



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**  
REGION 6  
1201 ELM STREET, SUITE 500  
DALLAS, TEXAS 75270

July 19, 2019

Mr. David Farris  
Bluewater Texas Terminal  
2331 CityWest Blvd.  
Houston, TX 77042

RE: Completeness Review for the Section 112(g) of the Clean Air Act Determination Request for Bluewater Texas Terminal LLC

Dear Mr. Farris:

EPA has reviewed the Bluewater Texas Terminal LLC (BWTT) application for a Case-By-Case Maximum Available Control Technology (MACT) determination submitted in accordance with section 112(g) of the Clean Air Act (CAA) and received by EPA on May 31, 2019. At this time, EPA has determined that your 112(g) application is incomplete and has enclosed a list of the information requests for the BWTT project. Please notify us if a complete response is not possible by August 15, 2019.

The requested information is necessary in order for us to make a decision on our intent to either initially approve or disapprove the case-by-case MACT application and ensures that your request is consistent with the principles of MACT determinations outlined in 40 CFR 63.43(d) and the supporting application requirements in 40 CFR 63.43(e).

If you have any questions concerning the review of your 112(g) application, please feel free to contact myself at (214) 665-6435 or Aimee Wilson of my staff at (214) 665-7596.

Sincerely,

7/19/2019

**X** Jeffery J Robinson

Jeffery Robinson

Signed by: JEFFERY ROBINSON

Jeffery J. Robinson  
Branch Chief  
Air Permits, Monitoring & Grants Branch

Enclosure

## ENCLOSURE

### EPA Region 6 112(g) Application Completeness Review Comments for BWTT

#### General Application Requirements:

- 1) 40 CFR 63.43(e) identifies application requirements for case-by-case MACT determinations. The following items are needed.
  - a. 63.43(e)(2)(vi) states “The HAP emitted by the constructed or reconstructed major source, and the estimated emission rate for each such HAP, to the extent this information is needed by the permitting authority to determine MACT.” (emphasis added) The submittal fails to provide estimated emissions for each HAP and does not identify the HAPs expected for the source. As noted below, additional information on how emissions estimates were calculated will also be needed.
  - b. 63.43(e)(2)(vii) states “Any federally enforceable emission limitations applicable to the constructed or reconstructed major source”. The submittal only contains a ton per year limit on emissions. There is not enough evidence supporting how this limit was estimated. The submittal does not include any short-term emission limits for the source. The only limitation on emissions is the maximum annual throughput of 384,000,000 Bbl per year.
  - c. 63.43(e)(2)(x) states “A recommended emission limitation for the constructed or reconstructed major source consistent with the principles set forth in paragraph (d) of this section”. The application fails to evaluate the emissions associated with maintenance activities such as pigging or hydrostatic pressure tests. Please consider all emission producing activities and include emission estimates for all activities.
  - d. 63.43(e)(2)(xii) states “Supporting documentation including identification of alternative control technologies considered by the applicant to meet the emission limitation, and analysis of cost and non-air quality health environmental impacts or energy requirements for the selected control technology”. The application does not include an analysis of the cost of any control technology evaluated by the applicant. It is also missing any evaluation of non-air quality health environmental impacts or energy impacts for the control technologies evaluated.

#### MACT:

- 2) Starting on page 5-1 of the 112(g) application, an analysis is provided to demonstrate that regulatory requirements from the National Emission Standards for Marine Tank Vessel Loading Operations, 40 CFR Part 63, Subpart Y is inapplicable based on the the project design not meeting the definitions for “marine tank vessel loading operation”, “terminal”, “loading berth”, and “offshore loading terminal”. One of the guiding principles for MACT determinations (40 CFR 63.43(d)(1) is to provide an assurance that a proposed source will meet the emission control level that is achieved in practice by the best controlled *similar source*. (emphasis added) To establish if a source is similar, or not similar to those sources regulated in 40 CFR 63 Subpart Y, please review the definition of similar source as defined in 40 CFR 63.41 and provide us your detailed analysis of why your proposed project is dissimilar to project(s) subject to Subpart Y regulations. In general, a similar source has *comparable emissions*, *structurally similar in design and capacity* and *could be controlled using the same control technology*.

- 3) Additional information is needed to evaluate the performance of similar sources for the MACT floor analysis. Single Point Mooring (SPM) systems are not considered a new design and have been in use for various marine loading operations for some time. Evaluate any SPMs that utilize a method of Vapor Emissions Control (VEC). Please provide a supporting analysis that would technically illustrate that the control would or would not work for the proposed BWTT operational design based on volumetric loading differences or other operational parameters?
- 4) Please provide a detailed technical analysis to support a scaled-up design to accommodate BWTT's proposed operating parameters based on the demonstrated VEC operation for the Santa Barbara Ellwood Marine Terminal and the North Sea Shuttle Vessels included on page 5-9 and 6-6 of the application. In accordance with 40 CFR 63.43(d)(2), the analysis should consider the costs and any associated non-air quality health and environmental impacts and energy requirements.
- 5) Please provide any additional feasibility and cost details related to emission reductions that could be achieved if an additional subsea pipeline is added to route marine loading vapors back on-shore. If vapors can be routed 1-mile back on-shore, could the vapors be routed 18-miles back on-shore? Are there any other regulatory requirements (i.e., U.S. Coast Guard regulations at 33 CFR 154.2015, 33 CFR 154.2107 or 46 CFR 39) that might prevent this alternative scenario? Please remember to include any consideration for the costs and any associated non-air quality health and environmental impacts and energy requirements.
- 6) BWTT's beyond the floor analysis evaluated a technology transfer -based control. Did BWTT consider evaluating the Phillips 66 Rodeo, CA Marine Terminal, Chevron's Richmond Long Wharf Marine Terminal and the Valdez Marine Terminal (VMT) terminals that were controlling emissions to a level of 95 percent (consistent with the marine tank vessel loading regulations found in the Bay Area Air Quality Management District in California) in the beyond the floor analysis.<sup>1</sup>
- 7) BWTT should reevaluate their comparison in section 5 of the application regarding the comparison of Outer Continental Shelf (OCS) floating production, storage, and offloading (FPSO) units to the proposed project. It appears BWTT is pulling production sources into the MACT evaluation and not just export facilities. BWTT should make clear that it is a different industry and that the scale of product loaded is not comparable.
- 8) BWTT needs to perform an analysis to show why a platform is not a viable option for their business plan. The analysis should provide not only economic costs, but also an analysis of the technical feasibility.

