

PLAN APPROVAL APPLICATION

POINT TOWNSHIP CIRCULAR

MANUFACTURING FACILITY

PHASE 1: NEW PLASTICS SORTING OPERATION

ENCINA FORT UNION LLC
NORTHUMBERLAND, PA FACILITY

SUBMITTED BY:



Encina Fort Union LLC
3288 Point Township Drive
Northumberland, PA 17857

SUBMITTED TO:



Pennsylvania Department of Environmental Protection
Northcentral Regional Office
208 West Third Street, Suite 101
Williamsport, PA 17701



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1. INTRODUCTION

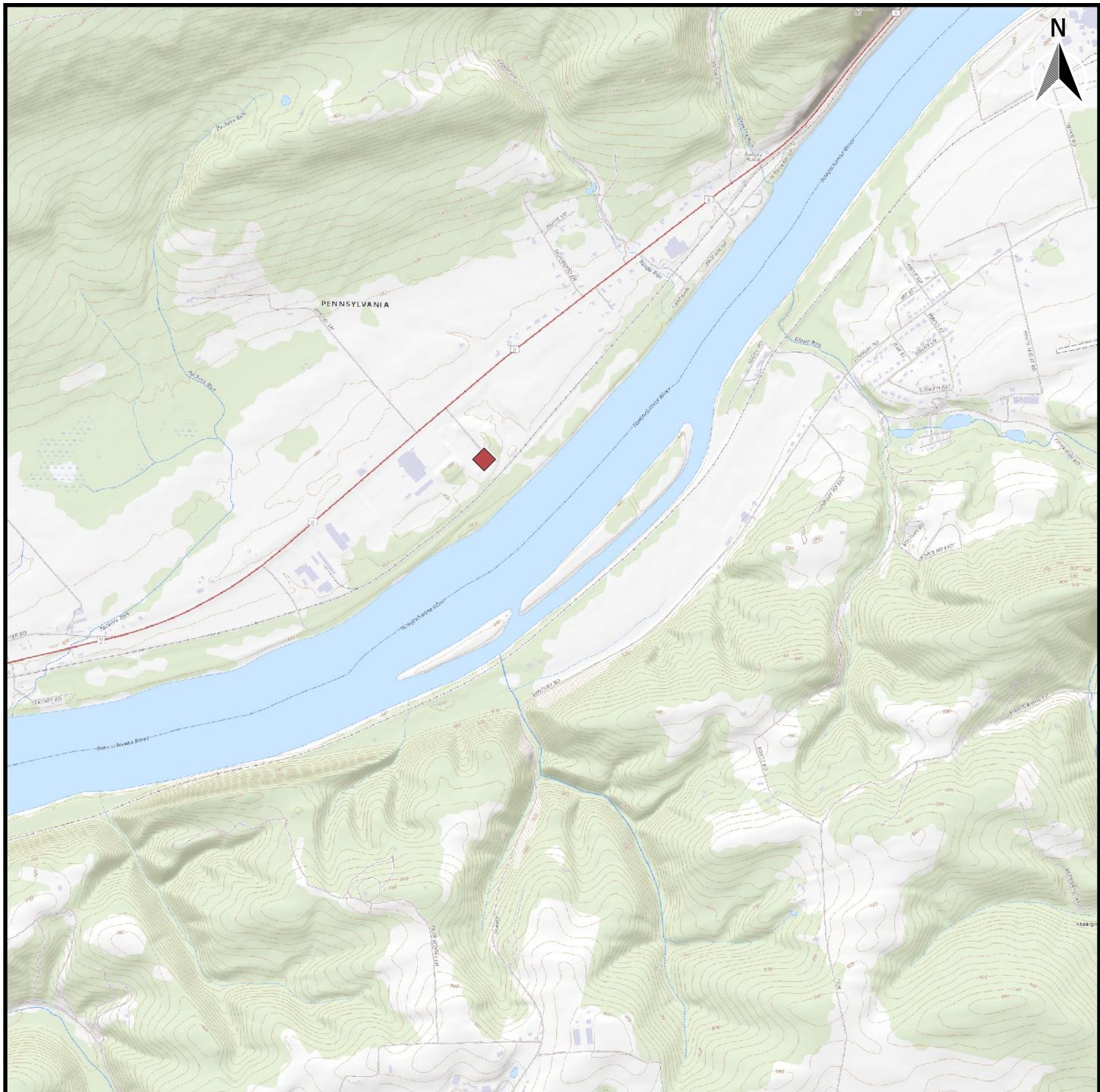
Encina Fort Union LLC (Encina Fort Union or Encina) proposes to construct a new plastics sorting operation (Point Township Circular Manufacturing Facility or Facility) in Point Township, Northumberland County, PA. This Plan Approval Application (PAA) for the new plastics sorting operation is for Phase 1 of the project, which is envisioned to include, as Phase 2, a new petrochemical process facility that will use post-consumer plastic feedstock to produce organic chemical feedstock (e.g., benzene, toluene, and xylene) product. A PAA for Phase 2 will be submitted to the Pennsylvania Department of Environmental Protection (PADEP) at a later date and under separate cover. Air permitting staff in the Northcentral Regional Office (NCRO) of PADEP approved the two-phased air permitting approach for the project following pre-application discussions with Encina Fort Union. Based on letter received from PADEP NCRO Bureau of Waste Management, this facility meets the definition of "advanced recycling facility" under Solid Waste Management Act (SWMA), 35 P.S. §§6018.101—6018.1001. Encina Fort Union's goal is to produce sustainable circular uses of the chemicals derived from the recovered plastics.

1.1 FACILITY LOCATION

The Facility will be located on a currently undeveloped parcel along State Route 11 (Point Township Drive) in Northumberland County, PA. A Facility location map based on a United States Geological Survey (USGS) topographical map is provided as Figure 1-1. The Facility is under the jurisdiction of the following State and Federal agencies:

Pennsylvania Department of Environmental Protection
Northcentral Regional Office
Air Quality Program
208 West Third Street, Suite 101
Williamsport, PA 17701

United States Environmental Protection Agency – Region 3
Air Protection Division
1600 JFK Boulevard
Philadelphia, PA 19103



Legend

◆ Facility_Location

Figure 1-1
Facility Location Map

Encina Fort Union LLC
Northumberland, PA

0

1,000

2,000 m

DRAWN BY:

L.J.

CHECKED BY:

K.T.

DATE:

July 2022

PROJ NO.:

01656-0002.00





1.2 APPLICATION ORGANIZATION

This PAA is organized in the following manner:

- **Section 1 – Introduction:** Provides an overview of the proposed Facility and outlines the remainder of the PAA.
- **Section 2 – Project Overview:** Provides a description of the Facility and the proposed project.
- **Section 3 – Emissions Inventory:** Describes the approach to calculating the emissions associated with this project.
- **Section 4 – Major Source Applicability:** Provides a discussion of New Source Review (NSR) applicability, including Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NNSR). Additionally, contains a discussion of Title V and hazardous air pollutants (HAP) major source applicability.
- **Section 5 – Regulatory Analysis:** Addresses potentially applicable Federal and State of Pennsylvania air quality regulations for the project.
- **Section 6 – Best Available Technology:** Addresses the requirements of 25 Pa. Code §127.12(a)(5) that are applicable to the proposed project.
- **Appendix A – Process Flow Diagram**
- **Appendix B – Emissions Inventory Tables**
- **Appendix C – Manufacturer Data**
- **Appendix D – Plan Approval Application Forms**
- **Appendix E – Municipal Notifications**



2. PROJECT OVERVIEW

This section of the PAA includes an overview of the proposed Phase 1 Facility operations.

2.1 PROPOSED PHASE 1 FACILITY OPERATIONS

Encina proposes to construct a new multi-story building with a total area of 830,000 square foot (ft²). The proposed plastic sorting operations and related equipment will have a footprint of approximately 655,000 ft². Post-consumer plastics will be delivered to the Facility via truck, primarily from a Plastics Recovery Facility (PRF). The operations proposed by Encina will sort and bale the materials, followed by shipment off-site for further recycling.

2.2 PROJECT DESCRIPTION

The proposed Phase 1 plastics sorting operation consists of two sorting lines and associated trommels, optical sorters, and balers. Ancillary equipment (e.g., emergency generator) will support the sorting operations. It is important to note that the plastic sorting operation itself will not be a source of air emissions. A summary of the proposed new emissions sources is provided in Table 2-1.

Table 2-1
Summary of New Emissions Sources

Proposed Source ID	Source Description
001	Diesel Fire Pump
002	Diesel Emergency Generator
Z001	Fugitive Roadways

Emissions from the reciprocating internal combustion engines (RICE) driving the fire pump (proposed Source ID 001) and emergency generator (proposed Source ID 002) include carbon monoxide (CO), nitrogen oxides (NO_X), sulfur oxides (SO₂), volatile organic compounds (VOC), particulate matter (PM)/PM less than 10 microns (PM₁₀)/PM less than 2.5 microns (PM_{2.5}), and HAP associated with diesel fuel combustion. Potential emissions from the diesel-fired fire pump and emergency generator RICE units are shown in Tables B-1 and B-2 of Appendix B, respectively.



Encina Fort Union LLC – Northumberland, PA

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Fugitive PM/PM₁₀/PM_{2.5} emissions will be generated by truck traffic (proposed Source ID Z001) on the paved routes on Facility property. Potential roadway emissions are shown in Table B-3 of Appendix B.

Domestic wastewater from the project will be treated using a portable truck mounted treatment system. This system will not emit any VOC or HAP, and therefore will not be an emissions source. In addition, no VOC or HAP containing cleaning solvents will be used at the Facility.



3. EMISSIONS INVENTORY

Encina Fort Union developed an emissions inventory of regulated NSR pollutants emitted from the new emissions sources to evaluate major source applicability.

3.1 FIRE PUMP RICE

The diesel-fired fire pump RICE will be a Clarke model C18H0, or equivalent. Potential fire pump RICE emissions are calculated based on a maximum engine size of 380 kilowatts (kWe), which equates to 510 brake horsepower (bhp). Per 40 CFR §60.4205(c), the purchased engine will meet the required certification listed in Table 4 to 40 CFR Part 60, Subpart IIII. Potential emissions from the proposed fire pump are shown in Table B-1 of Appendix B.

3.2 EMERGENCY GENERATOR RICE

The diesel-fired emergency generator RICE will be a Caterpillar, or equivalent. The exact model has not yet been determined. Potential emergency generator RICE emissions are calculated based on a maximum engine size of 500 kW, which equates to 671 bhp. Per 40 CFR §60.4205(b), the purchased engine will meet the required U.S. EPA Tier 3 certification listed in 40 CFR Part 1039, Appendix I. Potential emissions from the proposed emergency generator are shown in Table B-2 of Appendix B.

3.3 FUGITIVE EMISSIONS

Fugitive PM/PM₁₀/PM_{2.5} emissions will be generated from truck traffic on paved Facility roadways. Potential PM/PM₁₀/PM_{2.5} emissions are calculated using U.S. Environmental Protection Agency (U.S. EPA) AP-42, Chapter 13.2.1. Encina Fort Union has assumed the maximum number of trucks and worst-case on-site routes for determining vehicle miles traveled. Fugitive PM/PM₁₀/PM_{2.5} emissions from roadways are shown in Table B-3 of Appendix B.



4. MAJOR SOURCE APPLICABILITY

The following sections provide a discussion of NSR applicability to the project, including PSD and NNSR, as well as a discussion of the Facility's major source status under Title V. The applicability analyses reflect only Phase 1 of the project. The PAA for Phase 2 of the project will include analyses of all (i.e., Phase 1 and 2) Facility operations.

4.1 PSD APPLICABILITY EVALUATION

The definition of major source under PSD is defined in 40 CFR §52.21(b)(1)(i). The plastics sorting operations of Phase 1 of the project are not a named source category in 40 CFR §52.21(b)(1)(i)(a). However, the anticipated operations under Phase 2 of the project will classify the Facility as a “chemical process plant.” The PSD major source threshold for chemical process plants is 100 tons per year (tpy) for each regulated NSR pollutant. As shown in Table B-4 of Appendix B, the Phase 1 Facility-wide PTE for all regulated NSR pollutants is less than 100 tpy and therefore, not subject to PSD. The applicability of PSD to the entire Facility (i.e., Phase 1 and 2) will be re-evaluated as part of the Phase 2 PAA.

4.2 NNSR APPLICABILITY EVALUATION

The Facility will be located in Northumberland County, which is classified as in attainment or unclassifiable for all National Ambient Air Quality Standards (NAAQS). While Northumberland County is in attainment with the 8-hour ozone standard, all counties in Pennsylvania are located in the Northeast Ozone Transport Region (OTR) and are minimally managed as moderate ozone nonattainment areas. The project is a source of VOC and NO_x emissions, which are precursors to ground-level ozone formation. Therefore, the Facility is required to evaluate whether the Facility is a major source under the Pennsylvania NNSR regulations. PADEP developed state-specific NNSR rules codified in 25 Pa. Code Chapter 127, Subchapter E.

An NNSR applicability determination for NO_x and VOC emissions, in accordance with 25 Pa. Code §127.203a, is provided in Table B-4 of Appendix B. Potential Phase 1 emissions of NO_x and VOC are less than 100 tpy and 50 tpy, respectively; and therefore, the Facility is not a major



source under the Pennsylvania NNSR rules. The applicability of NNSR to the entire Facility (i.e., Phase 1 and 2) will be re-evaluated as part of the Phase 2 PAA.

4.3 TITLE V PERMITTING PROGRAM

The Title V permitting program is regulated under 40 CFR Part 70 and 25 Pa Code Chapter 127, Subchapters F and G. A Title V Operating Permit (TVOP) is required for sources that meet the definition of a “major source,” as defined under 40 CFR §70.2 and “Title V facility” as defined under 25 Pa Code 121.1. A major source/Title V facility is a facility that:

- Has a PTE of greater than 10 tpy for any single HAP or 25 tpy for combined HAP
- Has a PTE of 100 tpy or more of “any air pollutant subject to regulation”
- Has a PTE of 100 tpy or more for the ozone precursor NO_x or more than 50 tpy of the ozone precursor VOC.

As shown in Table B-4 of Appendix B, the proposed Phase 1 Facility does not meet any of the above listed major source or major facility thresholds. Therefore, the Phase 1 Facility is not subject to Title V permitting. The applicability of Title V to the entire Facility (i.e., Phase 1 and 2) will be re-evaluated as part of the Phase 2 PAA.

4.4 HAZARDOUS AIR POLLUTANTS

A major source of HAP as defined under 40 CFR §63.2 is any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in the aggregate, 10 tpy or more of any HAP or 25 tpy or more of any combination of HAP. As shown in Table B-4 of Appendix B, the potential Phase 1 Facility HAP emissions will be below the HAP major source threshold. Therefore, the Phase 1 Facility will be an area source of HAP for Phase 1 of the project. The status of the entire Facility (i.e., Phase 1 and 2) as a major source of HAP will be re-evaluated as part of the Phase 2 PAA.



5. REGULATORY ANALYSIS

Encina has reviewed the Federal and Pennsylvania air quality regulations to determine which regulations potentially apply to the proposed project. This section summarizes potentially applicable air quality requirements.

5.1 FEDERAL AIR QUALITY REGULATIONS

For the purpose of this PAA, potentially applicable Federal air quality regulations are defined as:

- Standards of Performance for New Stationary Sources
- National Emission Standards for Hazardous Air Pollutants
- New Source Review

A discussion of each of these Federal regulations is provided in the following subsections.

5.1.1 Standards of Performance for New Stationary Sources

U.S. EPA has promulgated Standards of Performance for New Stationary Sources, codified at 40 CFR Part 60, also referred to as New Source Performance Standards (NSPS). The Facility evaluated the applicability of the NSPS that could potentially apply to components of the proposed project. Applicable NSPS are discussed in this section.

5.1.1.1 40 CFR Part 60, Subpart IIII

40 CFR Part 60, Subpart IIII (Standards of Performance for Stationary Internal Combustion Engines) applies to the diesel fuel-fired RICE associated with the proposed fire pump (proposed Source ID 001) and emergency generator (proposed Source ID 002). Both RICE are subject to this subpart based on 40 CFR §60.4200(a).

The emergency generator RICE is subject to 40 CFR §60.4205(b), and therefore must meet the emissions limits of 40 CFR 1039, Appendix I. Specifically, the emergency generator must meet



the emissions limits in Table 3 to Appendix I. Encina Fort Union will purchase an emergency generator RICE that will meet the Tier 3 standards listed in Table 5-1.

Table 5-1
Emergency Generator RICE Emissions Standards

Rated Power (kW)	NO_x + NMHC	CO	PM
	(g/kW-hr)		
130≤kW≤560	4.0	3.5	0.20

The fire pump RICE is subject to 40 CFR §60.4205(c), and therefore must meet the emissions limits listed in Table 4 of 40 CFR Part 60, Subpart IIII. Encina Fort Union will purchase a fire pump that will meet the emissions standards listed in Table 5-2.

Table 5-2
Fire Pump RICE Emissions Standards

Rated Power (kW)	NO_x + NMHC	CO	PM
	(g/kW-hr)		
225≤kW<450	4.0	3.5	0.20

The emergency generator and fire pump RICE are also subject to the following additional requirements of 40 CFR Part 60, Subpart IIII:

- Per 40 CFR §60.4207(b), diesel fuel must meet the following standards:
 - Sulfur standard. Maximum sulfur content of 15 parts per million (ppm).
 - Cetane index or aromatic content. Diesel fuel must meet one of the following standards:
 - Minimum cetane index of 40.
 - Maximum aromatic content of 35 volume percent.
- Per 40 CFR §60.4209(a), install a non-resettable hour meter prior to startup of the engine.



