



**COMMONWEALTH OF PENNSYLVANIA**  
**Department of Environmental Protection**  
**Southeast Regional Office**

August 12, 2020  
484.250.5920

**Subject:** Technical Review Memo  
Minor Operating Permit Modification of Title V Operating Permit No. 23-00119  
APS ID 823642, AUTH ID 1311220  
Sunoco Partners Marketing & Terminals, L.P.—Marcus Hook  
100 Green Street  
Marcus Hook, PA 19061

**To:** James D. Rebarchak  8/21/2020  
Regional Air Quality Program Manager  
Air Quality Program  
Southeast Region

**From:** David S. Smith  8/12/20  
Engineering Specialist  
Facilities Permitting Section  
Air Quality Program

**Through:** Janine Tulloch-Reid, P.E. **JET 8/17/20**  
Environmental Engineer Manager  
Facilities Permitting Section  
Air Quality Program

**Through:** James A. Beach, P.E. **JAB**  
Environmental Engineer Manager  
New Source Review Section  
Air Quality Program 8/21/2020

**I. Introduction/Purpose of Authorization**

Sunoco Partners Marketing & Terminals, L.P. (SPMT) owns and operates a natural gas liquids (NGLs) processing, storage, and distribution facility located at the Marcus Hook Industrial Complex (MHIC) in Marcus Hook Borough, Delaware County (hereinafter referred to as “the facility”). SPMT operates most of the sources at the facility, including a fractionation tower (Source ID 106), under Title V Operating Permit (TVOP) No. 23-00119. In September 2019, SPMT made changes to/for the fractionation tower to operate it as a demethanizer instead of a deethanizer. The purpose of this authorization is to approve the changes to/for the fractionation tower via a minor operating permit modification (MOPM) to the TVOP, and to update the TVOP to reflect the current operating status of the fractionation tower as a demethanizer.

**II. Relevant Permitting & Source History**

On September 5, 2013, the Department of Environmental Protection (DEP) issued Plan Approval No. 23-0119A to SPMT for the installation of a new fractionation tower (permitted/operated as a deethanizer) and related equipment at the facility. On March 2, 2015, December 29, 2015, and June 20, 2016, DEP extended the Plan Approval.

On March 2, 2015, DEP issued the TVOP. On December 19, 2016, DEP incorporated the requirements of Plan Approval No. 23-0119A into the TVOP via a significant modification. On March 31, 2020, DEP renewed the TVOP.

On February 12, 2020, Mr. Dave Raphael, Esq., K&L Gates, on behalf of SPMT, contacted Mr. Douglas G. White, Esq., DEP, by telephone to discuss several issues, including that SPMT had made changes to/for the fractionation tower to operate it as a demethanizer instead of a deethanizer.<sup>1</sup> SPMT further discussed the changes to/for the fractionation tower in a letter to DEP, dated February 27, 2020:

“In September of 2019, ... SPMT converted Source ID: 106 from a Deethanizer to a Demethanizer. The Deethanizer/Demethanizer still functions as a fractionation tower and separates mixtures into their component parts, or fractions, based on the differences in volatilities. The only change to the unit is the feedstock [from an ethane/propane mix to ethane (with some propane and methane)] and some physical changes to the unit to process the different feedstock.”

In the same letter, SPMT contended that “[t]he Deethanizer conversion was made without notification to [DEP] because the change is exempted under 25 Pa. Code § 127.14(a)(9).”

However, in a February 24, 2020, e-mail, Mr. White had already informed Mr. Raphael that “[DEP] has ... determined that [the changes to/for the fractionation tower do] not meet any of the exemptions on DEP’s list of exemptions from needing a plan approval. SPMT will need to submit a minor modification to make that change.” DEP detailed this position in a Notice of Violation (NOV) to SPMT, dated March 3, 2020:

“Pursuant to 25 Pa. Code Section 127.11, a person may not permit the modification of an air contaminant source unless the modification has been approved by DEP. An application for a [MOPM] was not submitted to DEP for approval prior to SPMT making the physical change [to the fractionation tower at the facility]. This is a violation of 25 Pa. Code Section 127.11.”

To abate the violation, DEP “request[ed] that SPMT submit ... an administratively complete and technically adequate application for a [MOPM] in accordance with 25 Pa. Code Sections 127.462 regarding the aforementioned project by March 20, 2020.”

On March 20, 2020, and April 1, 2020, DEP received electronic and hard copies, respectively, of a MOPM application package from SPMT for the conversion of the fractionation tower. The MOPM application package included the MOPM application; copies of the notifications to the municipality, county, and all affected states within 50 miles of the facility (i.e., New Jersey, Delaware, and Maryland) [71 P.S. § 510-5 (Act 14 of 1984); 25 Pa. Code §§ 127.413 and 127.462(c)]; and monies for the application fee of \$750 [25 Pa. Code § 127.704(b)(3)]. (On April 24, 2020, SPMT submitted its semi-annual compliance review form [25 Pa. Code § 127.412(b) and (j)]). All applicable sections of the MOPM application were completed.

