



Addendum to Plan Approval 23-0119K Application

Ethane Chilling Expansion Project

31 March 2023

Project No.: 0364735

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1. INTRODUCTION

Energy Transfer Marketing & Terminals L.P. (ETMT), a subsidiary of Energy Transfer, has proposed to add process equipment to the Marcus Hook Terminal (MHT) located in Marcus Hook, Pennsylvania to expand the existing ethane chilling capacity at the MHT through the Plan Approval 23-0119K application, submitted in February 2022 and currently under review by the Pennsylvania Department of Environmental Protection (PADEP or Department). For the purposes of this addendum to the plan approval application, the project will be referred to as the “Ethane Chilling Expansion Project”.

This addendum to the Ethane Chilling Expansion Project application, currently under review, supplements the application with additional project details and regulatory analysis in order to inform the permit determination.

Included in this application addendum are supplementary information for the application narrative, a revised General Information Form (GIF), and additional discussion around the recently submitted updated air quality modeling report.

2. SUPPLEMENT TO ETHANE CHILLING EXPANSION PROJECT APPLICATION

ETMT provides supplementary information for the Ethane Chilling Expansion Project application to PADEP with this addendum submittal. Sections below address the incremental steam demand from the auxiliary boiler system, Greenhouse gas (GHG) Best Available Control Technology (BACT) and Lowest Achievable Emission Rate (LAER) determinations, the project alternatives analysis, and provide additional air quality modeling narrative discussion.

2.1 Supplement to Section 2.3.1 – Incremental Steam Demand from the Auxiliary Boilers

ETMT is providing the attached map showing the planned location of the Ethane Chilling Expansion Project connections to the facility steam system as **Appendix A**. The map further illustrates that the facility Auxiliary Boilers (Title V Operating Permit Source IDs: 031, 033, & 034) will not be modified as a result of the project.

2.2 Supplement to Section 5.2 – GHG BACT - Fugitive Components

In the Plan Approval 23-0119K application, ETMT proposed BACT for GHG fugitive emissions from piping components as implementation of audio, visual, and olfactory (AVO) leak detection methods for fugitive components in methane service. For GHG components which are also in volatile organic compound (VOC) service, LAER level controls were proposed to be implemented.

In order to strengthen and provide additional context for that determination, ETMT is providing the following additional details around ETMT’s processes for selecting piping components for equipment in GHG service (defined as equipment containing greater than 10% methane by weight) as well as an updated review of recent GHG BACT determinations from around the country.

Fugitive component technologies are evaluated by ETMT when specifying components for new piping or, in the case of replacement, for existing process equipment. Appropriate valve types and packing materials are chosen based on the expected usage and appropriateness for the specific material service for the various types and uses of valves within the process. Specific elements that are evaluated include the seat, packing, and seal materials. This analysis ensures equipment reliability and safety, which inherently accounts for leak minimization.

ETMT has conducted a second, in-depth, review of the RACT, BACT, LAER Clearinghouse (RBLC) database and available permit determinations. This refreshed review provides confirmation of the previous determination that there are no facilities in operation employing leak detection and repair (LDAR) or enhanced LDAR to reduce GHG emissions as BACT for components not also in VOC service. A table summarizing the relevant results of the review have been provided below as **Table 2-1**.

Table 2-1: BACT Permit Review Results

Project	Permit State – NSR ID	BACT Determination
Gulf Coast Growth Ventures	TX - 146245	LDAR program compliant with Texas' 28VHP program outline for components in VOC service. No indication of a specific program for reduction of emissions from methane components.
Enterprise – Mont Belvieu	TX - 0890	AVO monitoring of components containing ≥10% methane. LDAR program compliant with Texas' 28VHP program outline for components in VOC service.
Formosa Plastics – Point Comfort	TX - 127838	LDAR program compliant with Texas' 28VHP program outline for components in VOC service and containing ≥10% methane.
DCP Midstream - Lucerne Gas Processing Plant	CO - 0068	LDAR program compliant with 40 CFR 60, Subpart OOOO for components in VOC service.
Motiva - Port Arthur Refinery	TX - 0759	LDAR program compliant with Texas' 28VHP program outlined for components in VOC service. No indication of a specific program for reduction of emissions from methane components.
Westlake Chemical OPCO, LP – Ethylene Plant Fugitives	KY-0113	LDAR Program compliant with 40 CFR 60 Subpart, Subpart VVa and YY as applicable for components in VOC service.
Westlake Vinyls, Inc. – Monomer Plant Fugitives in Natural Gas Services	KY-0114	LDAR Program compliant with 40 CFR 63, Subpart H for components in VOC service.
Sasol Chemicals (USA) LLC – Lake Charles Chemical Complex	LA-0291, LA-0302	LDAR Program compliant with 40 CFR 63, Subpart H for components in VOC service.
Lake Charles Methanol, LLC – Lake Charles Methanol Facility	LA-0305	Controlling fugitive emissions considered not economically feasible. No additional control determined as BACT for fugitive emissions.
Magnolia LNG, LLC – Magnolia LNG Facility	LA-0307	Good piping design/maintenance/work practice considered BACT for GHG emissions.
Big Lake Fuels LLC – G2G Plant	LA-0315	LDAR program compliant with 40 CFR 63, Subpart H for components in VOC service.
Methanex USA, LLC – Geismar Methanol Plant	LA-0317	LDAR program compliant with 40 CFR 63, Subpart H for components in VOC service.
Shell Chemical LP – Geismar Plant	LA-0381	LDAR program compliant with 40 CFR 63, Subpart H for components in VOC service.
LACC LCC US – Ethylene Plant	LA-0388	LDAR program compliant with 40 CFR 63, Subpart UU for components in VOC service.

