuser's leg shall be opened. There are twenty (20) ports of seven (7) inches at the end of each diffuser's leg and eighty two (82) ports of six (6) inches between the "Y" split and the larger ports at the end of each diffuser's leg. The ports discharge in alternate directions at a constant spacing of ten (10) feet.

b. The MZ is defined for the following parameters:

Parameter	**Daily Maximum Discharge Limitation at Outfall Serial Number 001**	**Daily Maximum Limitation at the Borders of the MZ**
Cadmium (Cd) (µg/l)	30.90	8.85
Color (Pt-Co)	84,000	Ω
Copper (Cu) (µg/l)	3,293	3.73
Cyanide, Free (CN) (µg/l)	47	1.0
Dissolved Oxygen (mg/l)	Monitoring Only	≥4.0
Enterococci (col/100 ml)	382,602 ‡	*
Fecal Coliforms (col/100 ml)	803,378 ‡	**
Lead (Pb) (µg/l)	60.8	8.52
Mercury (Hg) (µg/l)	0.68	0.051
Nickel (Ni) (µg/l)	412	8.28
Nitrogen (NO_2, NO_3, NH_3) (mg/l)	847.700	5.000
pH (SU)	6.0 - 9.0	7.3 - 8.5
Silver (Ag) (µg/l)	30.4	2.24
Sulfide (µg/l) (undissociated H_2S)	89,007	2
Surfactants (MBAS) (µg/l)	1,494	500
Temperature °F (°C)	107.6 (42)	δ
Thallium (TI) (µg/l)	45.8	0.47
Turbidity (NTU)	9,244	10
Zinc (Zn) (µg/l)	3,213.00	85.62

‡ The geometric mean of a series of representative samples (at least five samples) of the water taken sequentially in a given instance.

* The enterococci density in terms of geometric mean of at least 5 representative samples taken sequentially shall not exceed 35/100 ml. No single sample should exceed the upper confidence limit of 75%

Ω The color at the edge of the mixing zone shall not exceed the color of the receiving water body.
δ No heat may be added to the waters of Puerto Rico, which would cause the temperature of any site to exceed 90°F (32.2°C).

using 0.7 as the log standard deviation until sufficient site data exist to establish a site-specific log standard deviation.

** The Fecal Coliforms geometric mean of a series of representative samples (at least five samples) of the water taken sequentially in a given instance shall not exceed 200 colonies/100 ml. Not more than 20 percent of the samples shall exceed 400 colonies/100 ml.

c. The permittee shall conduct annually definitive acute and chronic toxicity tests using the organisms Mysidopsis bahia, Cyprinodon variegatus and Arbacia punctulata for the wastewater discharge identified as 001.

d. The toxicity test shall be conducted according to the most recent editions of the following publications of EPA:

1) *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, (EPA-821-R-02-012) Fifth Edition, October 2002.

2) *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms*, (EPA-821-R-02-013) Fourth Edition, October 2002.

e. The procedures, methods, techniques, conditions, etc., included in the above mentioned publications shall be followed at all times. If the permittee wants to use other procedures, methods, etc., because he understands that:

1) by the nature or conditions of this case is impossible to follow such publications;

2) other procedures, methods, etc., are adequate;

then the permittee shall, prior to the utilization of other procedures, methods, etc., obtain the EPA and EQB written approval for their usage.

f. The effluent samples for the toxicity tests shall be used in or before 36 hours after being collected.

g. A report on the toxicity tests conducted shall be submitted to the EQB, during the sixty (60) days period after the tests were conducted. This report shall be prepared according to the aforementioned publications of EPA.

h. Based on the review of the test results, the EQB can require additional toxicity tests, including toxicity/treatability studies and can revoke the final mixing zone authorization according with Section 5.14 of the PRWQSR.

i. Solids from wastewater sources shall not cause deposition in, or be deleterious to, the designated uses of the waters.

j. The discharge shall not cause the growth or propagation of organisms that negatively disturb the ecological equilibrium in the areas adjacent to the mixing zone.

k. The mixing zone shall be free of debris, scum, floating oil and any other substances that produce objectionable odors.