- Per 40 CFR §60.4211(a):
 - Operate and maintain the RICE according to the manufacturer's emission-related written instructions.
 - Change only those emission-related settings that are permitted by the manufacturer.
 - Meet the requirements of 40 CFR Part 1068, as applicable.
- Per 40 CFR §60.4211(c), purchase an engine certified to the emission standards in 40 CFR §§60.4204(b), or 60.4205(b) or (c), as applicable, for the same model year and maximum [or in the case of fire pumps, National Fire Protection Association (NFPA) nameplate] engine power. The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in 40 CFR §60.4211(g).
- Per 40 CFR §60.4211(f), operate the emergency stationary ICE according to the following requirements:
 - There is no time limit on the use of emergency stationary ICE in emergency situations.
 - Encina may operate the emergency stationary ICE for the purpose specified in 40 CFR §60.4211(f)(2)(i) for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by 40 CFR §60.4211(f)(3) counts as part of the 100 hours per calendar year allowed by 40 CFR §60.4211(f)(2).
 - Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records



indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.

- Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing provided in 40 CFR §60.4211(f)(2). Except as provided in 40 CFR §60.4211(f)(3)(i), the 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.
- Per 40 CFR §60.4214(b), keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The owner must record the time of operation of the engine and the reason the engine was in operation during that time.

5.1.2 National Emission Standards for Hazardous Air Pollutants

U.S. EPA has promulgated National Emission Standards for Hazardous Air Pollutants (NESHAP) at 40 CFR Parts 61 and 63. NESHAP promulgated prior to the Clean Air Act Amendments (CAAA) of 1990, found in 40 CFR Part 61, apply to specific compounds emitted from specific processes. There are no standards in 40 CFR Part 61 that are applicable to this project as there are no specific sources regulated by 40 CFR Part 61.

NESHAP promulgated under 40 CFR Part 63, also referred to as Maximum Achievable Control Technology (MACT) standards, apply to specific source categories that are area sources or major sources of HAP. As discussed in Section 4.4, the Phase 1 Facility is an area source of HAP emissions. Applicable NESHAP are discussed in this section.



5.1.2.1 40 CFR Part 63, Subpart ZZZZ

40 CFR Part 63, Subpart ZZZZ (NESHAP: Stationary Reciprocating Internal Combustion Internal Combustion Engines) applies to stationary RICE located at major and area HAP sources. The Phase 1 Facility is an area source of HAP emissions. As new stationary RICE at an area source, the fire pump RICE (proposed Source ID 001) and emergency generator RICE (proposed Source ID 002) will comply with 40 CFR Part 63, Subpart ZZZZ by meeting the requirements of 40 CFR Part 60 Subpart III, per 40 CFR §63.6590(c).

5.1.3 New Source Review

The Federal NSR program is codified at 40 CFR Part 52. NSR requirements potentially apply to new major stationary sources and major modifications at existing major stationary sources. Within the NSR program, major stationary sources may need to be evaluated for PSD for all regulated NSR pollutants except for those pollutants or precursor pollutants for which the area is not in attainment with a NAAQS. The NNSR requirements apply for those pollutants and precursor pollutants that are emitted by major stationary sources in areas designated as nonattainment with the NAAQS. As discussed in Sections 4.1 and 4.2, neither the PSD nor major NNSR requirements apply to the Phase 1 project.

5.2 PENNSYLVANIA REGULATIONS

The Facility operations are potentially subject to the following Commonwealth of Pennsylvania air quality regulations which are codified in Title 25 Environmental - Protection, Article III, of the Pennsylvania Code:

- Chapter 122 – National Standards of Performance for New Stationary Sources
- Chapter 123 – Standards for Contaminants
- Chapter 124 – National Emission Standards for Hazardous Air Pollutants
- Chapter 127 – Construction, Modification, Reactivation, and Operation of Sources
- Chapter 129 – Standards for Sources



5.2.1 Chapter 122 – National Standards of Performance for New Stationary Sources

The Federal NSPS are adopted in their entirety by reference at 25 Pa. Code §122.3 and are described in Section 5.1.1 regarding Federal requirements.

5.2.2 Chapter 123 – Standards for Contaminants

25 Pa. Code Chapter 123 establishes standards for fugitive emissions, PM emissions, sulfur compound emissions, odor emissions, visible emissions, nitrogen compound emissions, and mercury emissions.

5.2.2.1 *Fugitive Emissions, 25 Pa. Code §123.1*

25 Pa. Code §123.1 prohibits fugitive emissions except from the activities specified by 25 Pa Code §123.1(a)(1) through (8) (e.g., construction or demolition of buildings, grading, paving and maintenance of streets, clearing of land, stockpiling of materials, and open burning, etc.). Other fugitive emissions sources may be approved by PADEP in accordance with §123.1(a)(9). Encina Fort Union will comply with these requirements by employing good operating practices such as locating operations inside buildings, paved roadways, and prompt cleanup of any material spills to meet the requirements of 25 Pa. Code §123.1.

5.2.2.2 *Fugitive Particulate Matter, 25 Pa. Code §123.2*

25 Pa. Code §123.2 prohibits fugitive PM emissions which are visible at the point where the emissions pass outside the property. Encina Fort Union will comply with these requirements by employing good operating practices such as locating operations inside buildings, paved roadways, regular roadway cleaning, and prompt cleanup of any material spills to meet the requirements of 25 Pa. Code §123.2.



5.2.2.3 *Combustion Units, 25 Pa. Code §123.11*

25 Pa. Code §123.11 regulates PM emissions from combustion units. The project does not include combustion units, as defined in 25 Pa. Code §121.1.

5.2.2.4 *Sulfur Compound Emissions, 25 Pa. Code §123.21*

25 Pa. Code §123.21 limits sulfur compound emissions from processes to 500 parts per million, by volume, dry basis (ppmvd). Encina Fort Union will comply with these requirements by meeting the state sulfur limit of 15 ppmvd and utilizing ultra-low sulfur diesel as the fuel for the proposed fire pump RICE and emergency generator RICE.

5.2.2.5 *Odor Emissions, 25 Pa. Code §123.31*

Encina Fort Union will comply with not emitting malodorous emissions in such a manner that the malodors are detectable beyond the property line. Periodic Facility perimeter odor inspections will be conducted in accordance with PADEP requirements.

5.2.3 Chapters 124 and 127 – National Emission Standards for Hazardous Air Pollutants and Maximum Achievable Control Technology Standards for Hazardous Air Pollutants

25 Pa. Code §§124.3 and 127.35 adopt the Federal NESHAP standards of 40 CFR Part 61 and Part 63 by reference, respectively. NESHAP standards are discussed in detail in Section 0 regarding Federal requirements.

5.2.4 Chapter 127, Subchapter B – Plan Approval Requirements

Encina Fort Union is submitting this PAA in accordance with the requirements of 25 Pa. Code §127.11 and §127.12.



5.2.5 Chapter 127, Subchapter D – Prevention of Significant Deterioration of Air Quality

Pennsylvania incorporates the Federal PSD regulations by reference at 25 Pa. Code §127.83. A discussion of PSD applicability to the project is included in Section 4.1.

5.2.6 Chapter 127, Subchapter E – New Source Review

Based on the NNSR applicability analysis provided in Section 4.2, the Phase 1 project is not a major source of NO_X or VOC emissions.

5.2.7 Chapter 127, Subchapter I – Plan Approval and Operating Permit Fees

25 Pa. Code §127.702 specifies the fee required to submit a PAA for facilities. In accordance with 25 Pa. Code §127.702(b)(2) and (d)(2), the fee for this PAA is \$7,500.00. Because the project proposed herein is subject to two Federal requirements, a check for \$7,500.00 payable to the “Commonwealth of Pennsylvania – Clean Air Fund” has been provided to the PADEP as part of this PAA. An Air Quality Fees Schedule is included as part of Appendix B.

5.2.8 Chapter 129 – Standards for Sources

25 Pa. Code Chapter 129 includes standards for VOC and NO_X emissions from specific sources.

5.2.8.1 *Storage Tanks Less Than or Equal To 40,000 Gallons - 25 Pa. Code §129.57*

25 Pa. Code §129.57 regulates above ground stationary storage tanks with a capacity equal to or greater than 2,000 gallons, and less than 40,000 gallons, which contain VOCs with vapor pressure greater than 1.5 pounds per square inch (psia) under actual storage conditions. The Facility will have several small diesel fuel storage tanks to support the ancillary equipment. However, all storage tanks will have a capacity of less than 2,000 gallons and contain material with a vapor pressure less than 1.5 psia. Therefore, 25 Pa. Code §129.57 will not apply. Additionally, pursuant to PADEP Document No. 275-2101-003, Encina Fort Union understands that diesel fuel, Nos. 2,



4, and 6 fuel oils, or kerosene and jet fuel storage and dispensing facilities are exempt from air permitting requirements, as long as the stored or dispensed product has a vapor pressure less than 1.5 psia.

5.2.8.2 *Degreasing Operations - 25 Pa. Code §129.63*

25 Pa. Code §129.63 regulates cold cleaning machines that use two gallons or more of solvents containing greater than 5% VOC content by weight for the cleaning of metal parts. There will be no cold cleaning machines as part of this project.

5.2.8.3 *Industrial Cleaning Solvents - 25 Pa. Code §129.63a*

25 Pa. Code §129.63a regulates VOC-containing solvents used for industrial cleaning. A cleaning activity is defined as the use of an industrial cleaning solvent to remove a contaminant, such as an adhesive, ink, paint, dirt, soil, oil or grease, by wiping, flushing, brushing, soaking, dipping, spraying or a similar effort. There will be no cleaning activities using industrial cleaning solvents as part of this project.



6. BEST AVAILABLE TECHNOLOGY

25 Pa. Code §127.12(a)(5) requires that the emissions from a new source will be the minimum attainable using BAT.

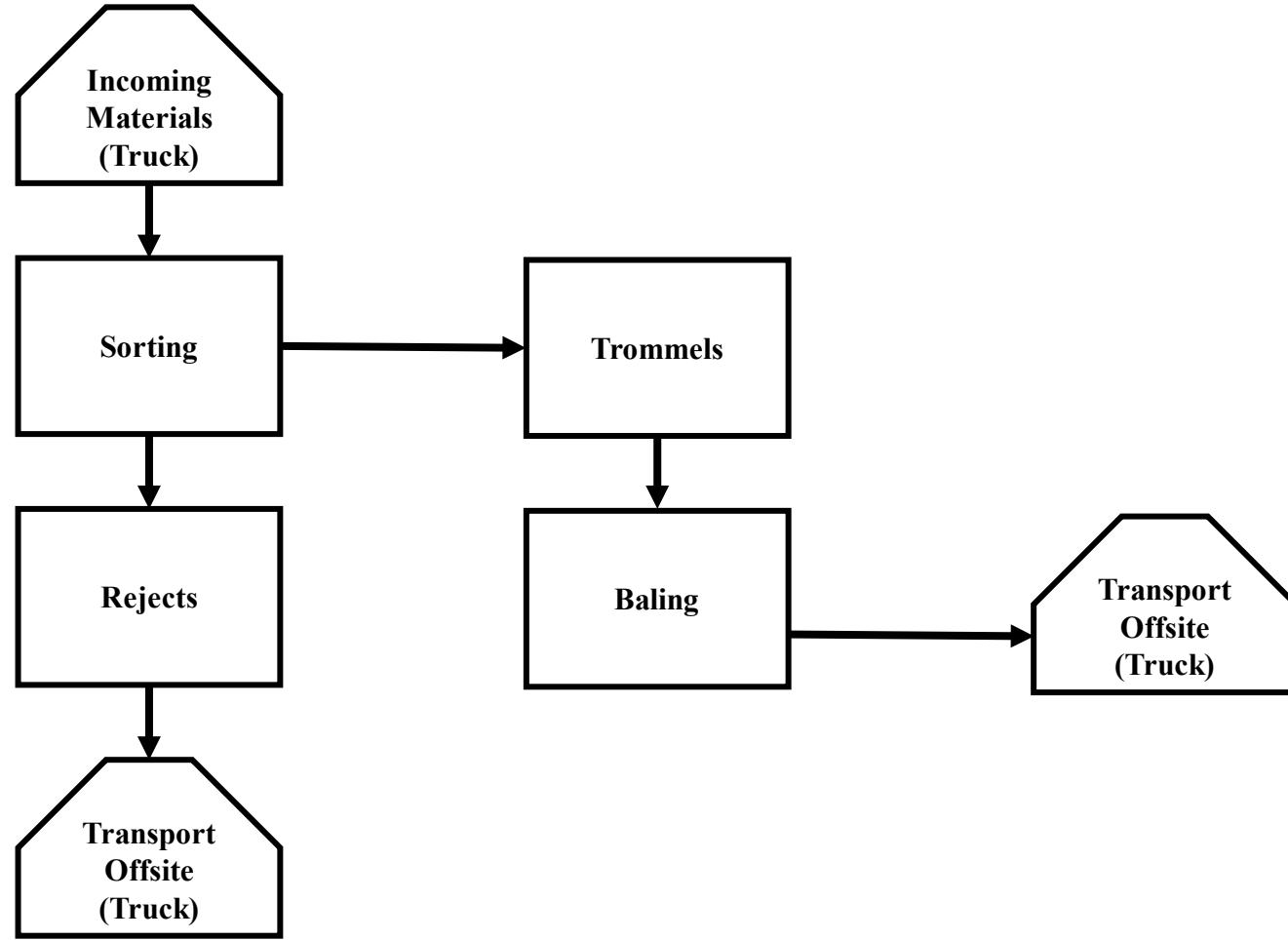
For the proposed RICE, Encina Fort Union will purchase RICE that are certified to meet the appropriate Federal emissions certification requirements. Purchasing certified RICE and operating the engines in accordance with the manufacturer's operating procedures is BAT for the RICE (proposed Source IDs 001 and 002).

For the proposed Facility roadways, Encina Fort Union proposes to take all reasonable precautions to minimize PM/PM₁₀/PM_{2.5} emissions. For example, Encina Fort Union will pave all Facility roadways. Paved roadways in and of itself are considered a control measure in comparison to unpaved roadways and are expected to achieve >90% control of PM from unpaved roadways¹. Trucks traveling on-site will always be on a paved surface. The Facility entrance/exit, and all truck routes and loading bays will be paved. Truck speed limits will also be posted and enforced. Additionally, Encina Fort Union will maintain the roadways to limit dust and debris through routine use of vacuum street sweeping. The use of paved roadways, the enforcement of truck speeds, and routine vacuum sweeping represents BAT for the roadway fugitive emissions (proposed Source ID Z001).

Note that due to limited available published data, Encina Fort Union is conservatively using a silt loading factor for Municipal Solid Waste Landfills from AP-42 Chapter 13.2.1, Table 13.2.1-3 in the emissions calculations in Table B-3 to Appendix B. However, this factor is not representative of actual proposed operations and is likely high. Therefore, following construction and operation of the Facility, Encina Fort Union may elect to conduct a site-specific silt loading analysis in order to calculate more accurate actual emissions from roadway fugitive emissions.

¹ Western Regional Air Partnership. *WRAP Fugitive Dust Handbook*, September 7, 2006 (http://www.wrapair.org/forums/dejf/fdh/content/FDHandbook_Rev_06.pdf)

**APPENDIX A –
PROCESS FLOW DIAGRAM**



LEGEND:



Transportation
of Materials

Process

Material Flow

Figure A-1
Proposed Plastic Sorting Operation

Encina Fort Union LLC
Northumberland, PA

**APPENDIX B –
EMISSIONS INVENTORY TABLES**

Table B-1
Proposed Source ID 001: Diesel Fire Pump Potential to Emit (PTE) Emissions
Encina Fort Union LLC - Northumberland, PA Facility

Pollutant	Emissions Factor	Units	Reference	PTE ^(a)	
				(lb/hr)	(tpy)
Criteria Pollutants					
NO _X	3.50	g/kW-hr	See footnote (b)	2.94	0.73
CO	3.50	g/kW-hr	Table 4 to 40 CFR Part 60, Subpart IIII	2.93	0.73
VOC	0.50	g/kW-hr	See footnote (b)	0.42	0.10
PM _{FILT}	0.20	g/kW-hr	Table 4 to 40 CFR Part 60, Subpart IIII	0.17	0.04
PM _{CON}	0.01	lb/MMBtu	AP-42 Table 3.4-2 ^(c)	0.03	7.94E-03
PM	--	--	See footnote (d)(e)	0.20	0.05
PM _{10-FILT}	0.20	g/kW-hr	See footnote (d)	0.17	0.04
PM ₁₀	--	--	See footnote (d)(e)	0.20	0.05
PM _{2.5-FILT}	0.20	g/kW-hr	See footnote (d)	0.17	0.04
PM _{2.5}	--	--	See footnote (d)(e)	0.20	0.05
SO ₂	1.21E-05	lb/hp-hr	AP-42 Table 3.4-1 ^(f)	6.19E-03	1.55E-03
Hazardous Air Pollutants (HAP)					
1,3-Butadiene	3.91E-05	lb/MMBtu	AP-42 Table 3.3-2	1.61E-04	4.03E-05
Acenaphthylene	5.06E-06	lb/MMBtu	AP-42 Table 3.3-2	2.09E-05	5.22E-06
Acenaphthene	1.42E-06	lb/MMBtu	AP-42 Table 3.3-2	5.86E-06	1.46E-06
Acetaldehyde	7.67E-04	lb/MMBtu	AP-42 Table 3.3-2	3.16E-03	7.91E-04
Acrolein	9.25E-05	lb/MMBtu	AP-42 Table 3.3-2	3.82E-04	9.54E-05
Anthracene	1.87E-06	lb/MMBtu	AP-42 Table 3.3-2	7.71E-06	1.93E-06
Benzene	9.33E-04	lb/MMBtu	AP-42 Table 3.3-2	3.85E-03	9.62E-04
Benzo(a)anthracene	1.68E-06	lb/MMBtu	AP-42 Table 3.3-2	6.93E-06	1.73E-06
Benzo(a)pyrene	1.88E-07	lb/MMBtu	AP-42 Table 3.3-2	7.76E-07	1.94E-07
Benzo(b)fluoranthene	9.91E-08	lb/MMBtu	AP-42 Table 3.3-2	4.09E-07	1.02E-07
Benzo(g,h,l)perylene	4.89E-07	lb/MMBtu	AP-42 Table 3.3-2	2.02E-06	5.04E-07
Benzo(k)fluoranthene	1.55E-07	lb/MMBtu	AP-42 Table 3.3-2	6.39E-07	1.60E-07
Chrysene	3.53E-07	lb/MMBtu	AP-42 Table 3.3-2	1.46E-06	3.64E-07
Dibenz(a,h)anthracene	5.83E-07	lb/MMBtu	AP-42 Table 3.3-2	2.41E-06	6.01E-07
Fluoranthene	7.61E-06	lb/MMBtu	AP-42 Table 3.3-2	3.14E-05	7.85E-06
Fluorene	2.92E-05	lb/MMBtu	AP-42 Table 3.3-2	1.20E-04	3.01E-05
Formaldehyde	1.18E-03	lb/MMBtu	AP-42 Table 3.3-2	4.87E-03	1.22E-03
Indeno(1,2,3-cd)pyrene	3.75E-07	lb/MMBtu	AP-42 Table 3.3-2	1.55E-06	3.87E-07
Naphthalene	8.48E-05	lb/MMBtu	AP-42 Table 3.3-2	3.50E-04	8.75E-05
Phenanthrene	2.94E-05	lb/MMBtu	AP-42 Table 3.3-2	1.21E-04	3.03E-05
Pyrene	4.78E-06	lb/MMBtu	AP-42 Table 3.3-2	1.97E-05	4.93E-06
Toluene	4.09E-04	lb/MMBtu	AP-42 Table 3.3-2	1.69E-03	4.22E-04
Xylenes	2.85E-04	lb/MMBtu	AP-42 Table 3.3-2	1.18E-03	2.94E-04
Max Single HAP	-	-	-	4.87E-03	1.22E-03
Total HAP	-	-	-	0.02	4.00E-03