Project	Permit State – NSR ID	BACT Determination
PTTGCA Petrochemical Complex	OH-0378	LDAR program compliant with 40 CFR 63, Subpart UU as applicable, and Subpart VVa as applicable. Methane contained in leaks associated with fugitive VOCs will be minimized by implementation of BACT for fugitive leaks of VOC.
Praxair INC – Clear Lake Plant	TX-0827, TX-0830	Sitewide limitation determined and AVO considered as BACT for components in natural gas service.
Exxonmobil Oil Corporation – Beaumont Refinery	TX-0832	LDAR program compliant with Texas' 28VHP program outlined for components in VOC service. No indication of a specific program for reduction of emissions from methane components.
Exxonmobil Oil Corporation – Beaumont Chemical Plant	TX-0838	LDAR program compliant with Texas' 28MID program outlined for components in VOC service. No indication of a specific program for reduction of emissions from methane components.
Gulf Coast Growth Ventures Asset Holding LLC	TX-0858	LDAR program compliant with Texas' 28VHP and 28CNTQ program outlined for piping components in VOC service. No indication of a specific program for reduction of emissions from methane components.
Motiva Enterprises LLC – Port Arthur Ethane Cracker Unit	TX-0876	LDAR Program compliant with Texas' 28VHP and 28CNTQ program outlined for piping components in VOC service. No indication of a specific program for reduction of emissions from methane components.
Enterprise Products Operating LLC – San Patricio Propane Dehydrogenation Unit	TX-0884	LDAR program compliant with Texas' 28LAER program outlined for components in VOC service. No indication of a specific program for reduction of emissions from methane components.
Chevron Phillips Chemical Company LP – Orange Polyethylene Plant	TX-0888	LDAR program compliant with Texas' 28VHP program outlined for components in VOC Service. No indication of a specific program for reduction of emissions from methane components.
Motiva Enterprises LLC – Polyethylene Manufacturing Complex	TX-0904	LDAR program compliant with Texas' 28VHP and 28CNTQ program outlined for piping components in VOC service. No indication of a specific program for reduction of emissions from methane components.
Diamond Green Diesel – Port Arthur Facility	TX-0905	LDAR program compliant with 28VHP and 28PI program outlined for piping components in VOC service. No indication of a specific program for reduction of emissions from methane components.
The Premcor Refining Group INC. – Port Arthur Refinery	TX-0906	LDAR Program compliant with 28VHP program outlined for components in VOC service. No indication of a specific program for reduction of emissions from methane components.
Nacero TX 1 LLC – Penwell Facility	TX-0933	LDAR program compliant with 28VHP and 28CNTQ program outlined for piping components in VOC service. No indication of a specific program for reduction of emissions from methane components.
US Navy – Norfolk Naval Shipyard	VA-0333	No mention of LDAR program in permit.

2.3 Supplement to Section 6.1.1 – VOC LAER Review – Fugitive Components

ETMT's VOC LAER determination presented in the original Ethane Chilling Expansion Project application is consistent with the Department's determinations presented in revised Plan Approval 23-0119E and Plan Approval 23-0119J (Issued February 12, 2021). These permits conclude that leak levels and LDAR requirements summarized by the Department under Source ID 103 of those permits constitute LAER for the valves, flanges, and relief valve components in VOC service. ETMT is not proposing any changes to the VOC LAER determination for fugitive components.

2.4 Supplement to Section 6.5 – Alternatives Analysis

ETMT is providing additional information on decision making to inform the Department's review of the project alternatives analysis. Further information presented here is intended to clarify project decisions and address potential design alternatives. However, it should be noted that ETMT believes that the analysis (submitted as part of the February 12, 2022 Plan Approval 23-0119K application) was complete and meets the requirements of the regulation.

The overall purpose of the Ethane Chilling Expansion Project is to enable increased shipments of ethane through the facility by increasing ethane refrigeration capacity. In order to economically and practically store and ship ethane, it must be chilled and kept in the liquid phase at temperatures below the ambient temperature. The chilling process proposed by ETMT for this project cools ethane using a mixed refrigerant liquid (MRL) refrigeration system. As presented in the original application, the ethane process is described as follows for clarity. Following removal of CO₂ and moisture, ethane is cooled using a MRL refrigeration system. A demethanizer removes methane from the ethane. A new MRL chiller, including a MRL compressor and heat exchanger, will be installed in parallel with the three existing MRL chiller trains. Methane separated from the ethane feedstock is recovered and used in the MHT fuel gas system.

The Ethane Chilling Expansion Project, as proposed, utilizes existing facility process capacity up to the chillers themselves. Proposed new pieces of equipment associated with this project include a new cold box and MRL system as well as the associated support equipment and process connections.

This process design was chosen by ETMT following an evaluation of the business requirements and anticipated demand for the product which justified the scale of the project (i.e., the rate of material moving through the facility). At the scale of the Ethane Chilling Expansion Project, there are two proven process approaches which could enable the refrigeration of ethane: 1) a cold box and MRL refrigeration system, and 2) the proprietary closed loop/open loop refrigeration system utilized by ETMT under Plan Approval 23-0119J. Both process designs are valid approaches and have specific advantages and disadvantages in implementation, particularly in the described context of the facility and project.

For the Ethane Chilling Expansion Project, the new cold box and MRL system was selected for its relative simplicity and similarity to the existing operation. At this scale, the new cold box and MRL system design results in fewer potential points where the system could leak or emit into the atmosphere with an overall reduction in the number of pieces of new equipment as compared to the alternative process design. The proposed process design minimizes the changes to the facility and additional equipment required, as well as maximizes the existing MHT processes and equipment.

An alternative to the proposed system design would be a closed loop/open loop system as approved for construction and operation under Plan Approval 23-0119J. The Plan Approval 23-0119J design consisted of two (2) closed-loop refrigeration systems utilizing propane as the working fluid, and two (2) new open-loop refrigeration systems for final chilling of the ethane. Advantages of the closed loop/open loop system over the cold box and MRL system include better scalability of material. Despite the increase in

the quantity of parallel trains required, this system has a similar energy efficiency to the Ethane Chilling Expansion Project design. Ultimately, the amount of ethane chilling capacity and facility load from the Ethane Chilling Expansion Project does not justify the more complex process design approach. At this scale, the closed loop/open loop system process would not be as efficient as the alternative system, would require more space for construction and development, and would ultimately require more equipment to be constructed at the facility.

3. SUPPLEMENT TO ADDRESS PUBLIC OUTREACH AND COMMUNITY ENGAGEMENT

ETMT is providing the following as Table 3-1 which outlines the public outreach and community engagement undertaken by ETMT in advance of submitting the application for Plan Approval 23-0119K.

Table 3-1: ETMT Public Outreach

Event	Description	Date(s)
Monthly Environmental Advisory Council Meeting	Plans to submit Ethane Chilling Expansion permit application discussed	1/6/2022 and 2/3/2022

An update to the application GIF (Form 0210-PM-PIO0001) has been included as **Appendix B** to reflect the above actions.

4. SUPPLEMENT TO AIR QUALITY MODELING REPORT

ETMT is providing supplementary information for the air quality modeling report to PADEP regarding cooling tower height, the significant impact analysis, and the land use characteristics used during modeling as PADEP continues the technical review of the Plan Approval 23-119K application which incorporates the Ethane Chilling Expansion Project.

4.1 Supplement to Section 2.3 – Cooling Tower Height

Since the submittal of the original air quality modeling report, ETMT has conducted an on-site survey of the physical dimensions of existing emissions sources (stacks) and structures. The results of the survey were used to verify and adjust the physical parameters used in the original input into the air quality modeling analysis. The revised modeling report was submitted to PADEP in February 2023.

4.2 Supplement to Section 3.1.1 – Significant Impact Analysis

Significant Impact Levels (SILs) are commonly used in air quality modeling analyses to provide context to modeled results. Specifically, SILs have historically been used by state agencies and the United States Environmental Protection Agency (USEPA) as a compliance demonstration tool to establish the following:

- Whether a proposed new source or modification to an existing source’s air quality impact is significant. A proposed new or modified source must have a significant impact on ambient air quality in order to cause or contribute to a violation of a NAAQS or PSD increment. If the maximum modeled concentration of a pollutant (in the relevant statistical form of the model design value) is less than the SIL, then the air quality impact of the new or modified source is considered to be insignificant.
- To establish the significant impact area (SIA) of a new or modified source to be used in a cumulative modeling analysis. The SIA is the maximum distance from the source where a significant air quality impact has been determined to occur (through air quality modeling). The size of the SIA is then used

in decision-making by the state agency or the USEPA to determine what nearby sources should be considered for inclusion in a cumulative modeling analysis.