l. The permittee shall maintain in good operating conditions the discharge system [discharge outfall (land and submarine), diffuser, ports, etc.]. At least once a year, the discharge system shall be inspected to determine if some repairs, replacing, etc., on the discharge system is required. A report of such inspections shall be submitted to EPA and EQB not later than sixty (60) days after the performance of the inspection.

m. The EQB, can require that the permittee conduct bioaccumulation studies, dye studies, water quality studies or any other pertinent studies. If the EQB require one or more of the aforementioned studies, the permittee will be notified to conduct such study(ies). One hundred and twenty (120) days after the notification of the EQB, the permittee shall submit, for evaluation and approval of the EQB, a protocol to conduct such study(ies). Sixty (60) days after the EQB approval, the permittee shall initiate such study(ies). Ninety (90) days after conducting such study(ies), the permittee shall submit a report that includes the results of such study(ies).

n. The permittee shall conduct a dye study to verify the Critical Initial Dilution and the plume behavior within the mixing zone. The dye study shall be conducted ninety (90) days after the written approval of the corresponding Protocol and Quality Assurance Project Plan (QAPP). Such Protocol and QAPP shall be

submitted to EQB ninety (90) days after the EDP. This study shall consist of at least one set of the required samples, as established in the QAPP for a complete sampling event.

o. The authorization for the mixing zone will not be transferable and does not convey any property rights of any sort or any exclusive privileges, nor it authorizes any injury to persons or property or invasion of other private rights, of any infringement of Federal or State Law or Regulations.

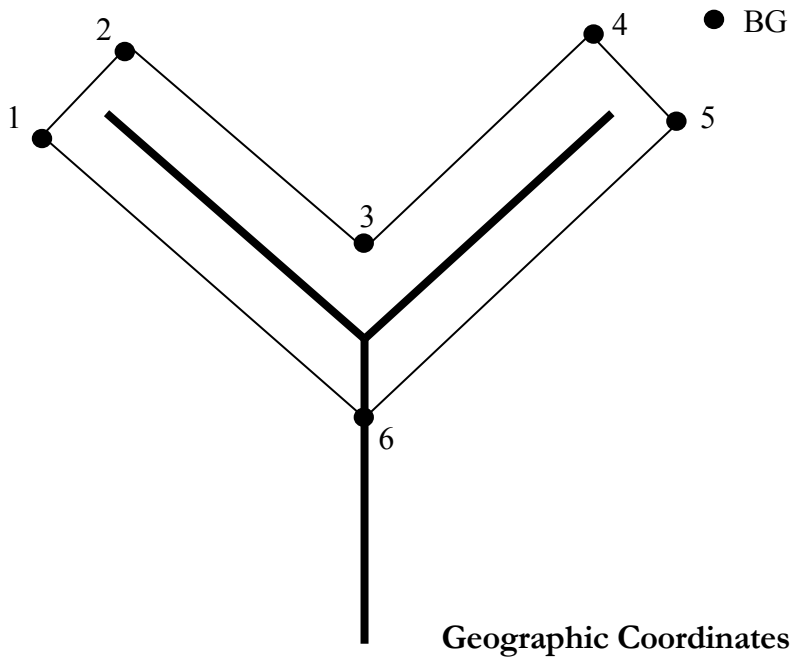
19. The conditions of this Water Quality Certificate (WQC) are considered as separate. Therefore, if the applicability of any condition of this WQC is stayed due to any circumstance, the remaining conditions of this WQC will not be affected. [4]

20. The EQB, by the issuance of the WQC, does not relieve the applicant from its responsibility to obtain additional permits or authorizations from the EQB as required by law. The issuance of the WQC shall not be construed as an authorization to conduct activities not specifically covered in the WQC, which will cause water pollution as defined by the PRWQSR. [5]

1, 2, 3, 4, 5, 6 and 7 see page 10

DIAGRAM-I

Bacardi Corporation Mixing Zone



	Geographic Coordinates *
Point 1	Lat. 18º 29.181' Long. 66º 08.518'
Point 2	Lat. 18º 29.202' Long. 66º 08.503'
Point 3	Lat. 18º 29.100 Long. 66º 08.340'
Point 4	Lat. 18º 29.097' Long. 66º 08.150'
Point 5	Lat. 18º 29.072' Long. 66º 08.150'
Point 6	Lat. 18º 29.075' Long. 66º 08.348'

* NAD 83 State Plane Coordinates.

