

RESPONSE TO COMMENTS ON
DRAFT NPDES PERMIT FOR
BACARDI CORPORATION (PR0000591)

On July 1, 2011, the United States Environmental Protection Agency (EPA) issued a draft National Pollutant Discharge Elimination System (NPDES) permit (PR0000591) to the Bacardi Corporation for its rum distillation facility in Cataño, Puerto Rico. Public notice of the draft permit was provided in the newspaper *El Vocero* on July 1, 2011. The public comment period for the draft NPDES permit expired on August 15, 2011.

According to 40 Code of Federal Regulations (CFR) §124.17, at the time that any final permit decision is issued under §124.15, EPA shall issue a response to comments. This response shall: (1) specify which provisions, if any, of the draft permit have been changed in the final permit decision and the reasons for the change; and (2) briefly describe and respond to all significant comments on the draft permit raised during the public comment period.

Comments were received from the following party:

Mr. Jorge Marcano
Vice President of Operations
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The EPA has reviewed the comments received and has decided to revoke the current NPDES permit and reissue a new NPDES permit.

**BACARDI CORPORATION
COMMENTS ON THE ENVIRONMENTAL PROTECTION AGENCY
DRAFT NPDES PERMIT NO. PR 0000591 AND EPA RESPONSES**

Comment #1 – (Page 2 of 42)

EPA acknowledges that the proposed effluent limitations are more stringent than those included in the EQB WQC, and justifies the more stringent limitations on two premises: 1) that those more stringent limitations are achievable by the permittee during normal operational conditions; and 2) that dischargers 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.

The first premise is only partially correct. While Bacardi operated at a rate of production of 65,000 to 70,000 proof gallons per day, it generally complied with the more stringent limitations during normal operations. However, for various months Bacardi has been operating at a rate of production of 80,000 proof gallons (which is allowed under the current and draft permits) and has not been consistently complying with the more stringent limitations during normal operations. The effluent limitations proposed by EPA for Enterococci and Fecal Coliform in the BC wastewater treatment system (WWTS) are not consistently achievable based on recent sampling results (see Figure 1 and Figure 2).

The second premise also is only partially correct. Bacardi agrees that the entire assimilative capacity of the receiving water should not be used to avoid technology and other control methods to achieve compliance. But, that is not the case of BC. The EQB approved the WQC, and EPA did not oppose the granting of the WQC, because: 1) BC implemented aggressive operational controls and source reduction; 2) the operational controls and source reduction implemented by BC resulted in a significant reduction of regulated bacteria in the effluent at the 001 discharge point; 3) BC upgraded the sanitary wastewater treatment plant and added a disinfection system; 4) the alternative of an enhanced pasteurization system would likely be unnecessary, and possibly environmentally counter-productive; and 5) the operational controls, source reduction, and upgrade of the sanitary wastewater treatment system implemented by BC significantly reduced the bacteria levels and, when combined with a conventional BMZ, assure nearly complete compliance with the final limitations in the WQC. From the above, it is clear that the entire assimilative capacity of the receiving waters would not be used to avoid technology and other control methods to achieve compliance.

In addition, the receiving waters in the discharge area are not used for human contact or shellfish harvesting, which is a major factor in the EQB decision to approve a small mixing zone for bacteria in its final WQC, of identical size and consistent with the mixing zones approved by both EQB and EPA for water quality-based toxic parameters. For these reasons, BC requests that the effluent limitations for bacteria (Enterococci and Fecal Coliform) in Table A-1 be based on the final WQC issued by EQB in June 2010. The requested limitations are shown in Figure 3.

EPA Response 1:

The Bacardi Corporation has demonstrated its ability to meet the effluent limitations included in the draft NPDES permit in presentations to EPA and by its willingness to enter into the Consent Decree modification which establishes those same effluent limitations. EPA notes that the Bacardi Corporation has made great strides in controlling releases of bacteria through treatment upgrades, source reduction, operational controls, and good housekeeping practices. The inclusion of these limitations is consistent with the Antidegradation Requirements section of EPA Region 2 Antibacksliding Policy, which states that EPA will relax effluent limitations only to the level of existing effluent quality. We are also aware of the challenges presented by the operational start-up period, and for this reason included a three-week period where the EQB effluent limitation in Figure 3 would be in effect.