- To determine whether a source would cause or contribute to a violation to a national ambient air quality standard (NAAQS) or Prevention of Significant Deterioration (PSD) increment. If a modeled exceedance of a NAAQS or PSD increment is determined as part of a cumulative modeling analysis, the source under review would be considered to cause or contribute to the modeled exceedance if the source’s contribution to the violation is greater than the applicable SIL.
- The levels of the SILs for the pollutants under PSD review (NO₂, CO, and PM_{2.5}) for this modification is further supported as protective of the NAAQS by summing the SILs with representative background air quality data. An increase in ambient concentration equivalent to the SIL would not represent a violation of the NAAQS for any pollutant under PSD review at this modified source. **Appendix C** of this addendum presents a table showing representative background air quality data from the existing air quality monitoring network, and demonstrates that these monitor values can be added to the SILs and be under the relevant NAAQS values.

The SILs are referred to in 40 CFR 51.165(b)(2):

(2) A major source or major modification will be considered to cause or contribute to a violation of a national ambient air quality standard when such source or modification would, at a minimum, exceed the following significance levels at any locality that does not or would not meet the applicable national standard:

Pollutant	Annual	Averaging time (hours)			
		24	8	3	1
SO ₂	1.0 µg/m ³	5 µg/m ³		25 µg/m ³	
PM ₁₀	1.0 µg/m ³	5 µg/m ³			
PM _{2.5}	0.3 µg/m ³ ¹	1.2 µg/m ³			
NO ₂	1.0 µg/m ³				
CO			0.5 mg/m ³		2 mg/m ³

As shown above, the federal regulations rely on the SILs as benchmarks to establish whether an individual source causes or contributes to a violation of the NAAQS. It follows then that a modeling analysis that demonstrates the source under review does not result in modeled concentrations greater than SILs, by extension demonstrates that the source is will not cause or contribute to a violation of the NAAQS. This demonstration is further confirmed where it is shown that the difference between background concentrations and the NAAQS are greater than the SILs.

PADEP has also historically relied on SILs in decision making for the issuance of air permits, and the PADEP Environmental Hearing Board (EHB) has previously adjudicated challenges to the use of SILs². In the 2006 case referenced here, the EHB found extensive evidence in favor of the use of SILs in regulatory decision making, and makes the following comment related to Appellant allegations that any

¹ ETMT’s Air Quality Analysis uses the USEPA recommended SIL value of 0.2 µg/m³ for the annual PM_{2.5} NAAQS as set forth in Memorandum from Peter Tsirigotis, EPA OAQPS, to EPA Regional Air Division Directors, “Guidance on Significant Impact Levels for Ozone and Fine Particulates in the Prevention of Significant Deterioration Program,” April 17, 2018.

² Dennis Groce, National Parks Conservation Association, Group Against Smog and Pollution and Phil Coleman v. Commonwealth of Pennsylvania Department of Environmental Protection and Wellington Development – WVDT, LLC, EHB Docket No. 2005-246-R, November 22, 2006

impact, regardless of magnitude, could either cause or contribute to a violation of an air quality standard (NAAQS or PSD increment):

The Department argues that adopting the Appellants' non-zero approach would be impractical, particularly as new software develops that allows modelers to measure even smaller amounts at greater distances. As the Department correctly points out, the Appellants' approach would depend solely on what measurement, no matter how small, is generated by a computer model and not whether a proposed source's impact has any significance to air quality. Simply stated, merely because a computer model can generate a number does not necessarily make it significant in our analysis.

The fact that the air dispersion model is capable of calculating infinitesimally small values does not mean that those values are meaningful outside the realm of pure mathematics. In fact, the Class I 24-hour significant impact level for sulfur dioxide is actually below the detection limit for ambient monitors used in the field. (N.T. 63, Vol. 1) The models have predicted something that cannot be verified or even detected reliably. We agree with the Department that there has to be some common sense threshold to make mathematical modeling methods realistic and meaningful.

Based on what we find to be both EPA's clear intent to allow for the use of significant or non-de minimis impact levels, upheld by the Environmental Appeals Board in *Prairie State*, and our finding that significant impact levels are a valid method for determining increment consumption, we conclude that the Department properly found that Greene Energy will not cause or contribute to an increment violation of sulfur dioxide at Shenandoah National Park because Greene Energy's contribution is below the significant impact level.

ETMT concludes that both federal regulation and USEPA and PADEP policies strongly support the use of SILs in air quality modeling analyses for major sources and major modifications. The model results and other data presented by ETMT are below the applicable or recommended SILs, and therefore the project will not cause or contribute to any violation of the NAAQS or PSD increments.

4.3 Supplement to Section 3.3.1 – Land Use Characteristics

The air quality modeling analysis performed by ETMT correctly characterized the land use surrounding the application site using land cover data from the USGS to support the use of the default rural mode in AERMOD. Specifically, ETMT evaluated the area defined by a 3-km radius from the approximate center of the facility and analyzed USGS NLCD 2019 data within this area. As described in the air quality modeling protocol approved by PADEP, urban classifications were assumed to be NLCD category 23 (developed, medium intensity) and NLCD category 24 (developed, high intensity). These land use classifications are the closest approximation in the NLCD 2019 data to the land use classifications used by Auer³ that are specified in Section 7.2.1.1(b) of EPA's Guideline on Air Quality Models ("the Guideline")⁴ as being associated with urban classification (Auer land use categories I1 – Heavy industrial, I2 – Light-moderate industrial, C1 – Commercial, R2 – Compact residential, R3 – Compact residential). The result of this analysis showed that less than 34% of the land use within 3-km was urban

³ Auer, August H. Jr., "Correlation of Land Use and Cover with Meteorological Anomalies", *Journal of Applied Meteorology*, Volume 17, 1978

⁴ 7.2.1.1(b) of Appendix W to 40 CFR 51 (Guideline on Air Quality Models)

classification. EPA's Guideline⁵ states that if the land use types of I1, I2, C1, R2, and R3 account for 50 percent or more of the area defined by a 3-km radius around the source, then urban dispersion coefficient (i.e., AERMOD's urban option) should be used. Because the land use types within 3-km of the source are only 34%, the urban option was not used.