1. According to Article 1, Puerto Rico Water Quality Standards Regulation as Amended.

2. According to Article 3, Puerto Rico Water Quality Standards Regulation as Amended.

3. According to Article 5, Puerto Rico Water Quality Standards Regulation as Amended.

4. According to Article 6, Puerto RicoWater Quality Standards Regulation as Amended.

5. According to the Environmental Public Policy Act of September 22, 2004, Act No. 416, effective since March 22, 2005.

6. According to the Section 405(d)(4) of Federal Clean Water Act, as amended (33 U.S.C. 466 *et seq*.).

7. According to the Code of Federal Regulation Number 40 (40 CFR), Part 131.40, as amended (Federal Register/Volume 69, No. 16/Monday, January 26, 2004).

TABLE A-1 EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS NPDES NO. PR0000591

During the period beginning on EDP and lasting through EDP + 5 years the permittee is authorized to discharge from outfall serial number 001 the combined wastewaters described at the final of this Table. Such discharge shall be limited and monitoring by the permittee as specified below:

Receiving Water Name and Classification: Atlantic Ocean, SC

Effluent Characteristics	**Gross Discharge Limitations**		**Monitoring Requirements**	
	Monthly Average	Daily Maximum	Measurements Frequency	Sample Type
BOD_5 (mg/l) [1,2,3,4] α		17,700	Monthly	Composite
Cadmium (Cd) (µg/l) [2,3,4]		30.90	Monthly	Grab
Color (Pt-Co Units) [2,3,4]		84,000	Monthly	Grab
Copper (Cu) (µg/l) [2,3,4]		3,293	Monthly	Grab
Cyanide, Free (CN) (µg/l) [2,3,4] β γ		47	Monthly	Grab
Dissolved Oxygen (mg/l) [1,2,3,4]		----	Daily	Grab
Enterococci (colonies/100 ml) [1,2,4,7]		382,602 ‡	Monthly	Grab
Fecal Coliforms (colonies/100 ml) [1,2,4,7]		803,378 ‡	Monthly	Grab
Flow m^3/day (MGD) [4,5]		7,570.80 (2.0)	Continuous Recording	

TABLE A-1 EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS NPDES NO. PR0000591

Receiving Water Name and Classification: Atlantic Ocean, SC

Effluent Characteristics	**Gross Discharge Limitations**		**Monitoring Requirements**	
	Monthly Average	Daily Maximum	Measurements Frequency	Sample Type
Lead (Pb) (µg/l) [2,3,4]		60.8	Monthly	Grab
Mercury (Hg) (µg/l) [2,3,4] γ		0.68	Monthly	Grab
Nickel (Ni) (µg/l) [2,3,4]		412	Monthly	Grab
Nitrogen (NO_3, NO_2, NH_3) (mg/l) [2,3,4]		874.700	Monthly	Grab
Oil and Grease (mg/l) [2,4]	The water of Puerto Rico shall be substantially free from floating non-petroleum oils and greases as well as petroleum derived oils and greases.		Twice per Month	Grab
pH (SU) [2,3,4]	Shall always lie between 6.0 – 9.0.		Daily	Grab
Radioactive Materials (picocuries/l) [2,4]	----		ϕ	Grab
Silver (Ag) (µg/l) [2,3,4]		30.4	Monthly	Grab

TABLE A-1 EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS NPDES NO. PR0000591