Table B-1
Proposed Source ID 001: Diesel Fire Pump Potential to Emit (PTE) Emissions
Encina Fort Union LLC - Northumberland, PA Facility

Pollutant	Emissions Factor	Units	Reference	PTE ^(a)	
				(lb/hr)	(tpy)
Greenhouse Gas (GHG) Pollutants					
CO ₂	73.96	kg/MMBtu	40 CFR Part 98, Table C-1	672.65	168.16
CH ₄	3.00E-03	kg/MMBtu	40 CFR Part 98, Table C-2	0.03	6.82E-03
N ₂ O	6.00E-04	kg/MMBtu	40 CFR Part 98, Table C-2	5.46E-03	1.36E-03
CO ₂ e ^(g)	-	-	-	674.96	168.74

^(a) Emissions were calculated based on the following:

510 bhp
500 hr/year
1.34 hp/kW
2,000 lb/ton
453.59 g/lb
8,089 Btu/hp-hr (API Table 4.2)
1,000,000 Btu/MMBtu
2.20 lb/kg
0.0015 % fuel sulfur

^(b) Emissions factors for NO_X and HC (VOC) are based on the Table 4 to 40 CFR Part 60, Subpart IIII emissions factor of 4.0 g/kW-hr for NO_X + NMHC (VOC). Individual NO_X and HC (VOC) emissions factors have been derived by applying the ratio of U.S. EPA Tier 1 emissions factors for NO_X (9.2 g/kW-hr) and HC (VOC) (1.3 g/kW-hr) to the 40 CFR Part 60, Subpart IIII, Table 4 emissions limit for NO_X + NMHC (VOC) (4.0 g/kW-hr).

^(c) There is no emissions factor available for condensable particulate in AP-42, Section 3.3; therefore, the emissions factor from AP-42, Section 3.4 for Large Stationary Diesel and All Stationary Dual-fuel Engines was used.

^(d) Assumes PM=PM₁₀=PM_{2.5}.

^(e) Contains both filterable and condensable portions.

^(f) The emissions factor for SO₂ in AP-42, Section 3.3 does not take into account the actual fuel sulfur content and is unreasonably high for a RICE that fires ultra-low sulfur diesel; therefore, the emissions factor from AP-42, Section 3.4 for Large Stationary Diesel and All Stationary Dual-fuel Engines was used.

^(g) CO₂e is carbon dioxide equivalent, calculated according to 40 CFR Part 98, Equation A-1:

$$CO_2e = \sum_{i=1}^n GHG_i \times GWP_i$$

where GHG_i = annual mass emissions of greenhouse gas i (short tons/year)

WP_i = global warming potential of greenhouse gas i from the table below

GHG	GWP from 40 CFR Part 98, Subpart A, Table A-1
CO ₂	1
CH ₄	25
N ₂ O	298

Table B-2
Proposed Source ID 002: Diesel Emergency Generator Potential to Emit (PTE) Emissions
Encina Fort Union LLC - Northumberland, PA Facility

Pollutant	Emissions Factor	Units	Reference	PTE ^(a)	
				(lb/hr)	(tpy)
Criteria Pollutants					
NO _X	3.50	g/kW-hr	See footnote (b)	3.86	0.97
CO	3.50	g/kW-hr	U.S. EPA Tier 3	3.86	0.96
VOC	0.50	g/kW-hr	See footnote (b)	0.55	0.14
PM _{FILT}	0.20	g/kW-hr	U.S. EPA Tier 3	0.22	0.06
PM _{CON}	0.01	lb/MMBtu	AP-42 Table 3.4-2	0.04	0.01
PM	--	--	See footnote (c)(d)	0.26	0.07
PM _{10-FILT}	0.20	g/kW-hr	See footnote (c)	0.22	0.06
PM ₁₀	--	--	See footnote (c)(d)	0.26	0.07
PM _{2.5-FILT}	0.20	g/kW-hr	See footnote (c)	0.22	0.06
PM _{2.5}	--	--	See footnote (c)(d)	0.26	0.07
SO ₂	1.21E-05	lb/hp-hr	AP-42 Table 3.4-1	8.14E-03	2.03E-03
Hazardous Air Pollutants (HAP)					
Acenaphthylene	9.23E-06	lb/MMBtu	AP-42 Table 3.4-4	5.01E-05	1.25E-05
Acenaphthene	4.68E-06	lb/MMBtu	AP-42 Table 3.4-4	2.54E-05	6.35E-06
Acetaldehyde	2.52E-05	lb/MMBtu	AP-42 Table 3.4-3	1.37E-04	3.42E-05
Acrolein	7.88E-06	lb/MMBtu	AP-42 Table 3.4-3	4.27E-05	1.07E-05
Anthracene	1.23E-06	lb/MMBtu	AP-42 Table 3.4-4	6.67E-06	1.67E-06
Benzene	7.76E-04	lb/MMBtu	AP-42 Table 3.4-3	4.21E-03	1.05E-03
Benzo(a)anthracene	6.22E-07	lb/MMBtu	AP-42 Table 3.4-4	3.37E-06	8.43E-07
Benzo(a)pyrene	2.57E-07	lb/MMBtu	AP-42 Table 3.4-4	1.39E-06	3.48E-07
Benzo(b)fluoranthene	1.11E-06	lb/MMBtu	AP-42 Table 3.4-4	6.02E-06	1.51E-06
Benzo(g,h,l)perylene	5.56E-07	lb/MMBtu	AP-42 Table 3.4-4	3.02E-06	7.54E-07
Benzo(k)fluoranthene	2.18E-07	lb/MMBtu	AP-42 Table 3.4-4	1.18E-06	2.96E-07
Chrysene	1.53E-06	lb/MMBtu	AP-42 Table 3.4-4	8.30E-06	2.07E-06
Dibenz(a,h)anthracene	3.46E-07	lb/MMBtu	AP-42 Table 3.4-4	1.88E-06	4.69E-07
Fluoranthene	4.03E-06	lb/MMBtu	AP-42 Table 3.4-4	2.19E-05	5.46E-06
Fluorene	1.28E-05	lb/MMBtu	AP-42 Table 3.4-4	6.94E-05	1.74E-05
Formaldehyde	7.89E-05	lb/MMBtu	AP-42 Table 3.4-3	4.28E-04	1.07E-04
Indeno(1,2,3-cd)pyrene	4.14E-07	lb/MMBtu	AP-42 Table 3.4-4	2.25E-06	5.61E-07
Naphthalene	1.30E-04	lb/MMBtu	AP-42 Table 3.4-4	7.05E-04	1.76E-04
Phenanthrene	4.08E-05	lb/MMBtu	AP-42 Table 3.4-4	2.21E-04	5.53E-05
Pyrene	3.71E-06	lb/MMBtu	AP-42 Table 3.4-4	2.01E-05	5.03E-06
Toluene	2.81E-04	lb/MMBtu	AP-42 Table 3.4-3	1.52E-03	3.81E-04
Xylenes	1.93E-04	lb/MMBtu	AP-42 Table 3.4-3	1.05E-03	2.62E-04
Max Single HAP	-	-	-	4.21E-03	1.05E-03
Total HAP	-	-	-	8.53E-03	2.13E-03

Table B-2
Proposed Source ID 002: Diesel Emergency Generator Potential to Emit (PTE) Emissions
Encina Fort Union LLC - Northumberland, PA Facility

Pollutant	Emissions Factor	Units	Reference	PTE ^(a)	
				(lb/hr)	(tpy)
Greenhouse Gas (GHG) Pollutants					
CO ₂	73.96	kg/MMBtu	40 CFR Part 98, Table C-1	884.36	221.09
CH ₄	3.00E-03	kg/MMBtu	40 CFR Part 98, Table C-2	0.04	8.97E-03
N ₂ O	6.00E-04	kg/MMBtu	40 CFR Part 98, Table C-2	7.17E-03	1.79E-03
CO ₂ e ^(e)	-	-	-	887.39	221.85

^(a) Emissions were calculated based on the following:

500 kW
 671 bhp
 500 hr/year
 1.34 hp/kW
 2,000 lb/ton
 453.59 g/lb
 8,089 Btu/hp-hr (API Table 4.2)
 1,000,000 Btu/MMBtu
 2.20 lb/kg
 0.0015 % fuel sulfur

^(b) Emissions factors for NO_x and HC (VOC) are based on the U.S. EPA Tier 3 emissions factor of 4.0 g/kW-hr for NO_x + NMHC (VOC). Individual NO_x and HC (VOC) emissions factors have been derived by applying the ratio of U.S. EPA Tier 1 emissions factors for NO_x (9.2 g/kW-hr) and HC (VOC) (1.3 g/kW-hr) to the 40 CFR §60.4205(b) emissions limit for NO_x + NMHC (VOC) (4.0 g/kW-hr).

^(c) Assumes PM=PM₁₀=PM_{2.5}.

^(d) Contains both filterable and condensable portions.

^(e) CO₂e is carbon dioxide equivalent, calculated according to 40 CFR Part 98, Equation A-1:

$$CO_2e = \sum_{i=1}^n GHG_i \times GWP_i$$

where GHG_i = annual mass emissions of greenhouse gas i (short tons/year)

GWPI = global warming potential of greenhouse gas i from the table below

GHG	GWP from 40 CFR Part 98, Subpart A, Table A-1
CO ₂	1
CH ₄	25
N ₂ O	298

Table B-3
Proposed Source ID Z001: Fugitive Roadways Potential to Emit (PTE) Emissions
Encina Fort Union LLC - Northumberland, PA Facility

Route	PTE					
	PM ^{(a)(b)(c)(d)(e)}		PM ₁₀ ^{(a)(b)(c)(d)(e)}		PM _{2.5} ^{(a)(b)(c)(d)(e)}	
	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)
1 - 3	3.72	11.60	0.74	2.32	0.18	0.57

(a) Emissions were calculated based on the following Facility-specific parameters:

Route	Roundtrip Length (mi)	% of Trucks	Paved/Unpaved	Trucks/day	Trips/year	VMT/year
1	1.06	50%	Paved	35.0	9,100	9,677
2	0.91	25%		17.5	4,550	4,136
3	0.46	25%		17.5	4,550	2,103
				Total VMT/year:		15,916

(b) Emissions were calculated assuming the following truck characteristics:

GVWT		
Empty (tons)	Full (tons)	Average W (tons)
20	40	30

(c) Emissions from paved roadways were calculated according to U.S. EPA AP-42 Chapter 13.2.1 Equation 2, Figure 13.2.1-2, and Tables 13.2.1-1:

$$E = k(sL)^{0.91} (W)^{1.02} [1 - (P/(4(N)))]$$

$$k_{PM} = 0.011 \text{ lb/VMT}$$

$$k_{PM10} = 0.0022 \text{ lb/VMT}$$

$$k_{PM2.5} = 0.00054 \text{ lb/VMT}$$

$$P = 160 \text{ wet days/year}$$

$$N - \text{Annual} = 365 \text{ days in averaging period}$$

(d) The Road Surface Silt Loading (sL) is based on AP-42 Chapter 13.2.1 Table 13.2.1-3:

Route	Average sL (g/m ²)
1 - 3	7.40

(e) Emissions were calculated based on the following:

6,240 hours/yr

2,000 lb/ton

5,280 ft/mile

70 trucks per day

5 days per week (operation)

52 weeks per year (operation)

25% control efficiency*

* Note: Control efficiency is based on published guidance for paved roadway sweeping from South Coast Air Quality Management District (SCAQMD), Mojave Desert Air Quality Management District (MDAQMD), Antelope Valley Air Quality Management District (AVAQMD), and the Western Regional Air Partnership (WRAP).

Table B-4
Major Source Applicability
Encina Fort Union LLC - Northumberland, PA Facility

Proposed Source ID	Source Description	PTE (tpy)													
		PM ^(a)	PM ₁₀ ^(b)	PM _{2.5} ^(c)	SO ₂	NO _x	VOC	CO	Pb	Fluorides	TRS	H ₂ S	H ₂ SO ₄	Single HAP	Total HAP
001	Diesel Fire Pump	0.04	0.05	0.05	1.55E-03	0.73	0.10	0.73	--	--	--	--	--	9.62E-04	4.00E-03
002	Diesel Emergency Generator	0.06	0.07	0.07	2.03E-03	0.97	0.14	0.96	--	--	--	--	--	1.05E-03	2.13E-03
Z001	Fugitive Roadways	11.60	2.32	0.57	--	--	--	--	--	--	--	--	--	--	--
Phase 1 Facility-Wide PTE:		11.70	2.44	0.68	3.58E-03	1.70	0.24	1.70	0.00	0.00	0.00	0.00	0.00	2.01E-03	6.13E-03
Major Source Threshold ^(d):		100	100	100	100	100	50	100	100	100	100	100	10	25	
Major Source?		No	No	No	No	No	No	No	No	No	No	No	No	No	

^(a) Particulate matter (PM) includes only the filterable particulate matter fraction. Condensable particulate matter (CPM) is not included.

^(b) Total particulate matter of 10 microns or less (PM₁₀) includes filterable PM₁₀ and CPM.

^(c) Total particulate matter of 2.5 microns or less (PM_{2.5}) includes filterable PM_{2.5} and CPM.

^(d) PSD major source threshold is 100 tpy for each regulated NSR pollutant per 40 CFR §52.21(b)(1)(i). NNSR major source thresholds are 100 tpy and 50 tpy for NO_x and VOC, respectively, per 25 Pa. Code §127.201. Title V major source thresholds are 50 tpy for VOC, 100 tpy for all other regulated NSR pollutants, 10 tpy for any single HAP, and 25 tpy for total HAP per 25 Pa. Code §121.1.

**APPENDIX C –
MANUFACTURER DATA**

Supplier Document Cover Sheet



Project		Total # Pages: (incl Doc Cover Sheet)	9
Clough Document No		Clough Revision	A
Document Title	DIESEL FIRE PUMP DATA SHEET		
Group No. (Refer to DDSR)	4.1		
Equipment Tag No.			
Suppliers Doc. No.		Suppliers Revision	0
Client Doc. No.		Client Revision	A

Supplier shall ensure that documents have been fully checked and approved prior to submittal.	Prepared by		Checked by		Approved by	
	Signature		Signature		Signature	
	Date		Date		Date	

Clough Approval:		Supplier Details:	Contractor Details:
1. <input type="checkbox"/> Approved	2. <input type="checkbox"/> Approved No Comments – Submit Final	 PHOENIX PUMP <u>6814 Bourgeois Road</u> <u>Houston, TX 77066</u> <u>garyd@phoenixpump.com</u> <u>victoriat@phoenixpump.com</u> <u>Phone: +1 281-345-8700</u>	

A	03/05/2021	ISSUED FOR REVIEW
Rev	Date	Description
Revisions to Company Document No.		