In addition to the analysis described above, ETMT took an additional step to characterize the land use within 10-km of the facility. This was done to ensure that the nearby proximity of the Delaware River does not disproportionately skew the 3-km analysis to favor rural classification, when the surrounding area beyond the 3-km radius might be more urban. The results of the 10-km land use analysis showed even less urban land use (17.45%), therefore the proximity of the river does not 'mask' the land use analysis to result in a mischaracterization of the model application site as rural. The combination of the river, wetlands, open space, and surrounding low intensity residential neighborhoods in the area supports the use of rural mode in AERMOD. The 10-km land use analysis was also included in the revised modeling report submitted to PADEP in March 2023.

ETMT has taken further steps to provide additional context and illustration to support the characterization of the model application site as rural. The first step was to analyze an undoubtedly urban application site, Center City Philadelphia, to illustrate the NLCD land use classifications that are typical of true urban environments where the urban mode of AERMOD would be appropriate for use. Table 4-1 and Table 4-2 below present the land classifications within 3-km and 10-km of Center City Philadelphia (assuming Philadelphia City Hall as the center point).

Table 4-1: Land Use Classification within 3-km of Center City Philadelphia

Grid Code	Grid Code Description	Area (m ²)
11	Open Water	2,064,600
21	Developed, Open Space	386,100
22	Developed, Low Intensity	837,900
23	Developed, Medium Intensity	6,634,800
24	Developed, High Intensity	18,201,600
31	Barren Land	9,900
41	Deciduous Forest	35,100
52	Shrub/ Scrub	4,500
71	Grassland/Herbaceous	90,000
90	Woody Wetlands	20,700
95	Emergent Herbaceous Wetlands	9,000
Sum of All Values		28,294,200
Total Area for Codes 23 and 24		24,836,400
Percentage Urban		87.78%

⁵ 7.2.1.1(b)(i) of Appendix W to 40 CFR 51 (Guideline on Air Quality Models)

Table 4-2: Land Use Classifications within 10-km of Center City Philadelphia

Grid Code	Grid Code Description	Area (m ²)
11	Open Water	27,087,300
21	Developed, Open Space	28,275,300
22	Developed, Low Intensity	40,976,100
23	Developed, Medium Intensity	86,321,700
24	Developed, High Intensity	111,603,600
31	Barren Land	298,800
41	Deciduous Forest	9,415,800
42	Evergreen Forest	40,500
43	Mixed Forest	519,300
52	Shurb/ Scrub	532,800
71	Grassland/Herbaceous	1,416,600
81	Pasture/ Hay	764,100
82	Cultivated Crops	513,900
90	Woody Wetlands	3,689,100
95	Emergent Herbaceous Wetlands	2,955,600
Sum of All Values		314,410,500
Total Area for Codes 23 and 24		197,925,300
Percentage Urban		62.95%

The tables above demonstrate that a true urban area is dominated by urban land use within 3-km, and depending on the size of the urban area, at larger domain-wide scales like 10-km. When the analyses above are contrasted with the land use analyses presented in the ETMT modeling report submitted to PADEP (where urban land use was determined to represent 33.7% of the area within 3-km and 17.45% within 10-km), the difference between the ETMT model application site and a well-established urban center is clear. ETMT asserts that the characterization of the model application site as predominately rural land use and not subject to urban heat island effects is appropriate and defensible following accepted regulatory guidance, and is the appropriate approach for the air quality modeling analysis in support of the ethane chilling project. It should be noted that the urban option is not a regulatory default option and needs sufficient justification in order for it to be used in a regulatory application of AERMOD. As evidenced by the material presented in the modeling report, and supplemented above, there is no justification to use the urban option for this application.

4.3.1 Population Density Procedure

In addition to the land use procedure described above, which the Guideline describes as the more definitive procedure, ETMT took an additional step to confirm the selection of the rural dispersion coefficients by performing the population density procedure. This section describes this procedure for the proposed project. Section 7.2.1.1(b)(ii) of the Guideline describes the population density procedure as a calculation of the average population density, in units of people per km², for the same area as defined by the 3-km radius used in the land use procedure. The Guideline states that if the average population density for the area is greater than 750 people per km², the area is considered urban and urban dispersion coefficients should be used. To implement the population density procedure, ETMT has identified each US Census tract within the 3-km area surrounding the facility. Table 4-3 below presents the population in each of these tracts, the total area of each tract, and the area of each tract within 3-km

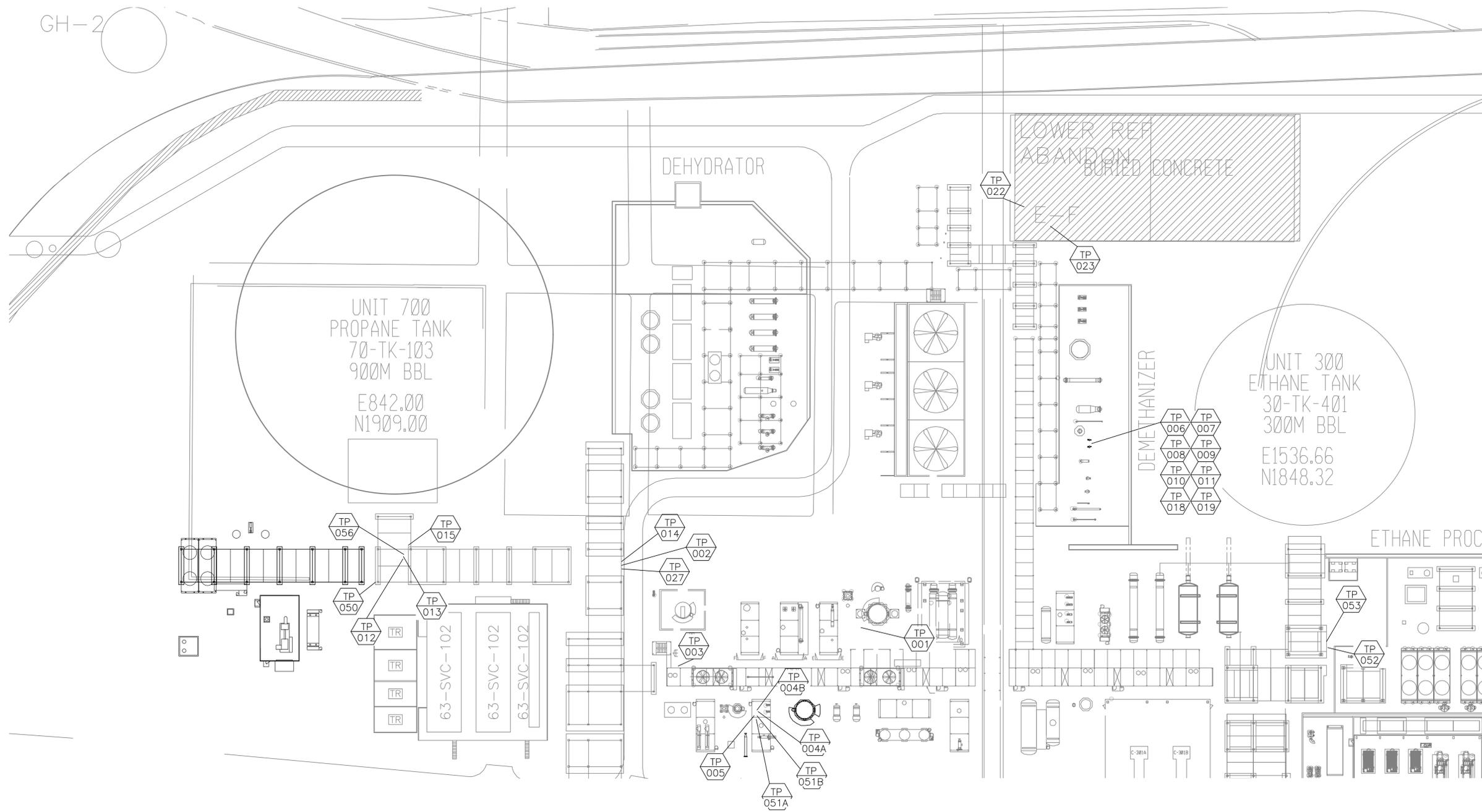
of the facility. The population of each tract was then scaled by the area within 3-km of the facility to the total area of each tract, to represent the population of the tract residing within the 3-km area. The scaled population of each census tract was then summed and divided by an area of 28.773 km² (the area defined by a 3-km radius). The resulting population density is 534.92 people per km².