Receiving Water Name and Classification: Atlantic Ocean, SC

Effluent Characteristics	**Gross Discharge Limitations**		**Monitoring Requirements**	
	Monthly Average	Daily Maximum	Measurements Frequency	Sample Type
Solids and Other Matter [2,4]	The water of Puerto Rico shall not contain floating debris, scum and other floating materials attributable to discharges in amounts sufficient to be unsightly or deleterious to the existing or designated uses of the water body.		----	----
Sulfide (undissociated H_2S) (µg/l) [2,3,4] δ		89,007	Monthly	Grab
Surfactants (as Methylene Blue Activate Substances) (µg/l) [1,2,3,4]		1,494	Monthly	Grab
Suspended, Colloidal or Settleable Solids (ml/l) [1,2,4]	Solids from wastewater sources shall not cause deposition in, or be deleterious to, the designated uses of the waters.		Daily	Grab
Taste and Odor-producing Substances [2,4]	Shall contain none in amounts that will render any undesirable taste or odor to edible aquatic life.		----	----
Temperature °F (°C) [2,4]		107.6 (42)	Daily	Grab
Thallium (TI) (µg/l) [2,3,4]		45.8	Monthly	Grab

TABLE A-1 EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS NPDES NO. PR0000591

Receiving Water Name and Classification: Atlantic Ocean, SC

Effluent Characteristics	**Gross Discharge Limitations**		**Monitoring Requirements**	
	Monthly Average	Daily Maximum	Measurements Frequency	Sample Type
Turbidity (NTU) [2,3,4]		9,244	Monthly	Grab
Zinc (Zn) (µg/l) [2,3,4]		3,213.00	Monthly	Grab
Special Conditions	See attached sheet, which contains special conditions that constitute part of this certification.			

Notes:

To comply with the monitoring requirements specified above, samples shall be taken at the outfall of discharge serial number 001.

All flow measurements shall achieve accuracy within the range of plus or minus 10%.

The wastewaters to be discharged from BC, through the discharge point 001 are the following:

a. boiler blowdown, wash and extraction
b. mosto (distillation and fermentation)
c. clarification plant wash
d. cooling towers blowdowns and other
e. flavor steam traps
f. sulfur plant rinses and condensate
g. bottling plant wash
h. process washes
i. molasses unloading and seal flush
j. fermentation floor drains
k. distillery floor drains
l. barrel wash
m. cooling tower # 3 blowdown and washes
n. pump seals (anaerobic filters)
o. CO_2 plant condensate and washes
p. sanitary plant (discharge 003)
q. process water treatment steam traps

TABLE A-1 EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS NPDES NO. PR0000591

Receiving Water Name and Classification: Atlantic Ocean, SC

ϕ The permittee shall implement a monthly monitoring program using the analytical method approved by EPA with the lowest possible detection level, in accordance with Section 6.2.3 of the PRWQSR as amended, for one (1) year period, after which they will be conducted annually. The monitoring program shall commence no later than thirty (30) days after the EQB's written approval of the Quality Assurance Project Plan (QAPP). The QAPP must be submitted for evaluation and approval of EQB no later than thirty (30) days after the EDP. The results of the monitoring program shall be submitted to EQB and EPA-Region II no later than sixty (60) days of completion of the one year monitoring program. Based on the evaluation of the results obtained, EQB will determine if an effluent limitation is necessary for these parameters. In such case the WQC will be reopened to include the applicable effluent limitation if considered necessary.

α The effluent limitation for BOD_5 is based on the Mixing Zone Application for the PRASA and Bacardí Corporation, after determining that there is a reasonable assurance that this limit will not cause violations to the water quality standard for Dissolved Oxygen for Class SC.

γ See Special Condition 3.

β The samples shall be analyzed using the method approved by EPA in letter of February 20, 2007.

‡ The geometric mean of a series of representative samples (at least five samples) of the water taken sequentially in a given instance.

δ See Special Condition 5.

1, 2, 3, 4, 5, 6 and 7 see page 10 of Special Conditions

ATTACHMENT IV

Whole Effluent Toxicity Requirements

Rule 1303.1(I) of PRWQS provides that all waters of Puerto Rico shall not contain any substance at such concentration which, either alone or as result of synergistic effects with other substances is toxic or produces undesirable physiological responses in human, fish or other fauna or flora. This is generally referred to as a narrative water quality criterion "no toxics in toxic amounts". PRWQS do not provide a numeric criterion for toxicity. Since controls on individual pollutants may not always adequately protect water quality, toxicity testing is used to assess and control whole effluent toxicity (WET) which is necessary to reduce or eliminate the toxic impact of the effluent and meet narrative water quality criteria (54 FR 23868, June 2, 1989). NPDES regulations define WET as the whole or aggregate toxic effect of an effluent measured directly by a toxicity test.