CLIENT: _____

PROJECT TITLE: _____

JOB NUMBER: _____

EQUIPMENT NUMBER: _____

EQUIPMENT SERVICE: Firewater Pumps

SERIAL NUMBER: TBD

REQ / SPEC NO. : /

PURCHASE ORDER NO. _____

Rev 1: Revised Equip Tag Nos. (Note: This Data Sheet Number Supersedes the 45819-M-DS-38000-P3803

2	3/3/2021	ISSUED FOR APPROVAL	GWD	VT	BB
1	11/11/2021	ISSUED FOR PURCHASE	CMS	ARH	SYD
0	8/12/2020	ISSUED FOR PURCHASE	BO	ARH	SYD
Rev	Date	Description	Prepared	Checked	Approved
		CENTRIFUGAL PUMP DATA SHEET			DATA SHEET No.
					-
					Sheet 1 of 8

CENTRIFUGAL PUMP DATA SHEET

1	Note	APPLICABLE TO: PURCHASE	APPLICABLE NTL/INTNTL STANDARD: OTHER	NFPA 20	
2	FOR		UNIT OSBL / Firewater		
3	SITE	P	SERVICE Firewater Pumps		
4	NO. REQ	2	TYPE BB1	No. STAGES One (1)	
5	MANUFACTURER	SPP PUMPS	MODEL PC10E	SERIAL NO. "TBA"	
LIQUID CHARACTERISTICS					
6	LIQUID TYPE OR NAME :	Units	Maximum	Normal	
7			Firewater	Note Max & min values refer only to the property listed	
8	VAPOR PRESSURE :	psia	0.947		
9	RELATIVE DENSITY :	SG	0.994		
10	SPECIFIC HEAT :	Btu/lb°F	0.998		
11	VISCOSITY :	cP	0.682		
OPERATING CONDITIONS (6.1.2)					
12	Units	Maximum	Rated	Normal	
13	NPSHa Datum:	C.L. Impeller			
14	PUMPING TEMPERATURE :	°F	110	Ambient	Ambient
15	FLOW :	GPM	3500		
16	DISCHARGE PRESSURE : (6.3.2)	psig	150.0		
17	SUCTION PRESSURE :	psig	0.0		
18	DIFFERENTIAL PRESSURE :	psi	150		
19	DIFFERENTIAL HEAD :	ft	349		
20	NPSH _A :	ft	Ample		
21	HYDRAULIC POWER :	HP	366		
22					
SITE AND UTILITY DATA					
23	LOCATION:	COOLING WATER :			
24	INDOOR	HEATED	UNDER ROOF	INLET	RETURN
25	MOUNTED AT : GRADE	<input checked="" type="radio"/>	TROPICALISATION REQD	TEMP °C 15	MAX 120
26	ELECTRIC AREA CLASSIFICATION	classified	6.1.22 DIVISION	PRESS. kPag 414	MIN 414
27	GROUP		TEMP CLASS	SOURCE From pump discharge piping	
28	SITE DATA :				COOLING WATER CHLORIDE CONCENTRATION: _____ ppm
29	ELEVATION (MSL) : 25 ft	BAROMETER : 14.7 psia		INSTRUMENT AIR : MAX 110 psig	MIN 85 psig
30	RANGE OF AMBIENT TEMPS:MIN / MAX	10	/ 110 °F	STEAM: Not Employed	
31	RELATIVE HUMIDITY: MIN / MAX	30	/ 100	DRIVERS	HEATING
32	UNUSUAL CONDITIONS:	OTHER		TEMP °F	Max
33	• SPECIFY OTHER :	COASTAL		Min	
34	UTILITY CONDITIONS :	DRIVERS	HEATING	PRESS. psi	Max
35	ELECTRICITY :		CONTROL	Min	
36	VOLTAGE	230	SHUTDOWN		
37	PHASE	1			
38	HERTZ	60			
39					
40					
41	PERFORMANCE - NFPA LIMITS				DRIVER (7.1.5) (TAG # D-3802B / D-3803B)
42	PROPOSAL CURVE NO. PC10E-C1780 FIXRev.0	RPM 1780	DRIVER TYPE	Diesel Engine	
43	As Tested Curve No. TBA		GEAR	NO	
44	IMPELLER DIA.: RATED 18.26 MAX. 20 MIN. 16.75 in		VARIABLE SPEED REQUIRED	NO	
45	SHAFT BRAKE POWER 366 HP	EFFICIENCY 83.58 (%)	SOURCE OF VARIABLE SPEED	N/A	
46	RATED CURVE BEP FLOW (at rated impeller dia)		OTHER		
47	MIN FLOW : THERMAL 800 GPM	STABLE	MANUFACTURER	CLARKE	
48	PREFERRED OPERATING REGION (6.1.11)	to	NAMEPLATE POWER	510 HP	
49	ALLOWABLE OPERATING REGION	to	NOMINAL RPM	1800	
50	MAX HEAD @ RATED IMPELLER	394 ft	RATED LOAD RPM	1780	
51	MAX POWER @ RATED IMPELLER (6.8.9)	453 HP	FRAME OR MODEL	C18H0	
52	NPSH3 AT RATED FLOW :		ORIENTATION	HORIZONTAL	
53	CL PUMP TO U/S BASEPLATE		LUBE	DEO 15W-40	
54	NPSH MARGIN AT RATED FLOW :		BEARING TYPE:	SLEEVE	
55	SPECIFIC SPEED (6.1.9)	ft, gpm, rpm	RADIAL		
56	SUCTION SPECIFIC SPEED LIMIT	ft, gpm, rpm (USCS)	THRUST		
57	SUCTION SPECIFIC SPEED	ft, gpm, rpm	STARTING METHOD	Closed-Valve (Unloaded) Start	
58	MAX. ALLOW. SOUND PRESS. LEVEL REQD (6.1.14)	(dBA)	SEE DRIVER DATA SHEET		
59	EST MAX SOUND PRESS. LEVEL	(dBA)			
60	EST MAX SOUND POWER LEVEL				
61					
Mechanical Data Sheet For: Firewater Pumps				Document No:	Rev.
				1 000 0	2
				Sheet: 2 of 8	



CENTRIFUGAL PUMP DATA SHEET

1	Note	CONSTRUCTION						Rev	
2	API PUMP TYPE: <u>BB1</u> [Based on API 610 definitions]						CASING MOUNTING: <u>FOOT</u>		
3	NOZZLE CONNECTIONS: (6.5.5)						CASING TYPE: (6.3.10)		
4							OH3 BACKPULLOUT LIFTING DEVICE REQD. (9.1.2.6)		<u>N/A</u>
5							CASE PRESSURE RATING:		
6							MAWP : (6.3.6) <u>282.80</u> psig @ <u> </u> °F		
7							HYDROTEST : <u>424.20</u> psig @ <u>Amb</u> °F		
8	PRESSURE CASING AUX. CONNECTIONS: (6.4.3.2)						HYDROTEST OH PUMP AS ASSEMBLY		<u>N/A</u>
9							SUCTION PRESS. REGIONS DESIGNED FOR MAWP		<u>YES</u>
10							ROTATION: (VIEWED FROM COUPLING END)		
11							• IMPELLERS INDIVIDUALLY SECURED : <u>YES</u>		
12							• BOLT OH 3/4/5 PUMP TO PAD / FOUNDATION : <u>N/A</u>		
13							• PROVIDE SOLEPLATE FOR OH 3/4/5 PUMPS <u>N/A</u>		
14							ROTOR:		
15							SHAFT FLEXIBILITY INDEX (SFI) (9.1.1.3)		
16							FIRST CRITICAL SPEED WET (MULTI-STAGE ONLY)		<u>N/A</u>
17	DRAIN VALVE SUPPLIED BY <u>SUPPLIER</u>						COMPONENT BALANCE TO ISO 1940 G1.0		<u>NO</u>
18	DRAINS MANIFOLDED <u>N/A</u>						SHRINK FIT -LIMITED MOVEMENT IMPELLERS (9.2.2.3)		<u>N/A</u>
19	VENT VALVE SUPPLIED BY <u>SUPPLIER</u>								
20	VENTS MANIFOLDED <u>NO</u>								
21	THREADED CONS FOR PIPELINE SERVICE & < 50°C (6.4.3.2) <u>N/A</u>								
22	SPECIAL FITTINGS FOR TRANSITIONING (6.4.3.3) <u>NO</u>								
23	CYLINDRICAL THREADS REQUIRED (6.4.3.8) <u>NO</u>								
24	GUSSET SUPPORT REQUIRED <u>NO</u>								
25	MACHINED AND STUDDED CONNECTIONS (6.4.3.12) <u>NO</u>								
26	VS6 DRAIN <u>N/A</u>								
27	DRAIN TO SKID EDGE <u>NO</u>								
28									
29	MATERIAL (6.12.1.1)								
30	APPENDIX H CLASS <u>I-2</u>								
31	MIN DESIGN METAL TEMP (6.12.4.1) <u>10</u> °F								
32	REDUCED-HARDNESS MATERIALS REQ'D (6.12.1.12.1) <u>NO</u>								
33	APPLICABLE HARDNESS STANDARD (6.12.1.12.3) <u>N/A</u>								
34	BARREL : <u>NA</u>								
35	CASE : <u>Cast Iron</u>								
36	DIFFUSERS <u>NA</u>								
37	IMPELLER : <u>Bronze</u>								
38	IMPELLER WEAR RING : <u>Integral</u>								
39	CASE WEAR RING : <u>Bronze</u>								
40	SHAFT: <u>Steel</u>								
41	BOWL (if VS-type) <u>NA</u>								
42	INSPECTION CLASS - API 610 Table 14 <u>Level 1</u>								
43	BEARINGS AND LUBRICATION (6.10.1.1)								
44	BEARING (TYPE / NUMBER): (6.11.4) <u> </u>								
45	RADIAL <u> </u> / <u> </u>								
46	THRUST <u> </u> / <u> </u>								
47	REVIEW AND APPROVE THRUST BEARING SIZE : (9.2.5.2.4) <u> </u>								
48	LUBRICATION : (6.10.2.2) (6.11.3) (9.6.1) <u>GREASE</u>								
49	PRESSURE LUBE SYSTEM TO ISO 10438- <u> </u> (9.2.6.5) <u>NO</u>								
50	ISO 10438 DATA SHEETS ATTACHED								
51	Pressurized Lube Oil System mtd on pump baseplate <u>N/A</u>								
52	Location of Pressurized Lube Oil System mounted on baseplate :								
53									
54									
55	INTERCONNECTING PIPING PROVIDED BY <u> </u>								
56									
57	OIL VISC. ISO GRADE <u>VG</u>								
58	CONSTANT LEVEL OILER : <u> </u>								
			Mechanical Data Sheet For:			Document No: 45819-M-DS-38000-P3802B/03B			Rev.
			45819 - Pumps P3802B/3803B						
									Sheet: 3 of 8

CENTRIFUGAL PUMP DATA SHEET				
1	Note	INSTRUMENTATION	SEAL SUPPORT SYSTEM MOUNTING	Rev
2		SEE ATTACHED API-670 DATA SHEET	N / A	
3		ACCELEROMETER (7.4.2.1)		
4		NUMBER OF ACCELEROMETERS		
5		MOUNTING LOCATION OF ACCELEROMETERS		
6				
7		PROVISION FOR MTG ONLY (6.10.2.10)	N / A	
8		NUMBER OF ACCELEROMETERS		
9		MOUNTING LOCATION OF ACCELEROMETERS		
10				
11		FLAT SURFACE REQUIRED (6.10.2.11)	N / A	
12		NUMBER OF ACCELEROMETERS		
13		MOUNTING LOCATION OF ACCELEROMETERS		
14				
15		VIBRATION PROBES (7.4.2.2)		
16		PROVISIONS FOR VIB. PROBES	N / A	
17		NUMBER PER RADIAL BEARING		
18		NUMBER PER AXIAL BEARING		
19				
20		MONITORS AND CABLES SUPPLIED BY (7.4.2.4)		
21				
22		TEMPERATURE (7.4.2.3)		
23		PROVISIONS FOR TEMP PROBES	N / A	
24		RADIAL BEARING TEMP.		
25		NUMBER PER RADIAL BEARING		
26		THRUST BEARING TEMP.		
27		NUMBER PER THRUST BEARING ACTIVE SIDE		
28		NUMBER PER THRUST BEARING INACTIVE SIDE		
29		TEMP. GAUGES (WITH THERMOWELLS) (9.1.3.6)		
30		PRESSURE GAUGE TYPE		
31		Remarks		
32				
33				
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		Mechanical Data Sheet For: 45819 - - Firewater Pumps P3802B/3803B	Document No: 45819-M-DS-38000-P3802B/03B Sheet: 4 of 8	Rev. 2

CENTRIFUGAL PUMP DATA SHEET

1	Note	SURFACE PREPARATION AND PAINT					TEST	Rev
2	MANUFACTURER'S STANDARD		YES				SHOP INSPECTION (8.1.1)	Yes
3	OTHER (SEE BELOW)						PERFORMANCE CURVE	
4	2	SPECIFICATION NO.	Supplier Standard (SPECIFICATON NO. 9000)				& DATA APPROVAL PRIOR TO SHIPMENT.	YES
5							TEST WITH SUBSTITUTE SEAL (8.3.3.2.b)	NO
6	PUMP:						MATERIAL CERTIFICATION REQUIRED	YES
7	2	PUMP SURFACE PREPARATION	Mfr. Std.				CASING	YES
8	2	PRIMER	Mfr. Std.				(6.12.1.8) IMPELLER	YES
9	2	FINISH COAT	Epoxy				SHAFT	YES
10							OTHER	NO
11	BASEPLATE:						CASTING REPAIR WELD PROCEDURE APPR REQD	YES
12	2	BASEPLATE SURFACE PREPARATION	SSPC-SP6 (Min.)				(6.12.2.5) (6.12.3.1)	
13	2	PRIMER:	ZINC				INSPECTION REQUIRED FOR CONNECTION WELDS (6.12.3.4.c)	NA
14	2	FINISH COAT	Polyurethane				(6.12.3.4.e) MAG PARTICLE	
15	2	DETAILS OF LIFTING DEVICES	N/A				RADIOGRAPHY	
16							LIQUID PENETRANT	
17	SHIPMENT: (8.4.1)						ULTRASONIC	
18	EXPORT BOXING REQUIRED		NO				INSPECTION REQUIRED FOR CASTINGS	MSS-SP-55
19	OUTDOOR STORAGE MORE THAN 6 MONTHS		NO				MAG PARTICLE	
20							RADIOGRAPHY	
21	SPARE ROTOR ASSEMBLY PACKAGED FOR:						LIQUID PENETRANT	
22	ROTOR STORAGE ORIENTATION (9.2.8.2)		N/A				ULTRASONIC	
23	SHIPPING & STORAGE CONTAINER FOR VERT STORAGE (9.2.8.3)						HARDNESS TEST REQUIRED (8.2.2.7)	NO
24							ADDNL SUBSURFACE EXAMINATION (6.12.1.5 (8.2.1.3)	
25	N2 PURGE (9.2.8.4)		N/A				FOR	
26	SPARE PARTS						METHOD	
27	START-UP		YES				PMI TESTING REQUIRED (8.2.2.8)	NO
28	NORMAL MAINTENANCE		YES				COMPONENTS TO BE TESTED	
29	WEIGHTS kg							
30	ITEM No	PUMP	DRIVER	GEAR	BASE	TOTAL		
31	2	3802B	909	1860		2769	RESIDUAL UNBALANCE TEST (J.4.1.2)	NO
32	2	3803B	909	1860		2769	NOTIFICATION OF SUCCESSFUL SHOP	
33							PERFORMANCE TEST (8.1.1.c) (8.3.3.5)	NO
34	OTHER PURCHASER REQUIREMENTS						BASEPLATE TEST (7.3.21)	NO
35	COORDINATION MEETING REQUIRED (10.1.3)		YES				HYDROSTATIC	WIT
36	MAX RELATIVE DENSITY		NO				HYDROSTATIC TEST OF BOWLS & COLUMN (9.3.13.2)	N/A
37	OPERATION TO TRIP SPEED		NO				PERFORMANCE TEST	NON-WIT
38	MAX DIA. IMPELLERS AND/OR NO OF STAGES		NO				TEST IN COMPLIANCE WITH NFPA 20	Yes
39	CONNECTION DESIGN APPROVAL (9.2.1.4)		NO				TEST DATA POINTS TO NFPA 20	Yes
40	TORSIONAL ANALYSIS / REPORT (6.9.2.10)		NO				TEST TOLERANCES TO	
41	PROGRESS REPORTS		YES				NPSH (8.3.4.3.1 (8.3.4.3.4)	NOT REQ'D
42	OUTLINE OF PROC FOR OPTIONAL TESTS (10.2.5)		NO				NPSH-1ST STG ONLY (8.3.4.3.2)	NOT REQ'D
43	ADDITIONAL DATA REQUIRING 20 YEARS RETENTION (8.2.1.1)						NPSH TESTING TO HI 1.6 OR ISO 9906 (8.3.4.3.3)	N/A
44	LATERAL ANALYSIS REQUIRED (9.1.3.4) (9.2.4.1.3)		NO				TEST NPSHA LIMITED TO 110% SITE NPSHA (8.3.3.6)	NO
45	MODAL ANALYSIS REQUIRED (9.3.9.2)		NO				RETEST ON SEAL LEAKAGE (8.3.3.2.d)	NO
46	DYNAMIC BALANCE ROTOR (6.9.4.4)		NO				RETEST REQUIRED AFTER FINAL HEAD ADJ (8.3.3.7.b)	
47	INSTALLATION LIST IN PROPOSAL (10.2.3.i)		YES				COMPLETE UNIT TEST (8.3.4.4.1)	N/A
48	VFD STEADY STATE DAMPED RESPONSE ANALYSIS (6.9.2.3)						SOUND LEVEL TEST (8.3.4.5)	N/A
49	TRANSIENT TORSIONAL RESPONSE (6.9.2.4)		NO				CLEANLINESS PRIOR TO FINAL ASSEMBLY (8.2.2.6)	NON-WIT
50	BEARING LIFE CALCULATIONS REQUIRED (6.10.1.6)		NO				LOCATION OF CLEANLINESS INSPECTION	@ SUPPLIER'S
51	IGNITION HAZARD ASSMT TO EN 13463-1 (7.2.13.e)		NO				NOZZLE LOAD TEST	N/A
52	CASING RETIREMENT THICKNESS DRAWING (10.3.2.3)		NO				CHECK FOR CO-PLANAR MOUNTING PAD SURFACES	N/A
53	FLANGES RQD IN PLACE OF SKT WELD UNIONS (7.5.2.8)		NO				MECHANICAL RUN TEST UNTIL OIL TEMP STABLE	NON-WIT
54	INCLUDE PLOTTED VIBRATION SPECTRA (6.9.3.3)		NO				2 HR. MECH RUN TEST (W/TEMP, VIB, SOUND READINGS	Yes
55	CONNECTION BOLTING (7.5.1.7)						4 HR. MECH RUN TEST (8.3.4.2.2)	2
56	CADMUM PLATED BOLTS PROHIBITED		YES				BRG HSG RESONANCE TEST (8.3.4.7)	
57	VENDOR TO KEEP REPAIR AND HT RCDS (8.2.1.1.c)		YES				STRUCTURAL RESONANCE TEST (9.3.9.2)	
58	VENDOR SUBMIT TEST PROCEDURES (8.3.1.1)		YES				REMOVE / INSPECT HYDRODYNAMIC BEARINGS AFTER TEST	
59							(9.2.7.5)	
60							AUXILIARY EQUIPMENT TEST (8.3.4.6)	NO
61							EQUIPMENT TO BE INCLUDED IN AUXILIARY TESTS	
62							LOCATION OF AUXILIARY EQUIPMENT TEST	
63								
64							IMPACT TEST (6.12.4.3) PER EN 13445	NO
65							PER ASME SECTION VIII	
66							REMOVE CASING AFTER TEST	N/A