Table 4-3: Population Density

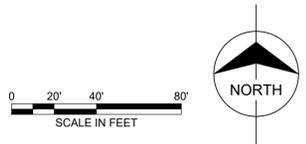
Census Tract ID	Census Tract Name	Total Tract Population	Total Tract Area (km ²)	Tract area within 3-km (km ²)	Scaled Population	
10003010104	Census Tract 101.04, New Castle County, Delaware	4,148	6.488	4.216	2,695.4	
10003010105	Census Tract 101.05, New Castle County, Delaware	2,339	2.265	1.710	1,766.5	
10003010106	Census Tract 101.06, New Castle County, Delaware	1,746	0.518	0.217	729.7	
10003010300	Census Tract 103, New Castle County, Delaware	3,577	1.835	0.193	376.6	
10003990100	Census Tract 9901, New Castle County, Delaware	0	123.154	3.926	0.0	
34015502400	Census Tract 5024, Gloucester County, New Jersey	6,061	68.833	4.596	404.7	
34033020100	Census Tract 201, Salem County, New Jersey	1,781	53.543	1.608	53.5	
42045406500	Census Tract 4065, Delaware County, Pennsylvania	1,746	3.557	2.663	1,307.0	
42045406600	Census Tract 4066, Delaware County, Pennsylvania	2,304	4.205	4.205	2,304.0	
42045406700	Census Tract 4067, Delaware County, Pennsylvania	3,410	2.776	2.775	3,409.6	
42045406802	Census Tract 4068.02, Delaware County, Pennsylvania	4,860	5.063	2.164	2,077.0	
				Total Area within 3-km (km²):	28.273	
					Total Population within 3-km (# of people):	15,123.89
					Total Pop Density within 3-km (people/km²):	534.92

The population density procedure confirms the conclusion of the land use procedure. The calculated population density within 3-km of the facility is less than 750 people/km², therefore that rural dispersion coefficients are appropriate for this air quality modeling application.

**APPENDIX A ETHANE CHILLING EXPANSION PROJECT STEAM
CONNECTIONS LOCATION MAP**



PRELIMINARY - NOT FOR CONSTRUCTION



**BURNS
MCDONNELL**

9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
128980

ENGINEERING RECORD	
DRAWN BY	
CHECKED BY	
APPROVED BY	
DATE	01/05/21
SCALE	1" = 40'
SCADA	

REV.	DATE	APP#	DESCRIPTION	APPROVAL
A	2/5/21		ISSUED FOR APPROVAL	RP DK ET



MARCUS HOOK INDUSTRIAL COMPLEX
ETHANE CHILLING EXPANSION
D TRAINS
TIE IN PLAN

MARCUS HOOK

DELAWARE, COUNTY PA.

OLD DRAWING NO.	-	DWG. NO.	128980-PD-SK-003	REV. NO.	A
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APPENDIX B UPDATED GENERAL INFORMATION FORM



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

GENERAL INFORMATION FORM – AUTHORIZATION APPLICATION

Before completing this General Information Form (GIF), read the step-by-step instructions provided in this application package. This form is used by the Department of Environmental Protection (DEP) to inform our programs regarding what other DEP permits or authorizations may be needed for the proposed project or activity. This version of the General Information Form (GIF) must be completed and returned with any program-specific application being submitted to the DEP.

<p style="text-align: center;">Related ID#s (If Known)</p> <p>Client ID# <u>161585</u> APS ID# _____ Site ID# <u>270459</u> Auth ID# _____ Facility ID# <u>757998</u></p>	<p style="text-align: center;">DEP USE ONLY</p> <p style="text-align: center;">Date Received & General Notes</p>
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CLIENT INFORMATION

DEP Client ID# 161585	Client Type / Code NPACO	Dun & Bradstreet ID#	
Legal Organization Name or Registered Fictitious Name Energy Transfer Marketing & Terminals L.P.		Employer ID# (EIN) 23-3102655	Is the EIN a SSN? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> NO
State of Incorporation or Registration of Fictitious Name Texas		<input type="checkbox"/> Corporation <input type="checkbox"/> LLC <input type="checkbox"/> Partnership <input type="checkbox"/> LLP <input checked="" type="checkbox"/> LP <input type="checkbox"/> Sole Proprietorship <input type="checkbox"/> Association/Organization <input type="checkbox"/> Estate/Trust <input type="checkbox"/> Other	
Individual Last Name	First Name	MI	Suffix
Additional Individual Last Name	First Name	MI	Suffix
Mailing Address Line 1 100 Green Street		Mailing Address Line 2	
Address Last Line – City Marcus Hook		State PA	ZIP+4 19061-0426
Client Contact Last Name Garcia		First Name Lisa	MI
Client Contact Title Sr. Manager - Engineering		Phone (713) 980-7762	Ext
Email Address Lisa.Garcia@energytransfer.com		FAX	

SITE INFORMATION

DEP Site ID# 270459	Site Name Marcus Hook Industrail Complex																				
EPA ID# PAR000538058	Estimated Number of Employees to be Present at Site																				
Description of Site Storage and Marine Loading Facility																					
Tax Parcel ID(s):																					
County Name(s) Delaware	Municipality(ies) Marcus Hook																				
	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:15%;">City</td> <td style="width:15%;">Boro</td> <td style="width:15%;">Twp</td> <td style="width:15%;">State</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td></td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td></td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td></td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td></td> </tr> </table>	City	Boro	Twp	State	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
City	Boro	Twp	State																		
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<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																			
Site Location Line 1 100 Green Street																					
Site Location Line 2																					
Site Location Last Line – City Marcus Hook Facility	State PA																				
	ZIP+4 19061-0426																				

Detailed Written Directions to Site
Follow I-95 S; Take the MARKET STREET / PA-452 exit- EXIT 2; Turn LEFT onto MARKET ST / PA-452. Continue to follow MARKET ST.; Turn RIGHT onto 11TH ST.; Turn LEFT onto GREEN ST. Enter at Visitors Entrance. Request escort by Environmental Dept. Personnel.

