Mr. Sindulfo Castillo
Chief, Antilles Regulatory Section
U.S. Army Corps of Engineers
Fundación Angel Ramos Annex Building
Suite 202
383 F.D. Roosevelt Avenue
San Juan, PR 00918

RE: Limetree Bay Terminals LLC (SAJ-2017-00416 (SP-JCM))

Dear Mr. Castillo:

This is in reference to Permit Application No. SAJ-2017-00416 (SP-JCM) by Mr. Forgan McIntosh on behalf of Limetree Bay Terminals LLC for the construction of a single point mooring and an underwater pipeline system for the offshore transfer of bulk fuel from very large bulk carriers to the existing facilities at Limetree Bay Marine without the need to transfer the fuel to smaller vessels.

To achieve the proposed project's purpose, two concrete coated, 30-inch diameter pipelines would be built from the end of the eastern jetty at Limetree Bay Terminal to a Pipeline End Manifold (PLEM) located approximately 150 feet below mean sea level. From there, the system would transition to three 24-inch hoses suspended in mid-water at depths ranging from 150 to 250 feet. Sections of the two 30-inch pipelines would need to be buried under the marine floor, requiring the excavation of a 300 feet long, 62 feet wide and 20-foot-deep trench. To construct the trench, the existing concrete tetrapod revetment of the jetty would need to be temporarily removed in order to excavate approximately 14,000 cubic yards of material. The second section of the pipelines (888 feet long) would be laid on the ocean floor, while the third section would require the excavation of another trench (1,625 feet long by 62 feet wide by 16 feet deep) across the existing navigation channel. The excavated material in this area would be side casted and used to bury the pipeline once it is completed. Concrete mats would be placed over the pipelines at critical areas. Installation of the PLEM would require the placement of four 18-inch diameter by 60-feet long piles. The 24-inch hoses would be held in position by anchors requiring the placement of 60-inch diameter by 80-foot-long anchor piles.

The U.S. Environmental Protection Agency (EPA) understands that restarting the operations at the former HOVENSA site would significantly benefit the economic health and well-being of the U.S. Virgin Islands community. This is especially important for the recovery of the U.S. Virgin Islands in the aftermath of Hurricanes Irma and Maria. However, after reviewing the available information, EPA is concerned about the possibly significant environmental impacts of the proposed project, which must be evaluated under the National Environmental Policy Act (NEPA). The project impact corridor occupies an area of approximately 4.33 acres of marine bottom, of which 1.65 acres consists of hard bottom supporting coral species listed as endangered under the Endangered Species Act (*Acropora palmata, Orbicella annularis, Orbicella faveolata, orbicella franksi* and *Dendrogyra cylindrus*). The last major dredging within the project area occurred in 1974, providing ample opportunity for the establishment of significant coral aggregations, thus the terminal's jetties are colonized by coral and sponge species. In addition, no mention of the potential

impacts from the possible dragging of the mooring chain across the sea floor is made. Although the applicant has proposed the relocation of all coral colonies located within various sections of the pipeline trench corridor, as well as within the corridor for the surface-laid sections of the pipeline (approximately 2,215 coral colonies), the information supplied within the public notice is largely conceptual, and is not adequate to evaluate the possible impacts to corals. While the applicant states that relocated corals would be monitored for a total of five years to ensure their stability and good conditions, the relocation of coral colonies must go well beyond the consideration of the individual colonies. To be able to evaluate the adequacy of a coral transplantation project, the ecosystem services associated with the translocated corals (e.g., ~~invertebrates~~fish substrate/refuge, food production, recreation, cultural value and connectivity, including spawning and/or aggregation areas) must be considered. A habitat equivalency analysis of the proposed impact area and the proposed coral receiving site restoration area should be performed, as well as a coral transplantation plan. At a minimum, such plan must include details on selection of corals to be transplanted, detailed reasoning and analysis to document which coral areas would not be transplanted, and the establishment of performance survival standards (including acceptable survival percentage) as well as protection and mitigation plans and/or financial assurance measures to address non-adherence to expected coral survival rates. The U.S. Coral Reef Task Force's *Handbook on Coral Reef Impacts: Avoidance, Minimization, Compensatory Mitigation, and Restoration* provides recommendations on best practice considerations for coral transplantation.