However, the MOPM application package did not include a copy of and proof of publication for the newspaper notice, and a copy of and proof of delivery for the notification to the U.S. Environmental Protection Agency (EPA) [25 Pa. Code § 127.462(c)], as well as proofs of delivery for the notifications to the municipality, county, and affected states. On March 24, 2020, SPMT published the newspaper notice in the *Delaware County Daily Times*. On April 14, 2020, SPMT submitted the proof of publication for the newspaper notice. On June 25, 2020, DEP requested proofs of delivery for the notifications to the municipality, county, and affected states, and a copy of and proof of delivery for the notification to the EPA. Later that day, SPMT submitted proofs of delivery for the notifications to the municipality, county, and affected states and, upon verification that it had failed to mail the

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<sup>1</sup> On May 7, 2018, during a hearing on the appeal of Plan Approval No. 23-0119E by the Clean Air Council, two employees of Energy Transfer Partners referenced a general plan for SPMT to make changes to/for the fractionation tower to operate it as a demethanizer instead of a deethanizer. However, SPMT never presented DEP with a timetable or submitted specific plans for the conversion of the fractionation tower to DEP for approval. As such, DEP’s first knowledge of the actual conversion was during the February 12, 2020, telephone conversation.

notification to EPA, e-mailed the notification to Ms. Emily Bertram, Permits Branch, Air and Radiation Division, EPA Region 3. On June 29, 2020, Ms. Bertram confirmed that she received the notification. Therefore, DEP considers the MOPM application administratively complete [25 Pa. Code § 127.421(a)] as of June 25, 2020.

### **III. Project Description**

SPMT has submitted a MOPM application to DEP for the after-the-fact approval of its changes to/for the fractionation tower at the facility to operate as a demethanizer instead of a deethanizer. As indicated by SPMT in its February 27, 2020, letter to DEP, and the MOPM application, the fractionation tower processes a different feedstock to operate as a demethanizer (ethane, with some propane and methane) than it does to operate as a deethanizer (an ethane/propane mix). Regarding the “physical changes to the [fractionation tower] to process the different feedstock” referenced by SPMT in the letter, DEP has confirmed with SPMT that, in addition to “some updates to the [associated] piping and fugitive components,” as indicated by SPMT in the MOPM application, some of the bubble cap trays within the fractionation tower have been repositioned (see *Attachment #1*).

### **IV. Emissions Analysis**

SPMT stated in its February 27, 2020, letter to DEP that “[c]hanging the feedstock ... resulted in an overall reduction in fugitive VOC [volatile organic compound] emissions associated with the [fractionation tower at the facility].” However, in the MOPM application, SPMT explained that this statement was based solely on the feedstock no longer being in VOC service (i.e., having a regulated VOC content of less than 10%), and did not consider the corresponding effect on the applicability of leak detection and repair (LDAR) control efficiency reductions:

“SPMT’s emissions calculations utilized in the ... letter accounted for control efficiencies achieved through the facility’s LDAR Program. SPMT continued to conduct Method 21 monitoring on all existing components that were previously in VOC service prior to the conversion, which resulted in a decrease in actual VOC emissions. Since monitoring of the components that are not in VOC service is not an enforceable permit requirement, SPMT could not take credit for the control efficiencies achieved through the LDAR Program when calculating the PTE [potential to emit] for [the MOPM].”

The net effect from the changes to/for the fractionation tower on the PTE VOCs is an increase from 3.04 *tons/yr* (as calculated by SPMT for Plan Approval No. 23-0119A) to 3.15 *tons/yr*.

In addition, SPMT has calculated an increase in the PTE greenhouse gases (GHG), in units of carbon dioxide equivalents [CO<sub>2</sub>e], for the fractionation tower from 13.29 *tons/yr* to 613.18 *tons/yr*.

### **V. Changes to the TVOP**

The only requirements included in the previously-renewed (i.e., current) TVOP for the fractionation tower are those listed under a (NSPS Subpart VVa) fugitive equipment leaks source grouping (Source ID 103), and none of these are specific to the fractionation tower itself. Since some of the components associated with the fractionation tower remain in VOC service after the change to operate as a demethanizer, the fractionation tower remains subject to these requirements. As such, the only changes reflected in the TVOP are to the source ID and name for, and feedstock processed by, the fractionation tower (i.e., from Source ID 106, “deethanizer,” and “ethane/propane,” respectively, to Source ID 106A, “demethanizer,” and “ethane/propane/methane,” respectively).

### **VI. Recommendation**

Based upon a review of the previously-renewed TVOP and the MOPM application, I recommend that DEP modify the TVOP for SPMT for the facility.

## Smith, David S

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**From:** Smith, Kevin W <kevin.smith2@energytransfer.com>  
**Sent:** Tuesday, August 4, 2020 12:47 PM  
**To:** Smith, David S  
**Subject:** [External] RE: Minor Mod for MHIC TVOP Source ID 106

**ATTENTION:** This email message is from an external sender. Do not open links or attachments from unknown sources. To report suspicious email, forward the message as an attachment to [CWOPA\\_SPAM@pa.gov](mailto:CWOPA_SPAM@pa.gov).

Dave,

The physical changes included repositioning the trays and some new piping/components. We also removed some piping/components.

Kevin

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**From:** Smith, David S <dssmith@pa.gov>  
**Sent:** Monday, August 3, 2020 2:04 PM  
**To:** Smith, Kevin W <kevin.smith2@energytransfer.com>  
**Subject:** Minor Mod for MHIC TVOP Source ID 106

Hi Kevin, I am almost finished on my end with the minor mod, but need to confirm the extent of "some physical changes to the unit" indicated in SPMT's 2/27/20 letter to DEP. Please confirm whether the physical changes to convert the fractionation tower from a deethanizer to a demethanizer include 1) the addition of bubble cap trays within the fractionation tower and new piping, 2) the repositioning of these, or 3) something else.

Thanks,

**David S. Smith, E.I.T.** | Air Quality Engineering Specialist  
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