Site Contact Last Name Smith	First Name Kevin	MI W	Suffix
Site Contact Title Environmental Compliance Specialist		Site Contact Firm Sunoco Partners Marketing & Terminals L.P.I	
Mailing Address Line 1 100 Green Street		Mailing Address Line 2	
Mailing Address Last Line – City Marcus Hook		State PA	ZIP+4 19061-0426
Phone (610) 859-3309	Ext	FAX	Email Address kevin.smith2@energytransfer.com
NAICS Codes (Two- & Three-Digit Codes – List All That Apply) 493		6-Digit Code (Optional) 493190	
Client to Site Relationship OWNOP			

FACILITY INFORMATION

Modification of Existing Facility	Yes	No
1. Will this project modify an existing facility, system, or activity?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Will this project involve an addition to an existing facility, system, or activity? <i>If "Yes", check all relevant facility types and provide DEP facility identification numbers below.</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Facility Type	DEP Fac ID#	Facility Type	DEP Fac ID#
<input type="checkbox"/> Air Emission Plant	_____	<input type="checkbox"/> Industrial Minerals Mining Operation	_____
<input type="checkbox"/> Beneficial Use (water)	_____	<input type="checkbox"/> Laboratory Location	_____
<input type="checkbox"/> Blasting Operation	_____	<input type="checkbox"/> Land Recycling Cleanup Location	_____
<input type="checkbox"/> Captive Hazardous Waste Operation	_____	<input type="checkbox"/> Mine Drainage Treatment / Land Recycling Project Location	_____
<input type="checkbox"/> Coal Ash Beneficial Use Operation	_____	<input type="checkbox"/> Municipal Waste Operation	_____
<input type="checkbox"/> Coal Mining Operation	_____	<input type="checkbox"/> Oil & Gas Encroachment Location	_____
<input type="checkbox"/> Coal Pillar Location	_____	<input checked="" type="checkbox"/> Oil & Gas Location	292970
<input type="checkbox"/> Commercial Hazardous Waste Operation	_____	<input type="checkbox"/> Oil & Gas Water Poll Control Facility	_____
<input type="checkbox"/> Dam Location	_____	<input type="checkbox"/> Public Water Supply System	_____
<input type="checkbox"/> Deep Mine Safety Operation -Anthracite	_____	<input type="checkbox"/> Radiation Facility	_____
<input type="checkbox"/> Deep Mine Safety Operation -Bituminous	_____	<input type="checkbox"/> Residual Waste Operation	_____
<input type="checkbox"/> Deep Mine Safety Operation -Ind Minerals	_____	<input type="checkbox"/> Storage Tank Location	_____
<input type="checkbox"/> Encroachment Location (water, wetland)	_____	<input type="checkbox"/> Water Pollution Control Facility	_____
<input type="checkbox"/> Erosion & Sediment Control Facility	_____	<input type="checkbox"/> Water Resource	_____
<input type="checkbox"/> Explosive Storage Location	_____	<input type="checkbox"/> Other:	_____

Latitude/Longitude Point of Origin	Latitude			Longitude		
	Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
Plant Entrance (general)	39	48	41	-75	25	32
Horizontal Accuracy Measure	Feet		--or--	Meters		
Horizontal Reference Datum Code	<input type="checkbox"/> North American Datum of 1927 <input checked="" type="checkbox"/> North American Datum of 1983 <input type="checkbox"/> World Geodetic System of 1984					
Horizontal Collection Method Code	Reference Point Code					
Altitude	Feet	12	--or--	Meters		
Altitude Datum Name	<input type="checkbox"/> The National Geodetic Vertical Datum of 1929 <input checked="" type="checkbox"/> The North American Vertical Datum of 1988 (NAVD88)					
Altitude (Vertical) Location Datum Collection Method Code						
Geometric Type Code						
Data Collection Date	7/29/2015					
Source Map Scale Number	Inch(es)		=	Feet		
	--or--	Centimeter(s)		=	Meters	

PROJECT INFORMATION

Project Name
Ethane Chilling Expansion

Project Description
See attached report

Project Consultant Last Name	First Name	MI	Suffix
McGroarty	Colin		

Project Consultant Title	Consulting Firm
Partner	Environmental Resources Management

Mailing Address Line 1	Mailing Address Line 2
75 Valley Stream Parkway	Suite 200

Address Last Line – City	State	ZIP+4
Malvern	PA	19355

Phone	Ext	FAX	Email Address
484-913-0409	409		colin.mcgroarty@erm.com

Time Schedules	Project Milestone (Optional)

1. Is the project located in or within a 0.5-mile radius of an Environmental Justice community as defined by DEP? Yes No

To determine if the project is located in or within a 0.5-mile radius of an environmental justice community, please use the online [Environmental Justice Areas Viewer](#).

2. Have you informed the surrounding community prior to submitting the application to the Department? Yes No

Method of notification: Monthly Environmental Advisory Council Meetings

3. Have you addressed community concerns that were identified? Yes No N/A

If no, please briefly describe the community concerns that have been expressed and not addressed.

4. Is your project funded by state or federal grants? Yes No

Note: If "Yes", specify what aspect of the project is related to the grant and provide the grant source, contact person and grant expiration date.

Aspect of Project Related to Grant
Grant Source: _____
Grant Contact Person: _____
Grant Expiration Date: _____

5. Is this application for an authorization on Appendix A of the Land Use Policy? (For referenced list, see Appendix A of the Land Use Policy attached to GIF instructions) Yes No

Note: If "No" to Question 5, the application is not subject to the Land Use Policy. If "Yes" to Question 5, the application is subject to this policy and the Applicant should answer the additional questions in the Land Use Information section.

LAND USE INFORMATION

Note: Applicants should submit copies of local land use approvals or other evidence of compliance with local comprehensive plans and zoning ordinances.

- | | | | | | |
|--|--|-------------------------------------|-----|-------------------------------------|----|
| 1. | Is there an adopted county or multi-county comprehensive plan? | <input checked="" type="checkbox"/> | Yes | <input type="checkbox"/> | No |
| 2. | Is there a county stormwater management plan? | <input checked="" type="checkbox"/> | Yes | <input type="checkbox"/> | No |
| 3. | Is there an adopted municipal or multi-municipal comprehensive plan? | <input checked="" type="checkbox"/> | Yes | <input type="checkbox"/> | No |
| 4. | Is there an adopted county-wide zoning ordinance, municipal zoning ordinance or joint municipal zoning ordinance? | <input checked="" type="checkbox"/> | Yes | <input type="checkbox"/> | No |
| <p>Note: If the Applicant answers "No" to either Questions 1, 3 or 4, the provisions of the PA MPC are not applicable and the Applicant does not need to respond to questions 5 and 6 below.
If the Applicant answers "Yes" to questions 1, 3 and 4, the Applicant should respond to questions 5 and 6 below.</p> | | | | | |
| 5. | Does the proposed project meet the provisions of the zoning ordinance or does the proposed project have zoning approval? If zoning approval has been received, attach documentation. | <input checked="" type="checkbox"/> | Yes | <input type="checkbox"/> | No |
| 6. | Have you attached Municipal and County Land Use Letters for the project? | <input type="checkbox"/> | Yes | <input checked="" type="checkbox"/> | No |

COORDINATION INFORMATION

Note: The PA Historical and Museum Commission must be notified of proposed projects in accordance with DEP Technical Guidance Document 012-0700-001 utilizing the Project Review Form.