The EQB has the right under Clean Water Act §401 to certify those limitations, which, by their calculations, are protective of Puerto Rico Water Quality Standards. EPA has the obligation under 40 CFR Part 122.44(d) to establish limitations that do not or will not have the reasonable potential to cause or contribute to an exceedance of Puerto Rico Water Quality Standards. However, where, as here, the permittee has demonstrated an ability to meet a more stringent limitation, EPA sets the limitation that the data indicates is achievable by the permittee. EPA believes that those limitations included in the draft NPDES permit are protective of water quality standards, and achievable by the permittee. During the three-week start up periods, it is our understanding that the flow would be significantly reduced, and therefore the additional bacterial loading would not cause or contribute to an exceedance of water quality standards.

Finally, as part of the review required for the Technical Decision Document establishing modified secondary treatment requirements under Clean Water Act §301(h) for the PRASA facilities that share this outfall, EPA reviewed bacteria concentrations in the receiving water at and beyond the Zone of Initial Dilution (ZID) to further assess the potential impact of bacteria on water quality. Since 2006, PRASA has conducted six receiving water monitoring events. Monitoring data show elevated levels of fecal coliform and enterococcus in the vicinity of the joint outfall. Except for the 2008 monitoring event, samples collected at within-ZID station B2, and ZID stations B3 and B12, generally did not meet the water quality criteria for fecal coliform and enterococcus. Single sample maximum concentrations of fecal coliform ranged between levels below the detection limit to 26,000 colonies per 100 ml (March 2010). For enterococcus, single sample maximum concentrations ranged between the detection limit and 1,600 colonies per 100 ml. Although some bacterial exceedances were observed at stations located beyond the ZID, samples overall showed concentrations that were generally below detection limit. EPA believes that any elevated levels of bacteria observed in the receiving water are likely attributed to wastewater from the Bacardi WWTP since it has not yet been able to meet interim effluent limitations pursuant to its current permit. Calculations performed by EPA using the draft permit limitations for enterococcus and fecal coliform were, however, determined to be protective of water quality standards at the end of the mixing zone.

EPA NOTE: No Comment #2 was included in the comments received from the Bacardi Corporation. This responsiveness summary will continue with Comment #3 to retain consistency with the August 12, 2011 submittal of comments from the Bacardi Corporation.

Comment #3 – (Page 6 of 42)

BC requests a correction to Table A-1, Notes section (Footnote @), of the draft permit. This footnote indicates that the value for the detection limit for sulfide is 100µg/L. This appears to be a typographical error; it is assumed that the detection limit should be 2 µg/L.

Comment #4 – (Page 6 of 42)

BC requests a correction to Table A-1, Notes section (Footnote @), of the draft permit. This footnote indicates that the effluent limitation for H₂S is 2 µg/L. The correct effluent limitation for H₂S is 89,007µg/L.

EPA Response #3 and 4:

EPA included this footnote in error, it is usually included for the instance where the permit limit for Undissociated Sulfide is less than the available method detection limits. In this case, the permit limitation is well above detection. Therefore this footnote is not necessary, and has been removed from the final permit.

Comment #5 – (Page 9 of 42)

BC requests a change to the language indicated in Table A-3 (last statement) of the draft permit (Treated Sanitary Wastewater). The statement requires that the samples shall be taken at sampling location 003 in the vicinity of the sanitary wastewater treatment plant. BC requests EPA to modify the statement as follows: “...samples should be taken at the sampling location 003 in the vicinity of the sanitary wastewater treatment plant (after disinfection and filtration).”

EPA Response #5:

EPA grants this request and has modified the description of the sampling location to include the additional treatment.