Pursuant to the current modified permits, PRASA is required to conduct acute and chronic WET testing on the combined effluent and chronic only WET testing on individual effluent samples from the Bayamón RWWTP, Puerto Nuevo RWWTP, and the Bacardi WWTP. Since 2007, PRASA has conducted four acute WET monitoring events for the combined effluent using the mysid shrimp (*Mysidopsis bahia*) and sheepshead minnow (*Cyprinidon variegates*) and 11 chronic WET monitoring events using these WET test species and the sea urchin (*Arbacia punctulata)*. Five of the most recent 11 chronic WET monitoring events also included testing on individual effluent using the sea urchin. Since effluent toxicity is inversely related to the effect concentration (the lower the effect concentration, the higher the toxicity in the effluent), WET test data are typically expressed as toxic units (TUs) to better illustrate the magnitude of potential toxicity. Rule 1301.1 of PRWQS defines acute TU (TUa) and chronic TU (TUc) values as the Lethal Concentration (LC_{50}) of the tested effluent at which 50 percent of the test organisms die, where $TUa = 100 \div LC_{50}$; and the No Observed Effect Concentration (NOEC), where $TUc = 100 \div NOEC$, respectively.[1] To assess WET test data, EPA recommends a criterion maximum concentration (CMC) of 0.3 TUa and criterion continuous concentration (CCC) of 1.0 TUc be used to ensure aquatic life protection against toxicity in the receiving water. For the purpose of the section 301(h) evaluation, EPA determined the maximum allowable level of effluent toxicity or wasteload allocation (WLA) at the edge of the mixing zone that would still ensure attainment of water quality criteria for toxicity. With consideration of dilution and CMC and CCC values, EPA calculated acute and chronic WLAs of 30.6 TUa and 102 TUc, respectively, and then compared the WLAs to effluent WET test data.

A comparison of acute and chronic WET test data and WLAs is presented in Appendix A of EPA's 2011 Decision Document for the Bayamón and Puerto Nuevo RWWTPs. For the combined effluent, no acute toxicity was observed although several chronic WET tests reported TUc values based on the NOEC that exceeded the chronic WLA. Of the 30 chronic WET tests

[1] The NOEC is the highest tested effluent concentration (in percent effluent) that does not cause an adverse effect on the test organism (i.e., the highest effluent concentration at which the values for the observed responses are not statistically different from the control).

conducted on the combined effluent since 2007, 30 percent (or 10 tests) resulted in TUc values that exceeded the 102 TUc WLA. All of these tests were conducted on the sea urchin and 60 percent of them were conducted in May 2007. When compared to the permit limitation of 1.00 percent effluent or 100 TUc derived from the $IC_{25,}$ or the inhibition concentration at which a 25 percent effect occurs, no chronic toxicity is demonstrated. Based on the NOEC pursuant to PRWQS, since these tests were conducted on the combined effluent it is difficult to distinguish whether effluent from one facility or all was contributing to toxicity in these tests. In 2009, PRASA and the Bacardi Corporation began conducting chronic WET testing on individual samples of effluent from each facility in addition to the combined effluent. Between 2009 and 2011, five chronic WET tests using the sea urchin were conducted and results showed no toxicity observed in terms of the NOEC for the combined effluent but showed repeated toxicity in effluent samples from the Bacardi RWWTP. This may suggest that toxicity demonstrated in tests of combined effluent prior to 2009 may be attributed to effluent from the Bacardi WWTP. Nevertheless, nine WET monitoring events have been conducted since May 2007 and only one has demonstrated chronic toxicity on the combined effluent. Also no acute or chronic toxicity has been observed in effluent from the Bayamón RWWTP and only one effluent sample from the Puerto Nuevo RWWTP showed chronic toxicity.