If the activity will be a mining project (i.e., mining of coal or industrial minerals, coal refuse disposal and/or the operation of a coal or industrial minerals preparation/processing facility), respond to questions 1.0 through 2.5 below.

If the activity will not be a mining project, skip questions 1.0 through 2.5 and begin with question 3.0.

- | | | | | | |
|-----|---|--------------------------|-----|-------------------------------------|----|
| 1.0 | Is this a coal mining project? If "Yes", respond to 1.1-1.6. If "No", skip to Question 2.0. | <input type="checkbox"/> | Yes | <input checked="" type="checkbox"/> | No |
| 1.1 | Will this coal mining project involve coal preparation/ processing activities in which the total amount of coal prepared/processed will be equal to or greater than 200 tons/day? | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |
| 1.2 | Will this coal mining project involve coal preparation/ processing activities in which the total amount of coal prepared/processed will be greater than 50,000 tons/year? | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |
| 1.3 | Will this coal mining project involve coal preparation/ processing activities in which thermal coal dryers or pneumatic coal cleaners will be used? | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |
| 1.4 | For this coal mining project, will sewage treatment facilities be constructed and treated waste water discharged to surface waters? | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |
| 1.5 | Will this coal mining project involve the construction of a permanent impoundment meeting one or more of the following criteria: (1) a contributory drainage area exceeding 100 acres; (2) a depth of water measured by the upstream toe of the dam at maximum storage elevation exceeding 15 feet; (3) an impounding capacity at maximum storage elevation exceeding 50 acre-feet? | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |
| 1.6 | Will this coal mining project involve underground coal mining to be conducted within 500 feet of an oil or gas well? | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |
| 2.0 | Is this a non-coal (industrial minerals) mining project? If "Yes", respond to 2.1-2.6. If "No", skip to Question 3.0. | <input type="checkbox"/> | Yes | <input checked="" type="checkbox"/> | No |
| 2.1 | Will this non-coal (industrial minerals) mining project involve the crushing and screening of non-coal minerals other than sand and gravel? | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |
| 2.2 | Will this non-coal (industrial minerals) mining project involve the crushing and/or screening of sand and gravel with the exception of wet sand and gravel operations (screening only) and dry sand and gravel operations with a capacity of less than 150 tons/hour of unconsolidated materials? | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |

2.3	Will this non-coal (industrial minerals) mining project involve the construction, operation and/or modification of a portable non-metallic (i.e., non-coal) minerals processing plant under the authority of the General Permit for Portable Non-metallic Mineral Processing Plants (i.e., BAQ-PGPA/GP-3)?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
2.4	For this non-coal (industrial minerals) mining project, will sewage treatment facilities be constructed and treated waste water discharged to surface waters?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
2.5	Will this non-coal (industrial minerals) mining project involve the construction of a permanent impoundment meeting one or more of the following criteria: (1) a contributory drainage area exceeding 100 acres; (2) a depth of water measured by the upstream toe of the dam at maximum storage elevation exceeding 15 feet; (3) an impounding capacity at maximum storage elevation exceeding 50 acre-feet?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
3.0	Will your project, activity, or authorization have anything to do with a well related to oil or gas production, have construction within 200 feet of, affect an oil or gas well, involve the waste from such a well, or string power lines above an oil or gas well? If "Yes", respond to 3.1-3.3. If "No", skip to Question 4.0.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
3.1	Does the oil- or gas-related project involve any of the following: placement of fill, excavation within or placement of a structure, located in, along, across or projecting into a watercourse, floodway or body of water (including wetlands)?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
3.2	Will the oil- or gas-related project involve discharge of industrial wastewater or stormwater to a dry swale, surface water, ground water or an existing sanitary sewer system or storm water system? If "Yes", discuss in <i>Project Description</i> .	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
3.3	Will the oil- or gas-related project involve the construction and operation of industrial waste treatment facilities?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
4.0	Will the project involve a construction activity that results in earth disturbance? If "Yes", specify the total disturbed acreage.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
4.0.1	Total Disturbed Acreage				
4.0.2	Will the project discharge or drain to a special protection water (EV or HQ) or an EV wetland?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
4.0.3	Will the project involve a construction activity that results in earth disturbance in the area of the earth disturbance that are contaminated at levels exceeding residential or non-residential medium-specific concentrations (MSCs) in 25 Pa. Code Chapter 250 at residential or non-residential construction sites, respectively?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
5.0	Does the project involve any of the following: water obstruction and/or encroachment, wetland impacts, or floodplain project by the Commonwealth/political subdivision or public utility? If "Yes", respond to 5.1-5.7. If "No", skip to Question 6.0.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
5.1	Water Obstruction and Encroachment Projects – Does the project involve any of the following: placement of fill, excavation within or placement of a structure, located in, along, across or projecting into a watercourse, floodway or body of water?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
5.2	Wetland Impacts – Does the project involve any of the following: placement of fill, excavation within or placement of a structure, located in, along, across or projecting into a wetland?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
5.3	Floodplain Projects by the Commonwealth, a Political Subdivision of the Commonwealth or a Public Utility – Does the project involve any of the following: placement of fill, excavation within or placement of a structure, located in, along, across or projecting into a floodplain?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
5.4	Is your project an interstate transmission natural gas pipeline?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No