Comment #6 – (Page 13 of 42)

The diffuser description, included in Special Condition 17.a, is not correct based on the most recent inspection. It should be corrected to be consistent with, or referenced to, the description in the EPA Fact Sheet, as follows: “*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.*” [Note the 10-inch ports are on the end gates and are approximately 4.2 meters from the nearest 7-inch port.]

The coordinates shown in SC 17.a, which are those specified in the final WQC, refer to Diagram-I, which is missing from the draft permit. BC requests EPA to include Diagram-I in the final permit.

EPA Response #6

EPA has included the Diagram I in the final permit. EPA notes the updated description of the diffuser, and has modified the description in this permit condition. By including it in this responsiveness summary, the description has also been entered into the administrative record for this permit issuance.

Comment #7 – (Page 15 of 42)

BC requests EPA to delete the reference to acute toxicity testing for *Arbacia*, included in Special Condition 17.c. Although toxicity tests for *Arbacia* are required, the only EPA-approved test for this organism is for chronic toxicity.

EPA Response #7

The following section 17.d of this Special Condition specifies that acute testing shall be in accordance with 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, which does not include an approved method for assessing acute toxicity using *Arbacia punctulata*. Therefore, EPA's interpretation of this condition is that acute testing is not required for *Arbacia Punctulata*. EPA has modified the wording of Special Condition 17.c to specify solely chronic testing for *Arbacia Punctulata*.

Comment #8 – (Page 17-18 of 42)

BC requests EPA to eliminate Special Condition 20 of the draft permit. Special Condition 20.a thru 20.l is a duplicate of Special Condition 17.c thru 17.o. The circular reference in the first paragraph of Special Condition 20 should be moved to Special Condition 17 and should reference Special Condition 18. Numbering should be updated for subsequent conditions. There is no Special Condition 18 or 19 in the draft permit.

EPA Response #8

This request is granted. The inclusion of Special Condition 20 was in error.

Comment #9 – (Page 19 of 42)

BC requests a change to Special Condition 21.b of the draft permit. Contrary to EPA's statement in its Fact Sheet, the PRWQSR does have a numerical TUc limitation (incorporated by reference to EQB's *Mixing Zone and Bioassay Guidelines*). Therefore, this limitation should be treated in the same manner as all other limitations listed in Table A-1 that are subject to a mixing zone. The appropriate value is 102 TUc, not 83.32 TUc. In addition, the limitation for *Arbacia* should be specifically based on the IC25 endpoint.

These requests are consistent with the PRWQSR, the existing permit, and EPA's own guidance on how to apply WET test results to compliance evaluations. The bases for these conclusions are

discussed in detail in Appendix B and Appendix C, respectively. A 60-day reporting period for WET test reports is also requested, which is consistent with EQB requirements.

EPA Response #9

The Definitions Section of the 2010 Puerto Rico Water Quality Standards Regulation (PRWQSR) defines the Criteria Continuous Concentration (CCC) as

“the EPA national water quality criteria recommendation for the highest instream concentration of a toxicant or an effluent to which organisms can be exposed indefinitely without causing an unacceptable effect. It is equal to CCC =1.0TUc.”

Also included in the Definitions Section is the calculation defining a chronic toxicity unit (TUc), which is the

“... reciprocal of the effluent concentration that causes no observable effect on the test organisms by the end of the chronic exposure period, obtained during a chronic toxicity test, as defined by the following equation:

$$TUc = 100/NOEC$$

(The NOEC value should be expressed in terms of the percent (%) of the effluent in the dilution water).”

1303.1 WATER QUALITY STANDARDS: Section I. of the PRWQSR establishes the narrative water quality standard of

I. Substances in Toxic Concentrations and Synergistic Toxic Effects

The 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.

EPA evaluated data from the combined discharge from the Bacardi Corporation and the PRASA Puerto Nuevo and Bayamon facilities, and determined that there existed reasonable potential to cause or contribute to an exceedance of this water quality standard, based on chronic toxicity results for *Arbacia Punctulata* and on the numeric interpretation outlined in the definitions of the PRWQSR, as well as the “Technical Support Document for Water Quality Based Toxics Control” (EPA, March 1991) (TSD). EPA has calculated a numeric effluent limitation, which is protective of the narrative water quality standard for toxicity, using the approach outlined in the TSD.