Lightering:

- 9) The 112(g) application does not provide a lightering analysis to give an emission comparison or to provide an analysis of the risks/benefits to lightering in lieu of the proposed SPM facility. BWTT provided an example of onboard vapor recovery technology utilized at Chevron's El Segundo marine terminal on page 6-6. BWTT states the facility is subject to SCAQMD Rule

---

<sup>1</sup> Memorandum from the Midwest Research Institute (MRI) to Mr. David Markwordt, EPA. (July 14, 1995).

1142 which requires control of loading and lightering activities. BWTT should provide emission calculations data for lightering and to include potential VEC utilization that may be used in the on-shore loading of the ship/barge. In addition, give consideration to emission reductions for vapor balancing between the VLCC and the ship/barge offshore. Also consider the emissions for lightering VLCC that are partially loaded inland and the remaining loaded offshore. Please provide HAP calculations to include any potential VEC opportunities and any secondary emissions that may be incurred, such as hoteling while waiting for port entry, etc. EPA acknowledges that lightering is a current operation for marine loading of crude oil. A recent lightering report completed for the Texas Commission on Environmental Quality (TCEQ) notes, that “there are no state or federal-level regulations that address emission controls associated with lightering operations in the Gulf of Mexico region beyond 12 nautical miles from shore.” And, “based on the density of lightering point and zones off the coast of Texas, it is expected that more lightering occurs near the Texas coast than in other regions of the US.”<sup>2</sup>

#### Emission Calculations:

- 10) Please provide additional supporting technical documentation to allow for the verification of the basis for the emission calculations. Specifically, the true vapor pressure of the crude oil (psia), molecular weight of vapors (lb/lb-mole), material composition data of the associated emissions (speciated) for the crude oil/condensate proposed to be used for the export operation.
- 11) The application only provides emissions in tons per year. The emissions are estimated using generic values. The emission calculations utilize data from *VOC Emissions from Oil and Condensate Storage Tanks: Final Report. 2009*. BWTT takes the average values from the data in the report to utilize in the emission calculations. This is done without providing a reasoned justification or scientific basis for using this data. In addition, there no basis is given for the assumptions made in using the average values. BWTT estimated emissions on the VOC species present in the 11 samples in the report instead of using the total hydrocarbons (including methane and ethane). The reasoning given was that the methane, ethane, nitrogen, and carbon dioxide in the crude oil would weather out before it is exported. Does BWTT have any data to support this reasoning. BWTT should also reevaluate the H<sub>2</sub>S emissions and ensure that the value given is truly representative of the crude oil to be exported. Please provide an hourly emission estimate and calculate emissions based on known values for the crude oil you intend to export for all pollutants. Please use the entire range of speciated values providing a low end and high end value. In addition, will only crude oil be loaded or will condensate also be loaded? Please utilize any available speciation data for emission calculations for the specific crude products being loaded.
- 12) Please provide emission calculations data for each HAP present utilizing the speciation profile of the crude products that BWTT expects to export.

---

<sup>2</sup> See Sturtz, Timothy; Lindhjem, Chris and Yarwood, Greg, Ramboll Environ. *Final Report Ocean-Going Tanker Vessel Lightering Emissions in the Gulf of Mexico*.  
<https://www.tceq.texas.gov/assets/public/implementation/air/am/contracts/reports/ei/582177209724-20170630-environ-OceanGoingTankerVesselLighteringEmissionsGulfMexico.pdf>

### Compliance Considerations:

- 13) The 112(g) application does not appear to include a proposed method for continuous demonstration of compliance for maintenance activities such as pigging or hydrostatic pressure tests. This demonstration may include best management practices and/or schedules for maintenance.
- 14) The 112(g) application does not provide a compliance monitoring strategy for the marine loading operation or estimated control efficiency of the work practice standard proposed in the application. EPA requests that BWTT propose a monitoring, recordkeeping and reporting strategy to ensure enforceability of the proposed MACT work practice standard and an estimated control efficiency expected to be achieved with this work practice standard in accordance with section 112(h) of the CAA.
- 15) To provide a continuous compliance demonstration with the fugitive HAP emissions associated with the SPM buoy system, VOC management plans have been used to serve as an indicator of HAP emissions. The 112(g) application relies on a VOC Management Plan this is developed and maintained by the VLCC and not BWTT. A VOC Management Plan is an important consideration and should be considered. However, in addition to the VOC management plan the VLCC will develop, has BWTT considered developing and providing a separate Best Management Plan that it will implement for the SPM buoy system that includes an effective plan for ship/shore interface, cargo transfer operations (i.e., minimizing gas formation in cargo tanks), maintenance (i.e., pigging), environmental (i.e., LDAR program), safety and health considerations and emergency preparedness?