API 610 Centrifugal Pump - Between Bearings (BB) Type

CONSTRUCTION				SURFACE PREPARATION AND PAINT		Rev																					
ROTATION: (VIEWED FROM COUPLING END) <input type="checkbox"/> CW <input type="checkbox"/> CCW				<input checked="" type="radio"/> MANUFACTURER'S STANDARD <input type="radio"/> OTHER (SEE BELOW)																							
PUMP TYPE (4.1): <input checked="" type="radio"/> BB1 <input type="radio"/> BB2 <input type="radio"/> BB3 <input type="radio"/> BB5				<input type="radio"/> SPECIFICATION NO.																							
CASING MOUNTING: <input type="checkbox"/> CENTRELINE <input type="checkbox"/> NEAR CENTERLINE <input checked="" type="checkbox"/> FOOT				PUMP:																							
CASING SPLIT: <input checked="" type="radio"/> AXIAL <input type="checkbox"/> RADIAL				<input checked="" type="radio"/> PUMP SURFACE PREPARATION <u>Mfg. Standard</u>																							
CASING TYPE: <input checked="" type="checkbox"/> SINGLE VOLUTE <input type="checkbox"/> MULTIPLE VOLUTE <input type="checkbox"/> DIFFUSER				<input checked="" type="radio"/> PRIMER <u>Mfg. Standard</u>																							
<input checked="" type="checkbox"/> BETWEEN BEARINGS <input type="checkbox"/> BARREL				<input checked="" type="radio"/> FINISH COAT <u>Mfg. Standard - RAL3020</u>		2																					
CASE PRESSURE RATING: <input checked="" type="checkbox"/> SUCTION PRESS. REGIONS MUST BE DESIGNED FOR MAWP (5.3.6)				BASEPLATE (6.3.17):																							
<input type="checkbox"/> MAX. ALLOWABLE WORKING PRESSURE _____ psig @ _____ °F				<input checked="" type="checkbox"/> BASEPLATE SURFACE PREPARATION <u>Mfg. Standard</u>																							
<input type="checkbox"/> HYDROTEST PRESSURE _____ psig				<input checked="" type="radio"/> PRIMER <u>Mfg. Standard</u>																							
<input type="checkbox"/> NOZZLE CONNECTIONS (5.4.2):				<input checked="" type="radio"/> FINISH COAT <u>Mfg. Standard - RAL3020</u>		2																					
<table border="1"> <tr> <th>SIZE (DN)</th> <th>FLANGE RATING</th> <th>FACING</th> <th>POSITION</th> </tr> <tr> <td>SUCTION 12"</td> <td>150</td> <td>FF</td> <td>Side</td> </tr> <tr> <td>DISCHARGE 10"</td> <td>250</td> <td>FF</td> <td>Side</td> </tr> <tr> <td colspan="4">BALANCE DRUM</td> </tr> </table>				SIZE (DN)	FLANGE RATING	FACING	POSITION	SUCTION 12"	150	FF	Side	DISCHARGE 10"	250	FF	Side	BALANCE DRUM				<input checked="" type="checkbox"/> DETAILS OF LIFTING DEVICES (6.3.20) <u>Mfg. Standard</u>							
SIZE (DN)	FLANGE RATING	FACING	POSITION																								
SUCTION 12"	150	FF	Side																								
DISCHARGE 10"	250	FF	Side																								
BALANCE DRUM																											
PRESSURE CASING AUX. CONNECTIONS (5.4.3):				SHIPMENT (7.4.1):																							
<table border="1"> <thead> <tr> <th>NO.</th> <th>SIZE (DN)</th> <th>TYPE</th> </tr> </thead> <tbody> <tr> <td><input checked="" type="checkbox"/> DRAIN</td> <td></td> <td></td> </tr> <tr> <td><input checked="" type="checkbox"/> VENT</td> <td></td> <td></td> </tr> <tr> <td><input type="checkbox"/> PRESS. GAUGE</td> <td></td> <td></td> </tr> <tr> <td><input type="checkbox"/> TEMP. GAUGE</td> <td></td> <td></td> </tr> <tr> <td><input type="checkbox"/> WARM-UP</td> <td></td> <td></td> </tr> <tr> <td><input type="checkbox"/> BALANCE/LEAK OFF</td> <td></td> <td></td> </tr> </tbody> </table>				NO.	SIZE (DN)	TYPE	<input checked="" type="checkbox"/> DRAIN			<input checked="" type="checkbox"/> VENT			<input type="checkbox"/> PRESS. GAUGE			<input type="checkbox"/> TEMP. GAUGE			<input type="checkbox"/> WARM-UP			<input type="checkbox"/> BALANCE/LEAK OFF			<input checked="" type="checkbox"/> DOMESTIC <input type="checkbox"/> EXPORT <input type="checkbox"/> EXPORT BOXING REQ'D		
NO.	SIZE (DN)	TYPE																									
<input checked="" type="checkbox"/> DRAIN																											
<input checked="" type="checkbox"/> VENT																											
<input type="checkbox"/> PRESS. GAUGE																											
<input type="checkbox"/> TEMP. GAUGE																											
<input type="checkbox"/> WARM-UP																											
<input type="checkbox"/> BALANCE/LEAK OFF																											
				<input type="checkbox"/> OUTDOOR STORAGE MORE THAN 6 MONTHS																							
COUPLINGS (6.2.2):				SPARE ROTOR ASSEMBLY PACKAGED FOR:																							
<input checked="" type="checkbox"/> MANUFACTURER <u>CLARKE</u> <input type="checkbox"/> MODEL <u>COMPANION FLG</u>				<input type="checkbox"/> SHIPPING CONTAINER (8.2.8.3) <input type="checkbox"/> VERTICAL STORAGE (8.2.8.2)																							
<input type="checkbox"/> RATING _____ hp per 100 r/min				<input type="checkbox"/> TYPE OF SHIPPING PREP.: <u>N₂ PURGE (8.2.8.4)</u>																							
DRIVER HALF-COUPLING MOUNTED BY: <input type="checkbox"/> PUMP MFR. <input type="checkbox"/> DRIVER MFR. <input type="checkbox"/> PURCHASER				HEATING AND CO P-3801																							
<input type="checkbox"/> COUPLING WITH HYDRAULIC FIT (6.2.10)				<input type="checkbox"/> HEATING JACKET REQ'D. (5.8.9) <input type="checkbox"/> COOLING REQ'D																							
<input type="checkbox"/> COUPLING BALANCED TO ISO 1940-1 G6.3 (6.2.3)				<input type="checkbox"/> COOLING WATER (C.W.) PIPING PLAN (6.5.3.1)																							
<input type="checkbox"/> COUPLING PER ISO 14691 (6.2.4)				C.W. PIPING:																							
<input type="checkbox"/> COUPLING PER ISO 10441 (6.2.4)				<input type="checkbox"/> PIPE <input type="checkbox"/> TUBING; FITTINGS _____																							
<input type="checkbox"/> COUPLING PER API 671 (6.2.4)				C.W. PIPING MATERIALS:																							
<input checked="" type="checkbox"/> NON-SPARK COUPLING GUARD (6.2.14c)				<input type="checkbox"/> S.STEEL <input type="checkbox"/> C.STEEL <input type="checkbox"/> GALVANISED																							
<input type="checkbox"/> COUPLING GUARD STANDARD PER <u>OSHA Compliant</u> (6.2.14a)				COOLING WATER REQUIREMENTS:																							
BASEPLATES:				<input type="checkbox"/> BEARING HOUSING _____ gpm @ _____ psig																							
<input type="checkbox"/> API BASEPLATE NUMBER _____ (ANNEX D)				<input type="checkbox"/> HEATING EXCHANGER _____ gpm @ _____ psig																							
<input checked="" type="checkbox"/> NON-GROUT CONSTRUCTION (6.3.13)				STEAM PIPING: <input type="checkbox"/> TUBING <input type="checkbox"/> PIPE																							
<input type="checkbox"/> OTHER _____				BEARINGS AND LUBRICATION																							
MECHANICAL SEAL (5.8.1):				BEARING (TYPE / NUMBER) (5.10.1):																							
<input type="checkbox"/> SEE ATTACHED ISO 21049/API 682 DATA SHEET				<input type="checkbox"/> RADIAL _____																							
				<input type="checkbox"/> THRUST _____																							
				LUBRICATION (5.11.3, 5.11.4): <u>Grease</u>																							
				<input type="checkbox"/> RING OIL <input type="checkbox"/> HYDRODYNAMIC																							
				<input type="checkbox"/> PURGE OIL MIST <input type="checkbox"/> PURE OIL MIST																							
				<input type="checkbox"/> CONSTANT LEVEL OILER PREFERENCE (5.10.2.2) _____																							
				<input type="checkbox"/> PRESSURE LUBE SYS. ISO 10438-3 <input type="checkbox"/> ISO10438-2 (8.2.6.1/8.2.6.5)																							
				<input type="checkbox"/> OIL VISC. ISO GRADE _____																							
				<input type="checkbox"/> OIL PRESS. TO BE GREATER THAN COOLANT PRESSURE																							
				<input type="checkbox"/> REVIEW AND APPROVE THRUST BEARING SIZE [8.2.5.2 d)]																							
				<input type="checkbox"/> OIL HEATER REQUIRED: <input type="checkbox"/> STEAM <input type="checkbox"/> ELECTRIC																							
				INSTRUMENTATION (6.4.2)																							
				<input type="checkbox"/> SEE ATTACHED API 670 DATA SHEET																							
				<input type="checkbox"/> ACCELEROMETER(S) (6.4.2.1)																							
				<input type="checkbox"/> PROVISION FOR VIBRATION PROBES (6.4.2.2)																							
				<input type="checkbox"/> RADIAL _____ PER BRG. <input type="checkbox"/> AXIAL _____ PER BRG.																							
				<input type="checkbox"/> PROVISION FOR MOUNTING ONLY (5.10.2.11)																							
				<input type="checkbox"/> FLAT SURFACE REQ'D (5.10.2.12)																							
				<input type="checkbox"/> RADIAL BEARING METAL TEMP. DETECTORS																							
				<input type="checkbox"/> THRUST BRG METAL TEMP. DETECTORS																							
				<input type="checkbox"/> TEMP. GAUGES (WITH THERMOWELLS)																							
				<input type="checkbox"/> MONITORS AND CABLES SUPPLIED BY (6.4.2.4)																							
				REMARKS _____																							
				MASSES (lb)																							
				PUMP _____																							
				DRIVER _____																							
				GEAR _____																							
		Mechanical Data Sheet For: <u>45819 - P3802B/3803B</u>			Document No: <u>45819-M-DS-38000-P3802B/03B</u>	Rev. <u>2</u>																					
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CENTRIFUGAL PUMP DATA SHEET

1	Note	PRESSURE VESSEL DESIGN CODE REFERENCES		
2		THESE REFERENCES MUST BE LISTED BY THE MANUFACTURER		
3		CASTING FACTORS USED IN DESIGN (TABLE 4)		
4		SOURCE OF MATERIAL PROPERTIES		
5				
6		WELDING AND REPAIRS		
7		THESE REFERENCES MUST BE LISTED BY THE PURCHASER. (DEFAULT TO TABLE 11 IF NO PURCHASER PREFERENCE IS STATED)		
8		ALTERNATE WELDING CODES AND STANDARDS		
9		WELDING REQUIREMENT (APPLICABLE CODE OR STANDARD)		
10		WELDER/OPERATOR QUALIFICATION		
11		WELDING PROCEDURE QUALIFICATION		
12		NON-PRESSURE RETAINING STRUCTURAL WELDING SUCH AS BASEPLATES OR SUPPORTS		
13		MAGNETIC PARTICLE OR LIQUID PENETRANT EXAMINATION OF PLATE EDGES		
14		POSTWELD HEAT TREATMENT		
15		POSTWELD HEAT TREATMENT OF CASING FABRICATION WELDS		
16				
17		MATERIAL INSPECTION		
18		THESE REFERENCES MUST BE LISTED BY THE PURCHASER		
19		ALTERNATIVE MATERIAL INSPECTIONS AND ACCE Fire Water Pumps		
20		TYPE OF INSPECTION	METHOD	FOR FABRICATIONS
21		RADIOGRAPHY		
22		ULTRASONIC INSPECTION		
23		MAGNETIC PARTICLE INSPECTION		
24		LIQUID PENETRANT INSPECTION		
25		VISUAL INSPECTION (all surfaces)	Yes	Yes
26				YES
27		REMARKS :		
28				
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NOTES

1	Note	Rev
2	1. PUMPS, DRIVERS, COUPLINGS, AND ACCESSORIES AS SPECIFIED SHALL CONFORM TO THE REQUIREMENTS OF NFPA20 AND SHALL	
3	BE UL LISTED AND FM APPROVED FOR FIRE SERVICE.	
4	2. REFER TO 53048 SCOPE OF WORK FOR COMPLETE DEFINITION OF PACKAGE CONTENT AND SCOPE OF SERVICES.	
5	3. COUPLING GUARD SHALL BE NON-SPARKING AND FURNISHED WITH HINGED OPENING OR FIXED EXPANDABLE METAL COVER.	
6	4. SUPPLIER SHALL SUBMIT 3D CAD DRAWING OF PUMPS AND MOTOR ASSEMBLY.	
7	5. ROTATION ARROWS SHALL BE CAST IN OR ATTACHED TO EACH MAJOR ITEM OF ROTATING EQUIPMENT IN READILY VISIBLE LOCATION.	
8	6. PUMP UNIT SHALL BE PROVIDED WITH A STAMPED STAINLESS STEEL NAMEPLATE AFFIXED AND SECURELY ATTACHED AT A READILY	
9	VISIBLE LOCATION ON THE PUMP. NAME PLATE SHALL BE STAMPED WITH THE FOLLOWING INFORMATION AS MINIMUM, IN UNITS	
10	CONSISTENT WITH THE DATASHEET:	
11	1. CLOUGH ITEM NUMBER	
12	2. SUPPLIER'S SIZE AND MODEL NUMBER	
13	3. PUMP SERIAL NUMBER	
14	4. RATED FLOW	
15	5. RATED HEAD	
16	6. SPEED	
17	7. SUPPLIER BEARING IDENTIFICATION NUMBERS (IF APPLICABLE)	
18	7. PUMP SERIAL NUMBER SHALL BE PLAINLY AND VISIBLY MARKED ON PUMP CASING.	
19	8. Vendor to provide Diesel Engine Data Sheet as part of Vendor Data Submittal	
20	9. Diesel Tank Tag #s are TK- 3802 and TK-3803,	1
21	10. Jacket Water Coolers Tag Numbers: E-3802 and E-3803	1
22	11. Diesel Engine Driven Firewater Pumps Enclosure Tag Number is: Z-3801	1
23	12. Supplied Equipment to Meet NFPA 20 requirements and be UL listed for Fire Protection Service.,	2
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	Mechanical Data Sheet For:	Document No:
	45819 - -	45819-M-DS-38000-P3802B/03B

Firewater Pumps P3802B/3803B

Sheet: 8 of 8

Rev
2

Rev	Status	Date	Origin.	Checker	Lead	PM	Client

Document Title:

STAND-BY DIESEL GENERATOR DATA SHEET

Project No.	Document No.	Standby Generator Rev.A	Page 1 of 8
	Alternate Doc. No.		

XXXXX

EMERGENCY DIESEL GENERATOR D.S.
Document #: Standby Generator Rev.A

DATA SHEET - GENERATOR SET

SITE DATA (Applicable for All)				
EQUIPMENT LOCATION:	<input type="checkbox"/> INDOOR	<input checked="" type="checkbox"/> OUTDOOR	MAX. / MIN. TEMP.: 104 °F / -20 °F	
SITE LOCATION:	<input type="checkbox"/> COASTAL	<input type="checkbox"/> ONSHORE	<input checked="" type="checkbox"/> OFFSHORE	<input type="checkbox"/> ARCTIC
ATMOSPHERE:	<input type="checkbox"/> DRY	<input checked="" type="checkbox"/> HUMID 100% RH	<input checked="" type="checkbox"/> SALT LADEN	<input type="checkbox"/> DUSTY
ELEVATION: Standard	MAX. WIND: 120 MPH		MAX. RAINFALL	
MOTION DATA.: REFERENCE TO SPECIAL REQUIREMENTS SPECIFICATION	AREA CLASSIFICATION: Unclassified			
UTILITIES AVAILABLE				
FUEL GAS: LHV = None	BTU / SCF @	PSIG	<input type="checkbox"/> WET	<input type="checkbox"/> DRY
Electricity Source: Self Contained Unit		DIESEL SUPPLY PRESS TO DAY TANK = ATM		
DRY INSTRUMENT AIR: N/A PSIG	UTILITY AIR: 120 PSIG			
TIME CONSTANTS (Vendor to Complete)				
DIRECT AXIS TRANS. OPEN-CIRCUIT (T_{d0})				
DIRECT AXIS TRNAS. SHORT-CIRCUIT (T_d)				
DIRECT AXIS SUBTRANS. OPEN-CIRCUIT ($T' d0$)				
DIRECT AXIS SUBTRANS. SHORT-CIRCUIT ($T'' d$)				
QUADRAT-AXIS TRANS. OPEN-CIRCUIT (T_{q0})				
QUADRAT-AXIS TRANS. SHORT-CIRCUIT ($T' q$)				
QUADRAT-AXIS SUBTRANS. SHORT-CIRCUIT ($T'' d$)				
ARMATURE WINDING (TA3)				
IMPEDANCE (Vendor to Complete)				
REACTANCE (%)	SATURATED		UNSATURATED	
DIRECT AXIS SYNCH. (X_d)				
DIRECT AXIS TRANS. ($X' d$)				
DIRECT AXIS SUBTRANS. ($X'' d$)				
QUADRAT AXIS SYNCH. (X_q)				
QUADRAT AXIS TRANS. ($X' q$)				
QUADRAT AXIS SUBTRANS. ($X'' q$)				
NEGATIVE SEQUENCE (X_o)				
SUBTRANSIENT REACTANCE: (X'')				
ARMATURE LEAKAGE (X_l)				