5.5	Does your project consist of linear construction activities which result in earth disturbance in two or more DEP regions AND three or more counties?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
5.6	Does your project utilize Floodplain Restoration as a best management practice for Post Construction Stormwater Management?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
5.7	Does your project utilize Class V Gravity / Injection Wells as a best management practice for Post Construction Stormwater Management?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
6.0	Will the project involve discharge of construction related stormwater to a dry swale, surface water, ground water or separate storm water system?	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
6.1	Will the project involve discharge of industrial waste stormwater or wastewater from an industrial activity or sewage to a dry swale, surface water, ground water or an existing sanitary sewer system or separate storm water system?	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
7.0	Will the project involve the construction and operation of industrial waste treatment facilities?	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
8.0	Will the project involve construction of sewage treatment facilities, sanitary sewers, or sewage pumping stations? If "Yes", indicate estimated proposed flow (gal/day). Also, discuss the sanitary sewer pipe sizes and the number of pumping stations/treatment facilities/name of downstream sewage facilities in the <i>Project Description</i> , where applicable. 8.0.1 Estimated Proposed Flow (gal/day)	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
9.0	Will the project involve the subdivision of land, or the generation of 800 gpd or more of sewage on an existing parcel of land or the generation of an additional 400 gpd of sewage on an already-developed parcel, or the generation of 800 gpd or more of industrial wastewater that would be discharged to an existing sanitary sewer system? 9.0.1 Was Act 537 sewage facilities planning submitted and approved by DEP? If "Yes" attach the approval letter. Approval required prior to 105/NPDES approval.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
10.0	Is this project for the beneficial use of biosolids for land application within Pennsylvania? If "Yes" indicate how much (i.e. gallons or dry tons per year). 10.0.1 Gallons Per Year (residential septage) _____ 10.0.2 Dry Tons Per Year (biosolids) _____	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
11.0	Does the project involve construction, modification or removal of a dam? If "Yes", identify the dam. 11.0.1 Dam Name	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
12.0	Will the project interfere with the flow from, or otherwise impact, a dam? If "Yes", identify the dam. 12.0.1 Dam Name	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
13.0	Will the project involve operations (excluding during the construction period) that produce air emissions (i.e., NOX, VOC, etc.)? 13.0.1 If "Yes", is the operation subject to the agricultural exemption in 35 P.S. § 4004.1? 13.0.2 If the answer to 13.0.1 is "No", identify each type of emission followed by the estimated amount of that emission. Enter all types & amounts of emissions; separate each set with semicolons.	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No
		<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No

14.0	Does the project include the construction or modification of a drinking water supply to serve 15 or more connections or 25 or more people, at least 60 days out of the year? If "Yes", check all proposed sub-facilities.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
14.0.1	Number of Persons Served	_____			
14.0.2	Number of Employee/Guests	_____			
14.0.3	Number of Connections	_____			
14.0.4	Sub-Fac: Distribution System	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
14.0.5	Sub-Fac: Water Treatment Plant	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
14.0.6	Sub-Fac: Source	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
14.0.7	Sub-Fac: Pump Station	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
14.0.8	Sub Fac: Transmission Main	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
14.0.9	Sub-Fac: Storage Facility	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
15.0	Will your project include infiltration of storm water or waste water to ground water within one-half mile of a public water supply well, spring or infiltration gallery?	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
16.0	Is your project to be served by an existing public water supply? If "Yes", indicate name of supplier and attach letter from supplier stating that it will serve the project.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
16.0.1	Supplier's Name	_____			
16.0.2	Letter of Approval from Supplier is Attached	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
17.0	Will this project be served by on-lot drinking water wells?	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
18.0	Will this project involve a new or increased drinking water withdrawal from a river, stream, spring, lake, well or other water bod(ies)? If "Yes", reference Safe Drinking Water Program.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
18.0.1	Source Name	_____			
19.0	Will the construction or operation of this project involve treatment, storage, reuse, or disposal of waste? If "Yes", indicate what type (i.e., hazardous, municipal (including infectious & chemotherapeutic), residual) and the amount to be treated, stored, re-used or disposed.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
19.0.1	Type & Amount	_____			
20.0	Will your project involve the removal of coal, minerals, contaminated media, or solid waste as part of any earth disturbance activities?	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
21.0	Does your project involve installation of a field constructed underground storage tank? If "Yes", list each Substance & its Capacity. Note: Applicant may need a Storage Tank Site Specific Installation Permit.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
21.0.1	Enter all substances & capacity of each; separate each set with semicolons.	_____			
22.0	Does your project involve installation of an aboveground storage tank greater than 21,000 gallons capacity at an existing facility? If "Yes", list each Substance & its Capacity. Note: Applicant may need a Storage Tank Site Specific Installation Permit.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
22.0.1	Enter all substances & capacity of each; separate each set with semicolons.	_____			
23.0	Does your project involve installation of a tank greater than 1,100 gallons which will contain a highly hazardous substance as defined in DEP's Regulated Substances List, 2570-BK-DEP2724? If "Yes", list each Substance & its Capacity. Note: Applicant may need a Storage Tank Site Specific Installation Permit.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
23.0.1	Enter all substances & capacity of each; separate each set with semicolons.	_____			

24.0 Does your project involve installation of a storage tank at a new facility with a total AST capacity greater than 21,000 gallons? Yes No
If "Yes", list each Substance & its Capacity. **Note:** Applicant may need a Storage Tank Site Specific Installation Permit.

24.0.1 Enter all substances & capacity of each; separate each set with semicolons.

NOTE: If the project includes the installation of a regulated storage tank system, including diesel emergency generator systems, the project may require the use of a Department Certified Tank Handler. For a full list of regulated storage tanks and substances, please go to www.dep.pa.gov search term storage tanks

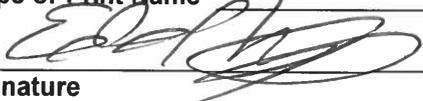
25.0 Will the intended activity involve the use of a radiation source? Yes No

CERTIFICATION

I certify that I have the authority to submit this application on behalf of the applicant named herein and that the information provided in this application is true and correct to the best of my knowledge and information.

For applicants supplying an EIN number: I am applying for a permit or authorization from the Pennsylvania Department of Environmental Protection (DEP). As part of this application, I will provide DEP with an accurate EIN number for the applicant entity. By filing this application with DEP, I hereby authorize DEP to confirm the accuracy of the EIN number provided with the Pennsylvania Department of Revenue. As applicant, I further consent to the Department of Revenue discussing the same with DEP prior to issuance of the Commonwealth permit or authorization.

Type or Print Name Edward G. Human


Signature

Director of Marcus Hook Operations

Title

3/31/23
Date

**APPENDIX C REPRESENTATIVE BACKGROUND POLLUTANT
CONCENTRATIONS**

**Table C-1 – Representative Background Pollutant Concentrations
Air Quality Monitoring Design Values – SILs + Design Values Compared to NAAQS**

Pollutant	Averaging Period	Monitor	Distance from Project (km)	Direction from Project	2019-2021 Monitor Design Value ¹	Design Value Units	2019-2021 Monitor Design Value (µg/m ³)	SIL (µg/m ³)	2019-2021 DV + SIL (µg/m ³)	NAAQS (µg/m ³)
NO ₂	1-hr	42-045-0002	5	ENE	41.0	ppb	77.1	7.5	87.1	188
	Annual				9.0	ppb	16.92	1	17.92	100
CO	1-hr	10-003-2004	13	SW	1.8	ppm	2,061	2,000	4,064	40,000
	8-hr				1.3	ppm	1,488.5	500	1,989	10,000
PM _{2.5}	24-hour	42-045-0109	0.6	E	22.0	µg/m ³	22	1.2	26.1	35
	Annual				8.6	µg/m ³	8.6	0.2	8.8	12

¹From 2021 EPA Design Values Workbooks downloaded from <https://www.epa.gov/air-trends/air-quality-design-values>