EPA has denied the request for a 60-day reporting requirement for WET results under Special Condition 18 (Draft Permit Special Condition 21). The results of WET monitoring under this condition are to evaluate compliance with the permit limitation, and may trigger accelerated monitoring and potential toxicity reduction identification procedures. Reporting of results required by this condition must be in a timely manner to address sources of toxicity.

Comment #10 – (Page 19 of 42)

BC requests changes to Special Condition 21.c. The stipulated Toxicity Reduction Evaluation (TRE) process addresses steps the permittee will take if the “toxicity is measured below the chronic toxicity effluent limitation ...,” which is inconsistent with the limitation defined as a maximum value. Also the sentence is not clearly written. The wording should read as follows: “This plan shall include steps the permittee intends to follow if the toxicity limitation is violated and must include, at a minimum: ...”

EPA Response #10

EPA has made the requested changes to this condition.

Comment #11 – (Page 21 of 42)

BC requests changes to Special Condition 21.d.6. This item refers to Special Condition 21.g.3. There is no g.3; it is presumed this is supposed to refer to f.3.

EPA Response #11

This request is granted. EPA has made the correction to this reference.

Comment #12 – (Pages 21 & 23 of 42)

BC requests changes to Special Conditions 21.d.6 and 21.f.3. These items require reporting to be done within 30 days after permittee’s receipt of the laboratory results. This is inconsistent with Special Condition 17.g, which requires reporting within 60 days following completion of the test. Wording should be changed to maintain consistency with the final WQC, which requires reports within 60 days of the completion of the tests.

EPA Response #12

This request is denied. The provisions of Special Condition 17 are for mixing zone toxicity testing. The requirements of Special Condition 18 (Draft Permit Special Condition 21) are to ensure compliance with the effluent limitation for toxicity, and could potentially trigger accelerated monitoring and potential toxicity reduction identification procedures. Reporting of results must be in a timely manner to address sources of toxicity.

Comment #13 – (Page 22 of 42)

BC requests changes to Special Condition 21.f.1. The language should be revised as indicated in bold typeface as follows:

*21.f.1 “A procedure report shall be **submitted** to EPA and EQB no later than ninety (90) days from the effective date of the permit. The following information shall be included in the procedure report:”*

EPA Response #13

This request is granted. EPA has made the requested revision.

Comment #14 – (Page 38 of 42)

BC requests EPA to clarify the language in General Condition 12.f of the draft permit, which states the following:

The permittee shall report any non-compliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances to the Regional administrator at (732) 548-8730 and State Director.

The provided phone number is for the National Response Center (NRC). On previous instances, BC used this number to notify non-compliance situations (e.g., pH excursions), triggering the unnecessary mobilization of US Coast Guard (USCG) personnel. The USCG has told BC that calls for this kind of incident is not appropriate or necessary. BC requests EPA to provide an appropriate phone number or clarify in which specific instances BC is required to notify the NRC.

EPA Response #14

Federal regulations at 40 CFR §122.41(l)(6) require, as a standard condition of NPDES permits:

Twenty-four hour reporting. (i) The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances.

While we agree that most permit violations do not necessarily require mobilization of the Coast Guard, other environmental releases may endanger human health or the environment, in which case the spill response center should be contacted. Such emergencies would include oil and chemical spills, radiological and biological discharges, and accidents causing releases of pollutants. At this time, the National Response Center phone number is the mechanism this Region has in place to receive reports required by the 24-hour reporting provision of the regulations.

Comment #15

BC requests a change to update Attachment I: Site Location and Process Diagrams in the Fact Sheet for the draft permit. The flow diagrams were modified to add the UV Disinfection treatment as a backup treatment for streamflow from Cooling Tower #3 blowdown. The revised flow diagrams are included in the Appendix A of this document.

EPA Response #15

EPA notes the modified Site Location and Process Diagrams, and has entered them into the Administrative Record by inclusion with this Responsiveness Summary.