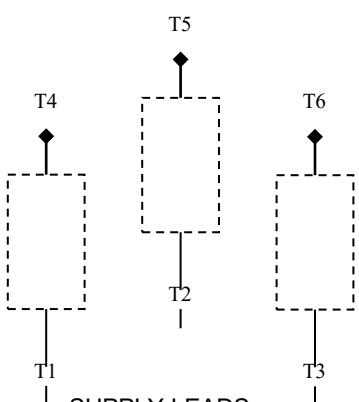
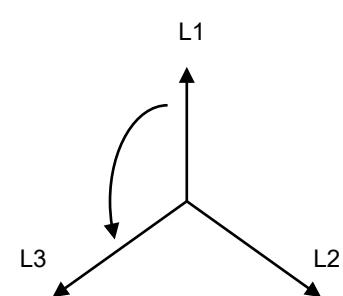
EMERGENCY DIESEL GENERATOR D.S.
Document #: Standby Generator Rev.A

DATA SHEET - GENERATOR SET

GENERAL			
GENERATOR OUTPUT (KW/KVA): 500kW		PHASES / WIRES: 3-Phase / 3-Wire	
RATED VOLTAGE / FREQUENCY / SPEED: 480 Volts / 60 Hz / 1800 rpm			
NEUTRAL GROUNDING METHOD: High Resistance Grounding (HRG)			
TYPE OF EXCITATION: AREP or Equivalent			
TROPICALIZATION: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			
ENCLOSURE - COOLING TYPE:		- NEMA TYPE	
TEMPERATURE CLASSIFICATION			
INSULATION CLASS:	- STATOR F	- ROTOR F	-EXCITER F
TEMPERATURE RISE:	- STATOR Class B	- ROTOR Class B	-EXCITER Class B
WINDING CONNECTION:	WYE	STATOR WINDINGS: 6 Wire	
SPACE HEATER REQUIREMENTS			
VOLT: 120 (RATED @ 240 V)		- SEPARATE TERM. BOX <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
TERMINAL BOX DETAILS			
MAIN	- LOCATION: RIGHT FROM DRIVE END	- CABLE TYPE: TC-ER SIZE: 500 MCM	
	- NO OF CABLES / PHASE : 4	- CABLE ENTRY: Bottom/Top	
	- TERMINATION / CONNECTION TYPE: STD	- STRESS RELIEVING <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
	- SPECIAL FEATURES: N/A		
NEUTRAL	- LOCATION: RIGHT FROM DRIVE END	- CABLE TYPE:	
	- CABLES SIZE:	- NO. OF CABLES:	
	- CABLE ENTRY: Bottom/Top	- SPECIAL FEATURES:	
BEARINGS			
LUBRICATION: Oil Flow Bearings <input checked="" type="checkbox"/> Sleeve			
TEMPERATURE AND VIBRATION			
WINDING TEMPERATURE DETECTION:	RTD	- FUNCTION Alarm	- TYPE 100 ohm Platinum 3-Wire
BEARING TEMPERATURE DETECTION:	RTD	- FUNCTION Alarm	- TYPE 100 ohm Platinum 3-Wire
VIBRATION DETECTION:		- FUNCTION Alarm/Shutdowns	- TYPE Non Contacting Probe
MAXIMUM VIBRATION ALLOWABLE:			
SPECIAL FEATURES:			
- FOUNDATION BOLTS	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	SHIM PACKS: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO , WHEN APPLICABLE	
- GROUNDING STUDS	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	REMOVABLE AIR FILTERS, MARINE GRADE : <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
PARALLEL OPERATION WITH ALL UNITS: N/A			
GENERATOR DETAILS	- RATING 625kVA @ POWER FACTOR LAGGING 80%		SPEED: 1800 RPM
	- VOLTAGE / FREQUENCY 0.5 % MINIMUM		SKVA: 1800 @ 15%
TOTAL OPERATING LOAD:	500 KVA		
OTHER:			
MAXIMUM PERMISSIBLE VOLTAGE DROP AT GENERATOR TERMINALS			15 %

EMERGENCY DIESEL GENERATOR D.S.
Document #: Standby Generator Rev.A

DATA SHEET - GENERATOR SET

VENDOR TO COMPLETE		
CALCULATED MAXIMUM VALUES OF HARMONIC CONTENT		HARMONIC NO.
		5
		7
		13
		15
		17
		19
SPECIAL LOAD:		
TERMINAL MARKING PLATE SHALL BE ATTACHED ON THE FIXED PORTION OF THE TERMINAL BOX AT A LOCATION AGREED TO BY THE PURCHASER.		
ROTATION SHALL BE CCW AT DRIVE END IN ACCORDANCE WITH NEMA MG1.		
	MACHINES WITH UNIDIRECTIONAL FANS SHALL BE SUITABLE ONLY FOR CCW ROTATION. LOOKING ON DRIVEN END. CONNECTION OF OUTGOING SUPPLY LEADS T1, T2, T3, TO TERMINALS L1, L2, L3, RESPECTIVELY SHALL GIVE CORRECT SYSTEM PHASE ROTATION. T4, T5, T6 SHALL MAKE NEUTRAL CONNECTION.	
TERMINAL / CONNECTOR MARKING		SUPPLY PHASE SEQUENCE
		<p>PHASE ROTATION</p> 
EQUIPMENT TYPE NO. / FRAME SIZE:		
RATED VOLTAGE / CURRENT / OUTPUT:		
RATED FREQUENCY / SPEED / EXCITATION:		

EMERGENCY DIESEL GENERATOR D.S.
Document #: Standby Generator Rev.A

DATA SHEET - GENERATOR SET

GENERATOR EFFICIENCY: (VENDOR TO COMPLETE)	
- AT 100% RATED OUTPUT:	- AT 75% RATED OUTPUT:
- AT 50% RATED OUTPUT:	
EXCITER:	
TYPE:	
MANUFACTURER / MODEL NO.:	
FRAME SIZE:	OUTPUT: KW
RATED CURRENT / VOLTAGE:	INPUT CURRENT / VOLTAGE:
RATED CURRENT / VOLTAGE:	
INPUT CURRENT / VOLTAGE:	
EXCITATION TYPE (ALTERNATOR) (VENDOR TO COMPLETE)	
WEIGHTS (VENDOR TO COMPLETE)	
MANUFACTURER:	STATOR PACKAGE: Kg (LBS).
MODEL NO. / FRAME SIZE:	BASE FRAME: Kg (LBS).
OUTPUT: KW	PEDESTAL BEARINGS: Kg (LBS).
RATED CURRENT / VOLTAGE: A / V	ROTOR, INCLUDING EXCITER: Kg (LBS).
	EXCITER STATOR: Kg (LBS).
	PMG PILOT GENERATOR STATOR: Kg (LBS).
	COOLERS: Kg (LBS).
	TOTAL: Kg (LBS).

DATA SHEET – PRIME MOVER SET

PRIME MOVER (DIESEL MOTOR DRIVER):					
ENGINE TYPE:	GAS <input type="checkbox"/>	DIESEL <input checked="" type="checkbox"/>	STEAM TURBINE <input type="checkbox"/>	GAS TURBINE <input type="checkbox"/>	VENDOR TO PROVIDE DETAILS
MANUFACTURER:	Caterpillar or Equivalent		MODEL:		
No. OF CYLINDERS:	ARRANGEMENT:		ENGINE SPEED:	1800 RPM	OVERSPEED TRIP: RPM
ASPIRATION:	BORE:		mm (in)	STROKE:	mm (in)
COMPRESSION RATIO:	PISTON DISPLACEMENT:		mm ³ (in ³)	ROTATION:	
RATED PISTON SPEED:	FPM	RATED BMEP:		RATED POWER:	kW (HP)
EXHAUST SYSTEM:					
SILENCER TYPE:	STANDARD <input checked="" type="checkbox"/>	RESIDENTIAL <input type="checkbox"/>	SPARK ARRESTOR <input checked="" type="checkbox"/>	(HORIZONTAL <input type="checkbox"/> VERTICAL <input type="checkbox"/>)	
MANUFACTURER:	MODEL: (Vendor to Complete)				
EXHAUST PIPING:	UNINSULATED <input type="checkbox"/>	INSULATED <input checked="" type="checkbox"/>	(MINIMUM SCH. 40)		
COOLING SYSTEM:					
COOLING:	RADIATOR <input checked="" type="checkbox"/>	SHELL AND TUBE <input type="checkbox"/>	OTHER <input type="checkbox"/>	COOLING MEDIUM:	
FAN DRIVER: ENGINE DRIVEN					
LUBE OIL SYSTEM: (VENDOR TO PROVIDE)					
LUBE OIL COLLER TYPE:	MAKEUP TANK CAPACITY:			m ³ /Hr (GPM)	
OIL FILTER MANUFACTURER:	OIL FILTER MODEL:				
PRE/POST LUBE PUMP MANUFACTURER:	LUBE OIL CONSUMPTION:			m ³ /Hr (GPM)	
FUEL SYSTEM:					
FUEL TYPE: DIESEL	FUEL CONSUMPTION:	m ³ /Hr (GPM)	DAY TANK CAPACITY: (NOTE 1)	m ³ (Gal)	
FUEL FILTER MANUFACTURER:	MODEL:				
AIR INTAKE SYSTEM: (VENDOR TO PROVIDE)					
FILTER TYPE:	FILTER MANUFACTURER:		MODEL:		
LOUVERS:					
GOVERNOR: (VENDOR TO PROVIDE)					
MANUFACTURER:	MODEL:				
NEMA GOV. CLASS:	CONTROL SIGNAL:				
SIGNAL RANGE:	SPEED RANGE:				
VENDOR TO PROVIDE THE FOLLOWING, AS APPROPRIATE OR AS INDICATED:					
SKID MOUNTED:	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	HOUSED	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
SPREADER BAR:	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	FUEL GAS FILTER	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
CONTROL PANEL:	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	OIL / UTILITY COOLERS	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
SPECIAL LUBRICATION:	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	TURBO CHARGED	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
LOW NOISE MUFFLER:	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	LO-NOX	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
WASTE HEAT RECOVERY:	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	STARTING METHOD	BATTERY <input checked="" type="checkbox"/>	AIR <input checked="" type="checkbox"/> (BACKUP)
<input checked="" type="checkbox"/> PROVIDE LAYOUT DRAWINGS / DATA SHEETS					
<input checked="" type="checkbox"/> PROVIDE DRIVER START DATA / REQUIREMENTS					
<input checked="" type="checkbox"/> PROVIDE UTILITIES CONSUMPTION / MAINTENANCE ESTIMATE					
<input checked="" type="checkbox"/> PROVIDE EMISSIONS DATA					
<input checked="" type="checkbox"/> PROVIDE ESTIMATED NOISE LEVELS AT 1 M					

EMERGENCY DIESEL GENERATOR D.S.
Document #Standby Generator, Rev.A

DATA SHEET – PRIME MOVER SET

SKID SIZE (maximum): (Vendor to Provide)
WEIGHTS: (Vendor to Complete)
NOTES:
1. Day Tank Capacity Shall Provide Minimum 36 Hours of Engine Operation at Continuous Full Load.

Notes:

1.- This MCC data shall be verified by VENDOR

**APPENDIX D –
PLAN APPROVAL APPLICATION FORMS**

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.

Related ID#s (If Known)		DEP USE ONLY	
Client ID#	APS ID#	Date Received & General Notes	
Site ID#	Auth ID#		
Facility ID#			

CLIENT INFORMATION

DEP Client ID# N/A	Client Type / Code N/A	Dun & Bradstreet ID# N/A
Legal Organization Name or Registered Fictitious Name <i>Encina Fort Union LLC</i>		Employer ID# (EIN) <i>81-1267194</i>
State of Incorporation or Registration of Fictitious Name <i>Encina Fort Union LLC</i>		<input type="checkbox"/> Corporation <input checked="" type="checkbox"/> LLC <input type="checkbox"/> Partnership <input type="checkbox"/> LLP <input 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 N/A	First Name	MI	Suffix
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Additional Individual Last Name	First Name	MI	Suffix
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Mailing Address Line 1 <i>1095 Evergreen Circle, Suite 510</i>	Mailing Address Line 2		
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Address Last Line – City <i>Woodlands</i>	State <i>TX</i>	ZIP+4 <i>77380</i>	Country <i>USA</i>
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Client Contact Last Name <i>Sahandy</i>	First Name <i>Sheida</i>	MI	Suffix
--	-----------------------------	----	--------

Client Contact Title <i>Chief Sustainability Officer</i>	Phone <i>(206)375-1277</i>	Ext	Cell Phone
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Email Address <i>ssahandy@encina.com</i>	FAX		
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SITE INFORMATION

DEP Site ID# N/A	Site Name <i>Point Township Circular Manufacturing Facility</i>			
EPA ID# N/A	Estimated Number of Employees to be Present at Site			<i>254 (Upon Completion of Phase 1 and Phase 2)</i>

Description of Site <i>Greenfield plastics sorting operation.</i>				
--	--	--	--	--

Tax Parcel ID(s): <i>Parcel 1: 039-00-031-039, Parcel 2: 039-00-026-015</i>				
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County Name(s)	Municipality(ies)	City	Bo ro	Twp	State
<i>Northumberland</i>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>PA</i>
	<i>Point Township</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<i>PA</i>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Site Location Line 1 <i>3288 Point Township Drive</i>	Site Location Line 2			
Site Location Last Line – City <i>Northumberland</i>	State <i>PA</i>	ZIP+4 <i>17857</i>		

Detailed Written Directions to Site

Follow I-76 W, I-476 N and I-80 W to PA-54 E/Continental Boulevard in Valley Township. Take exit 224 from I-80 W. Follow PA-54 E/Continental Boulevard and US-11S to the destination in Point Township.

Site Contact Last Name <i>Marr</i>	First Name <i>Michael</i>	MI	Suffix
Site Contact Title <i>Director of Government Relations & Compliance</i>	Site Contact Firm <i>Encina Fort Union LLC</i>		
Mailing Address Line 1 <i>1095 Evergreen Circle, Suite 510</i>	Mailing Address Line 2		
Mailing Address Last Line – City <i>Woodlands</i>	State <i>TX</i>	ZIP+4 <i>77380</i>	
Phone <i>(412) 953-4684</i>	Ext	FAX	Email Address <i>mmarr@encina.com</i>
NAICS Codes (Two- & Three-Digit Codes – List All That Apply) <i>32-519</i>	6-Digit Code (Optional)		

Client to Site Relationship
Owner/Operator

FACILITY INFORMATION

Modification of Existing Facility	Y <input type="checkbox"/>	e <input type="checkbox"/>	s <input type="checkbox"/>	No
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1. Will this project modify an existing facility, system, or activity?

2. Will this project involve an addition to an existing facility, system, or activity?

If "Yes", check all relevant facility types and provide DEP facility identification numbers below.

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 type="checkbox"/> Oil & Gas Location	_____
<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
Center of Property (General)	40°	56'	57.75" N	76°	40'	5.11" W

Horizontal Accuracy Measure	Feet	--or--	Meters
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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
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Horizontal Collection Method Code	Geographic coordinate determination method based on interpolation - map
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Reference Point Code	Altitude	Feet	473	--or--	Meters
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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)
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Altitude (Vertical) Location Datum Collection Method Code

Geometric Type Code

Data Collection Date

Source Map Scale Number	Inch(es)	=	Feet
--or--	Centimeter(s)	=	Meters

PROJECT INFORMATION

Project Name

Phase 1 Air Permitting

Project Description

Plastics Sorting Operation

Project Consultant Last Name <i>Turney</i>	First Name <i>Kayla</i>	MI	Suffix
Project Consultant Title <i>Technical Manager</i>	Consulting Firm <i>ALL4 LLC</i>		
Mailing Address Line 1 <i>2393 Kimberton Road</i>	Mailing Address Line 2		
Address Last Line – City <i>Kimberton</i>	State <i>PA</i>	ZIP+4	<i>19442</i>
Phone <i>(610)422-1143</i>	Ext	FAX	Email Address <i>kturney@all4inc.com</i>
Time Schedules <i>Q2 of 2023</i>	Project Milestone (Optional) <i>Commence Construction</i>		
<i>Q3 of 2024</i>	<i>Commence Operation</i>		

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: *Municipal Notification Letters*

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.

General environmental concerns.

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)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
<p>Note: If "No" to Question 5, the application is not subject to the Land Use Policy.</p> <p>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.</p>		

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 type="checkbox"/>	Yes	<input checked="" 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.</p> <p>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 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 checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No
4.0.1	Total Disturbed Acreage > 1 acre				
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 checked="" 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 checked="" 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 checked="" 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 checked="" 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 checked="" type="checkbox"/>	No
5.4	Is your project an interstate transmission natural gas pipeline?	<input type="checkbox"/>	Yes	<input checked="" 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 checked="" 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 checked="" 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 checked="" 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 checked="" type="checkbox"/>	Yes	<input 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.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
8.0.1	Estimated Proposed Flow (gal/day)				
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?	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
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. <i>Planning Module submitted to Township 8/26/22.</i>	<input checked="" type="checkbox"/>	Yes	<input 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).	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
10.0.1	Gallons Per Year (residential septic)				
10.0.2	Dry Tons Per Year (biosolids)				
11.0	Does the project involve construction, modification or removal of a dam? If "Yes", identify the dam.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
11.0.1	Dam Name				
12.0	Will the project interfere with the flow from, or otherwise impact, a dam? If "Yes", identify the dam.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
12.0.1	Dam Name				

13.0	Will the project involve operations (excluding during the construction period) that produce air emissions (i.e., NOX, VOC, etc.)?	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No
13.0.1	If "Yes", is the operation subject to the agricultural exemption in 35 P.S. § 4004.1?	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
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.				
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 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 checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No
18.0.1	Source Name <i>Non-Community Public Water Well</i>				
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 checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No
19.0.1	Type & Amount <i>< 5% of incoming post-consumer material expected to be waste</i>				
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.				

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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. <u>Note:</u> 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. <u>Note:</u> 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? If "Yes", list each Substance & its Capacity. <u>Note:</u> Applicant may need a Storage Tank Site Specific Installation Permit.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
24.0.1	Enter all substances & capacity of each; separate each set with semicolons.				
<p>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</p>					
25.0	Will the intended activity involve the use of a radiation source?	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	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 *Sheida Sahandy*

Sheida R. Sahandy
Signature

Chief Sustainability Officer

Title

10/27/2022

Date



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF AIR QUALITY

PROCESSES

Application for Plan Approval to Construct, Modify or Reactivate an Air Contamination Source and/or Install an Air Cleaning Device

This application must be submitted with the General Information Form (GIF).