Based on review of WET data, in accordance with 40 CFR 122.44(d)(v), EPA has determined that the combined discharge will cause, has the reasonable potential to cause, or contributes to an excursion above the narrative criterion for chronic toxicity and has proposed effluent limitation for the combined discharge. With consideration of dilution, EPA has proposed a maximum daily effluent limitation of 83.32 TUc (or 1.2% effluent) for chronic toxicity in the draft modified permits for the Bayamón RWWTP, Puerto Nuevo RWWTP, and Bacardi WWTP. EPA believes that the combined discharge will meet this effluent limitation upon permit issuance.

In addition to the limitation, EPA has included other toxicity testing requirements on the individual effluents from these three facilities, as these effluents combine prior to discharge. The toxicity observed in the effluent may be the result of toxicity in one or more of the discharges, or it may be the result of synergistic effects that occur when the effluents combine prior to discharge. The contemporaneous testing on each of the effluents from these facilities will provide an indication as to the source of any toxicity observed in the combined discharge.

EPA is also requiring that all three dischargers develop plans for a toxicity reduction evaluation (TRE) within the first six months of the permit term. The three dischargers may coordinate and develop one plan to meet the permit requirement in each NPDES permit. Violation of the limitation for chronic toxicity using the combined discharge would trigger accelerated monitoring of both the combined discharge and solely the Bacardi effluent (PRASA would be required to test their individual effluents for the Bayamon and Puerto Nuevo facilities in addition to the combined discharge as well) for twelve weeks. During the accelerated testing period an additional violation of the limitation on the combined discharge would require these three permittees to activate their TRE workplans, and implement their strategy to identify and abate the source of toxicity.

Calculation of Waste Load Allocation (WLA)

The WLA is used to determine the level of effluent concentration that will comply with water quality standards in receiving waters. Using the information available for dilution, WLAs were calculated for WET using the complete mix equation, which simplifies to

$WLA = C_r$ x Dilution Ratio

where C_r = the water quality criterion concentration. In Puerto Rico, a criterion continuous concentration of 1.0 TUc, and a criterion maximum concentration (CMC) of 0.3 TUa is used as the numeric interpretation of the water quality standard for toxicity.

Using a critical initial dilution (CID) ratio of 102:1, the chronic WLA would be

$$WLA_c = C_r x\ 102 = 1.0 \times 102 = 102.0\ TU_c$$

$$WLA_a = 0.3 \times 102 = 30.6\ TU_a$$

$$WLA_{a,c} = WLA_a \times ACR = 30.6 \times 10 = 306\ TU_{a,c}$$

Calculate Long-term Averages (LTAs).

To calculate the long term average (LTA):

$$LTA = WLA \times e^{[0.05\sigma^2 - z\sigma]}$$

$$LTA_{a,c} = 306 \times 0.321 = 98.23\ TU$$ where:

0.321 is the acute WLA multiplier for Cv = 0.6 at the 99th percentile (from Table 5-1, pg. 102 of the TSD)

$$LTA_c = WLA_c \times e^{[0.5\sigma_4^2 - z\sigma_4]}$$

$$LTA_c = 102 \times 0.527 = 53.75$$ where:

0.527 is the chronic WLA multiplier at the 99th percentile (from Table 5-1, pg. 102 of the TSD)

Select the minimum LTA.

The LTA based on the chronic WLA is more limiting and will be used to develop permit limits.

Limit Calculation:

Using the 95th percentile and monthly sampling, the effluent limit is calculated as:

$LTA \times e^{[z\sigma_n - 0.5\sigma_n^2]}$ where $e^{[z\sigma_n - 0.5\sigma_n^2]}$ = AML LTA multiplier

z = 1.645 for the 95th percentile occurrence probability for the AML is recommended

n = number of samples/month (the TSD recommends that a minimum n of 4 be used, even if monitoring is less frequent).

From Table 5-2, on pg. 102 of the TSD, for Cv = 0.6 and n=4,

AML = 53.75 × 1.55 = **83.32 TUc**