Commented [GC1]: Buddy Lobue clarifies that invertebrates and algae are vital ecosystem components, but he views services as what the ecosystem does for us and the environment.

In addition, an assessment of indirect impacts to corals (e.g., jeopardy of coral reefs outside the immediate construction footprint by future petroleum products transfer processes) should be completed in order to fully evaluate the project's potential impacts to valuable coral reef ecosystems along the shelf and shelf edge and significant mutton snapper spawning aggregation area that exists west of the proposed PLEM. ~~These~~ This assessment ~~studies~~ should be conducted under the appropriate guidance and in consultation with the National Oceanic and Atmospheric Administration (NOAA), which may provide expertise in this area.

Upon the evaluation of the construction methodology described in the public notice, EPA is concerned about the dredging of hard bottom and possibly the bedrock substrate within the project area. The proposed use of an excavator may not be sufficient to penetrate these areas. The applicant should provide additional information regarding the use of alternative dredging methods to work in hard bottom areas, and a detailed discussion of their possible environmental impacts. These alternatives should include the use of specialized equipment and/or explosives. We also believe that the construction of the proposed fuel pipeline and its associated trench, plus any protection measures to be installed, such as the use of concrete mats (as mentioned in the public notice) must also be evaluated and approved by the Pipeline and Hazardous Material Safety Administration (PHMSA).

Furthermore, the public notice states that turbidity barriers, the side casting of dredged material near uncolonized seafloor to control the suspension of sediments, and a water quality monitoring plan would be implemented to protect water quality within the project area. As per the public notice, several water samples would be taken daily at the project site during in-water work. The samples would be analyzed for turbidity, dissolved oxygen, and pH. The sample results would be compared to control data to determine whether any elevated turbidity levels are associated with

the project. Visible depth visibility readings would also be taken to assess turbidity levels. If turbidity levels exceed those allowable by the U.S. Virgin Islands' codes, the Virgin Islands Department of Natural and Environmental Resources (VIDPNR) would be notified immediately, the source of the problem would be identified, and measures to reduce suspended sediments would be implemented. In addition, divers and/or remotely operated vehicles would be used to document and/or mitigate any impacts to corals during pipeline installation. Weekly reports will be submitted to the appropriate agencies. The applicant proposes that once pipeline installation is completed, monitoring of the system will take place on a monthly basis for the first six months, and then on a semi-annual basis for the life of the Single Point Mooring Project. While EPA commends the applicant for this comprehensive approach to the protection of water quality at the project site, we would like to review any available water quality data available for the project site, and recommend that formal agreements with VIDPNR and any other local or federal agencies be established prior to the start of the project in order to ensure timely and consistent data transmission, as well as the expeditious resolution of any water quality issues during in-water work. Detailed information on the potential methodology to be implemented in order to control the water quality issues that may arise during in-water work, including a discussion of the possible impacts of such methods on corals and other living resources, should be provided by the applicant as part of their impact minimization and compensation analysis.

Due to the recent hurricanes that impacted the US Virgin Islands, EPA recommends that the project's engineering design also considers a vulnerability and resiliency component to extreme weather events to address, among other things, the placement and management of the project's three 24-inch hoses suspended in mid-water and the two concrete pipelines. This consideration will not only assist in protecting the local environment, but also will help protect the project's investment from extreme weather events, particularly in the areas of emergency response.

After reviewing all the available data, and considering the project's scale and potential impacts to aquatic resources, EPA is concerned that the current proposal may impact listed endangered coral species, non-endangered coral species and associated living resources. Accordingly, EPA would like to review detailed monitoring plans to ensure that water quality issues do not result in any impacts to the living resources within the bay. We therefore recommend that a Department of the Army permit not be issued until the applicant addresses our concerns. This recommendation is based on the project's potential for significant water quality degradation at Limetree Bay and the possible effects this may have on endangered/threatened species.

We look forward to continuing working with you and your staff on this project. If you have any technical concerns and questions or require additional information or guidance on this matter, please do not hesitate to contact me at (787) 977-~~5870~~-5875 or have your staff contact Mr. Jose M. Soto, of the Multimedia Permits and Compliance Branch, at (787) 977-5829.

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Sincerely,

Carmen R. Guerrero Pérez
Director
Caribbean Environmental Protection Division

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