Before completing this form, read the instructions provided for the form.

Section A - Facility Name, Checklist And Certification

Organization Name or Registered Fictitious Name/Facility Name: Encina Fort Union LLC

DEP Client ID# (if known): _____

Type of Review required and Fees:

<input type="checkbox"/> Source which is not subject to NSPS, NESHAPs, MACT, NSR and PSD:	\$ _____
<input checked="" type="checkbox"/> Source requiring approval under NSPS or NESHAPs or both:	\$ <u>7,500</u>
<input type="checkbox"/> Source requiring approval under NSR regulations:	\$ _____
<input type="checkbox"/> Source requiring the establishment of a MACT limitation:	\$ _____
<input type="checkbox"/> Source requiring approval under PSD:	\$ _____

Applicant's Checklist

Check the following list to make sure that all the required documents are included.

- General Information Form (GIF)
- Processes Plan Approval Application
- Compliance Review Form or provide reference of most recently submitted compliance review form for facilities submitting on a periodic basis: _____
- Copy and Proof of County and Municipal Notifications
- Permit Fees
- Addendum A: Source Applicable Requirements (only applicable to existing Title V facility)

Certification of Truth, Accuracy and Completeness by a Responsible Official

I, Sheida Sahandy, certify under penalty of law in 18 Pa. C. S. A. §4904, and 35 P.S. §4009(b) (2) that based on information and belief formed after reasonable inquiry, the statements and information in this application are true, accurate and complete.

(Signature): Sheida R. Sahandy
Name (Print): Sheida Sahandy

Date: 10/27/2022
Title: Chief Sustainability Officer

OFFICIAL USE ONLY

Application No. _____	Unit ID _____	Site ID _____
DEP Client ID #: _____	APS. ID _____	AUTH. ID _____
Date Received _____	Date Assigned _____	Reviewed By _____
Date of 1 st Technical Deficiency _____	Date of 2 nd Technical Deficiency _____	
Comments: _____	_____	

Section B - Processes Information

1. Source Information

Source Description (give type, use, raw materials, product, etc). Attach additional sheets as necessary.

Encina Fort Union proposes to install a new diesel-fired fire pump engine at the Facility.

Manufacturer <i>Clarke, or equivalent</i>	Model No. <i>C18H0, or equivalent</i>	Number of Sources <i>1</i>
Source Designation <i>001 - Diesel Fire Pump</i>	Maximum Capacity <i>510 bhp</i>	Rated Capacity <i>510 bhp</i>

Type of Material Processed
Diesel

Maximum Operating Schedule

Hours/Day <i>N/A</i>	Days/Week <i>N/A</i>	Days/Year <i>N/A</i>	Hours/Year <i>500</i>
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Operational restrictions existing or requested, if any (e.g., bottlenecks or voluntary restrictions to limit PTE)
N/A

Capacity (specify units)

Per Hour <i>N/A</i>	Per Day <i>N/A</i>	Per Week <i>N/A</i>	Per Year <i>N/A</i>
------------------------	-----------------------	------------------------	------------------------

Operating Schedule

Hours/Day <i>N/A</i>	Days/Week <i>N/A</i>	Days/Year <i>N/A</i>	Hours/Year <i>500</i>
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Seasonal variations (Months) From *N/A* to *N/A*

If variations exist, describe them
N/A

2. Fuel

Type	Quantity Hourly	Annually	Sulfur	% Ash (Weight)	BTU Content
Oil Number <i>Diesel</i>	<i>TBD GPH @ 60°F</i>	<i>TBD X 10³ Gal</i>	<i>0.0015% by wt</i>	<i>Neg.</i>	<i>130,000 Btu/Gal. & Lbs./Gal. @ 60 °F</i>
Oil Number _____	GPH @ 60°F	X 10 ³ Gal	% by wt		Btu/Gal. & Lbs./Gal. @ 60 °F
Natural Gas	SCFH	X 10 ⁶ SCF	grain/100 SCF		Btu/SCF
Gas (other) _____	SCFH	X 10 ⁶ SCF	grain/100 SCF		Btu/SCF
Coal _____	TPH	Tons	% by wt		Btu/lb
Other *					

*Note: Describe and furnish information separately for other fuels in Addendum B.

Section B - Processes Information (Continued)

3. Burner - N/A

Manufacturer	Type and Model No.	Number of Burners
Description:		
Rated Capacity	Maximum Capacity	

4. Process Storage Vessels - N/A

A. For Liquids:

Name of material stored		
Tank I.D. No.	Manufacturer	Date Installed
Maximum Pressure	Capacity (gallons/Meter ³)	
Type of relief device (pressure set vent/conservation vent/emergency vent/open vent)		
Relief valve/vent set pressure (psig)	Vapor press. of liquid at storage temp. (psia/kPa)	
Type of Roof: Describe:		

Total Throughput Per Year	Number of fills per day (fill/day): Filling Rate (gal./min.): Duration of fill hr./fill):
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B. For Solids

Type: <input type="checkbox"/> Silo <input type="checkbox"/> Storage Bin <input type="checkbox"/> Other, Describe	Name of Material Stored	
Silo/Storage Bin I.D. No.	Manufacturer	Date Installed
State whether the material will be stored in loose or bags in silos		Capacity (Tons)
Turn over per year in tons		Turn over per day in tons

Describe fugitive dust control system for loading and handling operations

Describe material handling system

5. Request for Confidentiality

Do you request any information on this application to be treated as "Confidential"? Yes No
If yes, include justification for confidentiality. Place such information on separate pages marked "confidential".

Section B - Processes Information (Continued)

6. Miscellaneous Information

Attach flow diagram of process giving all (gaseous, liquid and solid) flow rates. Also, list all raw materials charged to process equipment, and the amounts charged (tons/hour, etc.) at rated capacity (give maximum, minimum and average charges describing fully expected variations in production rates). Indicate (on diagram) all points where contaminants are controlled (location of water sprays, collection hoods, or other pickup points, etc.). Describe collection hoods location, design, airflow and capture efficiency. Describe any restriction requested and how it will be monitored.

Please refer to the Plan Approval Application (PAA) narrative text for more detailed information.

Describe fully the facilities provided to monitor and to record process operating conditions, which may affect the emission of air contaminants. Show that they are reasonable and adequate.

The Facility will monitor and record operating time through the use of a non-resettable hour meter to determine emissions from Proposed Source ID 001. The Facility will also record the type of operation (i.e., maintenance/readiness testing, other non-emergency, emergency). Please refer to the PAA narrative text for more detailed information.

Describe each proposed modification to an existing source.

N/A

Identify and describe all fugitive emission points, all relief and emergency valves and any by-pass stacks.

N/A

Describe how emissions will be minimized especially during start up, shut down, process upsets and/or disruptions.

Emissions will be minimized during start up, shut down, and malfunction by operating the equipment for each emissions unit in accordance with the manufacturer's instructions and utilizing good engineering practices and principles.

Anticipated Milestones:

- i. Expected commencement date of construction/reconstruction/installation: 202023
- ii. Expected completion date of construction/reconstruction/installation: 302024
- iii. Anticipated date of start-up: 302024

Section B - Processes Information

1. Source Information

Source Description (give type, use, raw materials, product, etc). Attach additional sheets as necessary.

Encina Fort Union proposes to install a new diesel-fired emergency generator engine at the Facility.

Manufacturer <i>Caterpillar, or equivalent</i>	Model No. <i>TBD</i>	Number of Sources <i>1</i>
Source Designation <i>002 - Diesel Emergency Generator</i>	Maximum Capacity <i>500 kW</i>	Rated Capacity <i>500 kW</i>

Type of Material Processed
Diesel

Maximum Operating Schedule

Hours/Day <i>N/A</i>	Days/Week <i>N/A</i>	Days/Year <i>N/A</i>	Hours/Year <i>500</i>
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Operational restrictions existing or requested, if any (e.g., bottlenecks or voluntary restrictions to limit PTE)
N/A

Capacity (specify units)

Per Hour <i>N/A</i>	Per Day <i>N/A</i>	Per Week <i>N/A</i>	Per Year <i>N/A</i>
------------------------	-----------------------	------------------------	------------------------

Operating Schedule

Hours/Day <i>N/A</i>	Days/Week <i>N/A</i>	Days/Year <i>N/A</i>	Hours/Year <i>500</i>
-------------------------	-------------------------	-------------------------	--------------------------

Seasonal variations (Months) From *N/A* to *N/A*

If variations exist, describe them
N/A

2. Fuel

Type	Quantity Hourly	Annually	Sulfur	% Ash (Weight)	BTU Content
Oil Number <i>Diesel</i>	<i>TBD GPH @ 60°F</i>	<i>TBD X 10³ Gal</i>	<i>0.0015% by wt</i>	<i>Neg.</i>	<i>130,000 Btu/Gal. & Lbs./Gal. @ 60 °F</i>
Oil Number _____	GPH @ 60°F	X 10 ³ Gal	% by wt		Btu/Gal. & Lbs./Gal. @ 60 °F
Natural Gas	SCFH	X 10 ⁶ SCF	grain/100 SCF		Btu/SCF
Gas (other) _____	SCFH	X 10 ⁶ SCF	grain/100 SCF		Btu/SCF
Coal _____	TPH	Tons	% by wt		Btu/lb
Other *					

*Note: Describe and furnish information separately for other fuels in Addendum B.

Section B - Processes Information (Continued)

3. Burner - N/A

Manufacturer	Type and Model No.	Number of Burners
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Description:

Rated Capacity	Maximum Capacity
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4. Process Storage Vessels - N/A

A. For Liquids:

Name of material stored

Tank I.D. No.	Manufacturer	Date Installed
---------------	--------------	----------------

Maximum Pressure	Capacity (gallons/Meter ³)
------------------	--

Type of relief device (pressure set vent/conservation vent/emergency vent/open vent)

Relief valve/vent set pressure (psig)	Vapor press. of liquid at storage temp. (psia/kPa)
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Type of Roof: Describe:

Total Throughput Per Year	Number of fills per day (fill/day): Filling Rate (gal./min.): Duration of fill hr./fill):
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B. For Solids

Type: <input type="checkbox"/> Silo <input type="checkbox"/> Storage Bin <input type="checkbox"/> Other, Describe	Name of Material Stored
---	-------------------------

Silo/Storage Bin I.D. No.	Manufacturer	Date Installed
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State whether the material will be stored in loose or bags in silos	Capacity (Tons)
---	-----------------

Turn over per year in tons	Turn over per day in tons
----------------------------	---------------------------

Describe fugitive dust control system for loading and handling operations

Describe material handling system

5. Request for Confidentiality

Do you request any information on this application to be treated as "Confidential"? Yes No
 If yes, include justification for confidentiality. Place such information on separate pages marked "confidential".

Section B - Processes Information (Continued)

6. Miscellaneous Information

Attach flow diagram of process giving all (gaseous, liquid and solid) flow rates. Also, list all raw materials charged to process equipment, and the amounts charged (tons/hour, etc.) at rated capacity (give maximum, minimum and average charges describing fully expected variations in production rates). Indicate (on diagram) all points where contaminants are controlled (location of water sprays, collection hoods, or other pickup points, etc.). Describe collection hoods location, design, airflow and capture efficiency. Describe any restriction requested and how it will be monitored.

Please refer to the PAA narrative text for more detailed information.

Describe fully the facilities provided to monitor and to record process operating conditions, which may affect the emission of air contaminants. Show that they are reasonable and adequate.

The Facility will monitor and record operating time through the use of a non-resettable hour meter to determine emissions from Proposed Source ID 002. The Facility will also record the type of operation (i.e., maintenance/readiness testing, other non-emergency, emergency). Please refer to the Section 5.1.1.1 of the Narrative for more detailed information.

Describe each proposed modification to an existing source.

N/A

Identify and describe all fugitive emission points, all relief and emergency valves and any by-pass stacks.

N/A

Describe how emissions will be minimized especially during start up, shut down, process upsets and/or disruptions.

Emissions will be minimized during start up, shut down, and malfunction by operating the equipment for each emissions unit in accordance with the manufacturer's instructions and utilizing good engineering practices and principles.

Anticipated Milestones:

- i. Expected commencement date of construction/reconstruction/installation: 202023
- ii. Expected completion date of construction/reconstruction/installation: 302024
- iii. Anticipated date of start-up: 302024

Section C - Air Cleaning Device

1. Precontrol Emissions*

Pollutant	Specify Units	Maximum Emission Rate			Calculation/ Estimation Method
		Pounds/Hour	Hours/Year	Tons/Year	
PM					
PM ₁₀					
SO _x					
CO					
NO _x					
VOC					
Others: (e.g., HAPs)	-----	-----	-----	-----	-----

Please refer to Appendix B.

* These emissions must be calculated based on the requested operating schedule and/or process rate, e.g., operating schedule for maximum limits or restricted hours of operation and/or restricted throughput. Describe how the emission values were determined. Attach calculations.

2. Gas Cooling – N/A

Water quenching Yes No Water injection rate _____ GPM

Radiation and convection cooling <input type="checkbox"/> Yes <input type="checkbox"/> No	Air dilution <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, _____ CFM
--	--

Forced Draft <input type="checkbox"/> Yes <input type="checkbox"/> No	Water cooled duct work <input type="checkbox"/> Yes <input type="checkbox"/> No
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Other

Inlet Volume _____ ACFM @ _____ °F _____ % Moisture	Outlet Volume _____ ACFM @ _____ °F _____ % Moisture
--	---

Describe the system in detail.

Section C - Air Cleaning Device (Continued)

3. Settling Chambers – N/A

Manufacturer	Volume of gas handled _____ ACFM @ _____ °F	Gas velocity (ft/sec.)
Length of chamber (ft.)	Width of chamber (ft.)	Height of chamber (ft.)
Water injection <input type="checkbox"/> Yes <input type="checkbox"/> No	Water injection rate (GPM)	

Emissions Data

Inlet	Outlet	Removal Efficiency (%)

4. Inertial and Cyclone Collectors – N/A

Manufacturer	Type	Model No.
Pressure drop (in. of water)	Inlet volume _____ ACFM @ _____ °F	Outlet volume _____ ACFM @ _____ °F
Number of individual cyclone(s)		Outlet straightening vanes used? <input type="checkbox"/> Yes <input type="checkbox"/> No
Length of Cyclone(s) Cylinder (ft.)	Diameter of Cyclone(s) Cylinder (ft.)	Length of Cyclone(s) cone (ft.)
Inlet Diameter (ft.) or duct area (ft. ²) of cyclone(s)		Outlet Diameter (ft.) or duct area (ft. ²) of cyclone(s)

If a multi-clone or multi-tube unit is installed, will any of the individual cyclones or cyclone tubes be blanked or blocked off?

Describe any exhaust gas recirculation loop to be employed.

Attach particle size efficiency curve

Emissions Data

Inlet	Outlet	Removal Efficiency (%)

Section C - Air Cleaning Device (Continued)

5. Fabric Collector - N/A

Equipment Specifications

Manufacturer		Model No.	<input type="checkbox"/> Pressurized Design <input type="checkbox"/> Suction Design
Number of Compartments	Number of Filters Per Compartment	Is Baghouse Insulated?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Can each compartment be isolated for repairs and/or filter replacement?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
Are temperature controls provided? (Describe in detail)		<input type="checkbox"/> Yes	<input type="checkbox"/> No
Dew point at maximum moisture _____ °F		Design inlet volume _____ SCFM	
Type of Fabric			
Material _____	<input type="checkbox"/> Felted	<input type="checkbox"/> Membrane	
Weight _____ oz/sq.yd	<input type="checkbox"/> Woven	<input type="checkbox"/> Others: List: _____	
Thickness _____ in	<input type="checkbox"/> Felted-Woven		
Fabric permeability (clean) @ ½" water-Δ P _____ CFM/sq.ft.			
Filter dimensions	Length _____	Diameter/Width _____	
Effective area per filter _____		Maximum operating temperature (°F) _____	
Effective air to cloth ratio	Minimum _____	Maximum _____	
Drawing of Fabric Filter A sketch of the fabric filter showing all access doors, catwalks, ladders and exhaust ductwork, location of each pressure and temperature indicator should be attached.			
Operation and Cleaning			
Volume of gases handled _____ ACFM @ _____ °F	Pressure drop across collector (in. of water). Describe the equipment to be used to monitor the pressure drop.		
Type of filter cleaning <input type="checkbox"/> Manual Cleaning <input type="checkbox"/> Mechanical Shakers <input type="checkbox"/> Pneumatic Shakers	<input type="checkbox"/> Bag Collapse <input type="checkbox"/> Sonic Cleaning <input type="checkbox"/> Reverse Air Flow	<input type="checkbox"/> Reverse Air Jets <input type="checkbox"/> Other: _____	
Describe the equipment provided if dry oil free air is required for collector operation			
Cleaning Initiated By <input type="checkbox"/> Timer <input type="checkbox"/> Expected pressure drop range _____ in. of water <input type="checkbox"/> Other Specify _____			
Does air cleaning device employ hopper heaters, hopper vibrators or hopper level detectors? If yes, describe.			
Describe the warning/alarm system that protects against operation when the unit is not meeting design requirements.			
Emissions Data			
Pollutant	Inlet	Outlet	Removal Efficiency (%)

Section C - Air Cleaning Device (Continued)

6. Wet Collection Equipment – N/A

Equipment Specifications

Manufacturer	Type	Model No.
--------------	------	-----------

Design Inlet Volume (SCFM)	Relative Particulate/Gas Velocity (ejector scrubbers only)
----------------------------	--

Describe the internal features (e.g., variable throat, gas/liquid diffusion plates, spray nozzles, liquid redistributors, bed limiters, etc.).

Describe pH monitoring and pH adjustment systems, if applicable.

Describe mist eliminator or separator (type, configuration, backflush capability, frequency).

Attach particulate size efficiency curve.

Operating Parameters

Inlet volume of gases handled _____ (ACFM) @ _____ °F	Outlet volume of gases handled _____ (ACFM) @ _____ °F _____ % Moisture
--	--

Liquid flow rates. Describe equipment provided to measure liquid flow rates to scrubber (e.g., quenching section, recirculating solution, makeup water, bleed flow, etc.)

Describe scrubber liquid supply system (amount of make-up and recirculating liquid, capacity of recirculating liquid system, etc.)

State pressure drop range (in water) across scrubber (e.g., venturi throat, packed bed, etc.) only. Describe the equipment provided to measure the pressure drop. Do not include duct or de-mister losses.

Describe the warning/alarm system that protects against operation when unit is not meeting design requirements.

Emissions Data

Pollutant	Inlet	Outlet	Removal Efficiency (%)

Section C - Air Cleaning Device (Continued)

7. Electrostatic Precipitator - N/A

Equipment Specifications

Manufacturer	Model No.	<input type="checkbox"/> Wet <input type="checkbox"/> Dry <input type="checkbox"/> Single-Stage <input type="checkbox"/> Two-Stage
Gas distribution grids	<input type="checkbox"/> Yes <input type="checkbox"/> No	Design Inlet Volume (SCFM) _____ Maximum operating temperature (°F) _____
Total collecting surface area _____ sq. ft.		Collector plates size length _____ ft. x width _____ ft.
Number of fields _____		Number of collector plates/field _____
Spacing between collector plates _____ inches.		
Maximum gas velocity _____ ft./sec.		Minimum gas treatment time: _____ sec.
Total discharge electrode length _____ ft.		
Number of discharge electrodes _____		Number of collecting electrode rappers _____
Rapper control <input type="checkbox"/> Magnetic <input type="checkbox"/> Pneumatic <input type="checkbox"/> Other _____ Describe in detail		

Operating Parameters

Inlet gas temperature (°F) _____	Static pressure drop range (inches water gauge) across collector only _____
Outlet gas temperature (°F) _____	Describe the equipment
Volume of gas handled (ACFM) _____	Dust resistivity (ohm-cm). Will resistivity vary?

Power requirements

Number and size of Transformer Rectifier sets by electrical field

Field No.	No. of Sets	Each Transformer KVA	Each Rectifier KV Ave./Peak Ma DC
Current Density _____ Micro amperes/ft ² .	Corona Power _____ Watts/1000 ACFM	Corona Power Density _____ Watts/ft ² .	

Will a flue gas conditioning system be employed? If yes, describe it.

Does air cleaning device employ hopper heaters, hopper vibrators or hopper level detectors? If yes, describe.

Describe the warning/alarm system that protects against operation when unit is not meeting design requirements.

Emissions Data

Pollutant	Inlet	Outlet	Removal Efficiency (%)

Section C - Air Cleaning Device (Continued)			
8. Adsorption Equipment – N/A			
Equipment Specifications			
Manufacturer	Type	Model No.	
Design Inlet Volume (SCFM)		Adsorbent charge per adsorber vessel and number of adsorber vessels	
Length of Mass Transfer Zone (MTZ), supplied by the manufacturer based upon laboratory data.			
Adsorber diameter (ft.) and area ft ² .)		Adsorption bed depth (ft.)	
Adsorbent information			
Adsorbent type and physical properties.			
Working capacity of adsorbent (%)		Heel percent or unrecoverable solvent weight % in the adsorbent after regeneration.	
Operating Parameters			
Inlet volume of gases handled _____ (ACFM) @ _____ °F			
Adsorption time per adsorption bed		Breakthrough capacity: Lbs. of solvent / 100 lbs. of adsorbent = _____	
Vapor pressure of solvents at the inlet temperature		Available steam in pounds to regenerate carbon adsorber (if applicable)	
Percent relative saturation of each solvent at the inlet temperature			
Attach any additional data including auxiliary equipment and operation details to thoroughly evaluate the control equipment.			
Describe the warning/alarm system that protects against operation when unit is not meeting design requirements.			
Emissions Data			
Pollutant	Inlet	Outlet	Removal Efficiency (%)

Section C - Air Cleaning Device (Continued)			
9. Absorption Equipment – N/A			
Equipment Specifications			
Manufacturer	Type		Model No.
Design Inlet Volume (SCFM)		Tower height (ft.) and inside diameter (ft.)	
Packing type and size (if applicable)		Height of packing (ft.) (if applicable)	
Number of trays (if applicable)		Number of bubble caps (if applicable)	
Configuration <input type="checkbox"/> Counter-current <input type="checkbox"/> Cross flow <input type="checkbox"/> Cocurrent flow			
Describe pH and/or other monitoring and controls.			
Absorbent information			
Absorbent type and concentration.		Retention time (sec.)	
Attach equilibrium data for absorption (if applicable)			
Attach any additional information regarding auxiliary equipment, absorption solution supply system (once through or recirculating, system capacity, etc.) to thoroughly evaluate the control equipment. Indicate the flow rates for makeup, bleed and recirculation.			
Operating Parameters			
Volume of gas handled (ACFM)	Inlet temperature (°F)	Pressure drop (in. of water) and liquid flow rate. Describe the monitoring equipment.	
State operating range for pH and/or absorbent concentration in scrubber liquid.			
Describe the warning/alarm system that protects against operation when unit is not meeting design requirements.			
Emissions Data			
Pollutant	Inlet	Outlet	Removal Efficiency (%)

Section C - Air Cleaning Device (Continued)

10. Selective Catalytic Reduction (SCR) – N/A
 Selective Non-Catalytic Reduction (SNCR) – N/A
 Non-Selective Catalytic Reduction (NSCR) – N/A

Equipment Specifications

Manufacturer	Type	Model No.
Design Inlet Volume (SCFM)	Design operating temperature (°F)	

Is the system equipped with process controls for proper mixing/control of the reducing agent in gas stream? If yes, give details.

Attach efficiency and other pertinent information (e.g., ammonia slip)

Operating Parameters

Volume of gases handled _____ (ACFM) @ _____ °F

Operating temperature range for the SCR/SNCR/NSCR system (°F) From _____°F To _____°F

State expected range of usage rate and concentration.

Describe fully with a sketch giving locations of equipment, controls systems, important parameters and method of operation.

Describe the warning/alarm system that protects against operation when unit is not meeting design requirements.

Emissions Data

Pollutant	Inlet	Outlet	Removal Efficiency (%)

Section C - Air Cleaning Device (Continued)			
11. Oxidizer/Afterburners – N/A			
Equipment Specifications			
Manufacturer		Type <input type="checkbox"/> Thermal <input type="checkbox"/> Catalytic	Model No.
Design Inlet Volume (SCFM)		Combustion chamber dimensions (length, cross-sectional area, effective chamber volume, etc.)	
Describe design features, which will ensure mixing in combustion chamber.			
Describe method of preheating incoming gases (if applicable).		Describe heat exchanger system used for heat recovery (if applicable).	
Catalyst used	Life of catalyst	Expected temperature rise across catalyst (°F)	Dimensions of bed (in inches). Height: _____ Diameter or Width: _____ Depth: _____
Are temperature sensing devices being provided to measure the temperature rise across the catalyst? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, describe.			
Describe any temperature sensing and/or recording devices (including specific location of temperature probe in a drawing or sketch).			
Burner Information			
Burner Manufacturer		Model No.	
Number and capacity of burners		Rated capacity (each)	
Describe the operation of the burner		Attach dimensioned diagram of afterburner	
Operating Parameters			
Inlet flow rate (ACFM) _____ @ _____ °F		Outlet flow rate (ACFM) _____ @ _____ °F	
State pressure drop range across catalytic bed (in. of water).		Describe the method adopted for regeneration or disposal of the used catalyst.	
Describe the warning/alarm system that protects against operation when unit is not meeting design requirements.			
Emissions Data			
Pollutant	Inlet	Outlet	Removal Efficiency (%)

Section C - Air Cleaning Device (Continued)			
12. Flares - N/A			
Equipment Specifications			
Manufacturer	Type <input type="checkbox"/> Elevated flare <input type="checkbox"/> Other _____	Describe	Model No.
Design Volume (SCFM)	Dimensions of stack (ft.) Diameter _____ Height _____		
Residence time (sec.) and outlet temperature (°F)	Turn down ratio	Burner details	
Describe the flare design (air/steam-assisted or nonassisted), essential auxiliaries including pilot flame monitor of proposed flare with a sketch.			
Describe the operation of the flare's ignition system.			
Describe the provisions to introduce auxiliary fuel to the flare.			
Operation Parameters			
Detailed composition of the waste gas	Heat content	Exit velocity	
Maximum and average gas flow burned (ACFM)	Operating temperature (°F)		
Describe the warning/alarm system that protects against operation when unit is not meeting design requirements.			
Emissions Data			
Pollutant	Inlet	Outlet	Removal Efficiency (%)

Section C - Air Cleaning Device (Continued)			
13. Other Control Equipment – N/A			
Equipment Specifications			
Manufacturer	Type	Model No.	
Design Volume (SCFM)		Capacity	
Describe pH monitoring and pH adjustment, if any.			
Indicate the liquid flow rate and describe equipment provided to measure pressure drop and flow rate, if any.			
Attach efficiency curve and/or other efficiency information.			
Attach any additional data including auxiliary equipment and operation details to thoroughly evaluate the control equipment.			
Operation Parameters			
Volume of gas handled			
_____ ACFM @ _____ °F _____ % Moisture			
Describe fully giving important parameters and method of operation.			
Describe the warning/alarm system that protects against operation when unit is not meeting design requirements.			
Emissions Data			
Pollutant	Inlet	Outlet	Removal Efficiency (%)

Section C - Air Cleaning Device (Continued)				
14. Costs - N/A				
Indicate cost associated with air cleaning device and its operating cost (attach documentation if necessary)				
Device	Direct Cost	Indirect Cost	Total Cost	Annual Operating Cost
15. Miscellaneous - N/A				
Describe in detail the removal, handling and disposal of dust, effluent, etc. from the air cleaning device including proposed methods of controlling fugitive emissions.				
Attach manufacturer's performance guarantees and/or warranties for each of the major components of the control system (or complete system).				
Attach the maintenance schedule for the control equipment and any part of the process equipment that if in disrepair would increase air contaminant emissions.				

Section D - Additional Information

Will the construction, modification, etc. of the sources covered by this application increase emissions from other sources at the facility? If so, describe and quantify.

No, this is a newly proposed Facility and there are no existing sources.

If this project is subject to any one of the following, attach a demonstration to show compliance with applicable standards.

Attach a demonstration showing that the emissions from any new sources will be the minimum attainable through the use of best available technology (BAT).

Please refer to the PAA narrative for more detailed information.

Provide emission increases and decreases in allowable (or potential) and actual emissions within the last five (5) years for applicable PSD pollutant(s) if the facility is an existing major facility (PSD purposes).

N/A – the Facility is not an existing major facility.

Section D - Additional Information (Continued)

Indicate emission increases and decreases in tons per year (tpy), for volatile organic compounds (VOCs) and nitrogen oxides (NOx) for NSR applicability since January 1, 1991 or other applicable dates (see other applicable dates in instructions). The emissions increases include all emissions including stack, fugitive, material transfer, other emission generating activities, quantifiable emissions from exempted source(s), etc.

If the source is subject to 25 Pa. Code Chapter 127, Subchapter E, New Source Review requirements,

- a. Identify Emission Reduction Credits (ERCs) for emission offsets or demonstrate ability to obtain suitable ERCs for emission offsets. *N/A*
- b. Provide a demonstration that the lowest achievable emission rate (LAER) control techniques will be employed (if applicable). *N/A*
- c. Provide an analysis of alternate sites, sizes, production processes and environmental control techniques demonstrating that the benefits of the proposed source outweigh the environmental and social costs (if applicable). *N/A*

Attach calculations and any additional information necessary to thoroughly evaluate compliance with all the applicable requirements of Article III and applicable requirements of the Clean Air Act adopted thereunder. The Department may request additional information to evaluate the application such as a standby plan, a plan for air pollution emergencies, air quality modeling, etc. *Please refer to Appendix B.*

Section E - Compliance Demonstration

Note: Complete this section if source is not a Title V facility. Title V facilities must complete Addendum A.

Method of Compliance Type: Check all that apply and complete all appropriate sections below

<input type="checkbox"/> Monitoring	<input type="checkbox"/> Testing	<input checked="" type="checkbox"/> Reporting
<input checked="" type="checkbox"/> Recordkeeping	<input checked="" type="checkbox"/> Work Practice Standard	

Monitoring:

- a. Monitoring device type (Parameter, CEM, etc):
- b. Monitoring device location:
- c. Describe all parameters being monitored along with the frequency and duration of monitoring each parameter:

Testing: N/A

- a. Reference Test Method: Citation
- b. Reference Test Method: Description

Recordkeeping:

Describe what parameters will be recorded and the recording frequency:

Encina Fort Union will maintain the following monthly records:

- *Diesel fire pump operating hours*
- *Diesel emergency generator operating hours.*
- *Truck traffic*

Reporting:

- a. Describe what is to be reported and frequency of reporting:

Annual emissions statement report

- b. Reporting start date: *Annually after the first calendar year of operation*

Work Practice Standard:

Describe each:

Encina Fort Union will conduct weekly inspections of the Facility, during daylight hours when the Facility is in operation, to detect visible, fugitive, and odor emissions.

Encina Fort Union will maintain and operate the sources in accordance with good operating and maintenance practices.

Section F - Flue and Air Contaminant Emission					
1. Estimated Atmospheric Emissions*					
Pollutant	Maximum emission rate			Calculation/ Estimation Method	
	specify units	lbs/hr	tons/yr.		
PM					
PM ₁₀		<i>Please refer to Appendix B.</i>			
SO _x					
CO					
NO _x					
VOC					
Others: (e.g., HAPs)	-----	-----	-----	-----	
* These emissions must be calculated based on the requested operating schedule and/or process rate e.g., operating schedule for maximum limits or restricted hours of operation and /or restricted throughput. Describe how the emission values were determined. Attach calculations.					
2. Stack and Exhauster					
Stack Designation/Number S001					
List Source(s) or source ID exhausted to this stack: Diesel Fire Pump		% of flow exhausted to stack: 100			
Stack height above grade (ft.) To Be Determined (TBD) Grade elevation (ft.) TBD	Stack diameter (ft) or Outlet duct area (sq. ft.) TBD			f. Weather Cap TBD <input type="checkbox"/> YES <input type="checkbox"/> NO	
Distance of discharge to nearest property line (ft.). Locate on topographic map. TBD					
Does stack height meet Good Engineering Practice (GEP)? No					
If modeling (estimating) of ambient air quality impacts is needed, attach a site plan with buildings and their dimensions and other obstructions. N/A					
Location of stack** Latitude/Longitude Point of Origin	Latitude		Longitude		
	Degrees	Minutes	Seconds	Degrees	Minutes
Stack exhaust Volume TBD ACFM	Temperature TBD °F		Moisture TBD %		
Indicate on an attached sheet the location of sampling ports with respect to exhaust fan, breeching, etc. Give all necessary dimensions. N/A					
Exhauster (attach fan curves) N/A		in. of water N/A		HP @ N/A RPM.	

** If the data and collection method codes differ from those provided on the General Information Form-Authorization Application, provide the additional detail required by that form on a separate form.

2. Stack and Exhauster

Stack Designation/Number *S002*

List Source(s) or source ID exhausted to this stack:

Diesel Emergency Generator

% of flow exhausted to stack: *100*

Stack height above grade (ft.) *TBD*
Grade elevation (ft.) *TBD*

Stack diameter (ft) or Outlet duct area (sq. ft.)
TBD

f. Weather Cap
TBD

YES NO

Distance of discharge to nearest property line (ft.). Locate on topographic map.

TBD

Does stack height meet Good Engineering Practice (GEP)?

No

If modeling (estimating) of ambient air quality impacts is needed, attach a site plan with buildings and their dimensions and other obstructions. *N/A*

Location of stack**

Latitude/Longitude

Point of Origin

Latitude

Longitude

Degrees

Minutes

Seconds

Degrees

Minutes

Seconds

Stack exhaust

Volume *TBD* ACFM

Temperature *TBD* °F

Moisture *TBD* %

Indicate on an attached sheet the location of sampling ports with respect to exhaust fan, breeching, etc. Give all necessary dimensions.

N/A

Exhauster (attach fan curves) *N/A* in. of water *N/A* HP @ *N/A* RPM.

** If the data and collection method codes differ from those provided on the General Information Form-Authorization Application, provide the additional detail required by that form on a separate form.

Section G - Attachments

Number and list all attachments submitted with this application below:

Appendix A – Process Flow Diagram

Appendix B – Emissions Inventory Tables

Appendix C – Manufacturer Data

Appendix D – Plan Approval Application Forms

Appendix E – Municipal Notifications



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF AIR QUALITY

AIR POLLUTION CONTROL ACT COMPLIANCE REVIEW FORM

Fully and accurately provide the following information, as specified. Attach additional sheets as necessary.

Type of Compliance Review Form Submittal (check all that apply)

Original Filing Date of Last Compliance Review Form Filing: _____ / _____ / _____
 Amended Filing

Type of Submittal

New Plan Approval New Operating Permit Renewal of Operating Permit
 Extension of Plan Approval Change of Ownership Periodic Submission (@ 6 mos)
 Other: _____

SECTION A. GENERAL APPLICATION INFORMATION

Name of Applicant/Permittee/("applicant") (non-corporations-attach documentation of legal name)

Encina Fort Union LLC

Address *3288 Point Township Drive*

Northumberland, PA 17857

Telephone *(412) 953-4684* **Taxpayer ID#** *81-1267194*

Permit, Plan Approval or Application ID#

Identify the form of management under which the applicant conducts its business (check appropriate box)

<input type="checkbox"/> Individual	<input type="checkbox"/> Syndicate	<input type="checkbox"/> Government Agency
<input type="checkbox"/> Municipality	<input type="checkbox"/> Municipal Authority	<input type="checkbox"/> Joint Venture
<input type="checkbox"/> Proprietorship	<input type="checkbox"/> Fictitious Name	<input type="checkbox"/> Association
<input type="checkbox"/> Public Corporation	<input type="checkbox"/> Partnership	<input type="checkbox"/> Other Type of Business, specify below:
<input checked="" type="checkbox"/> Private Corporation	<input type="checkbox"/> Limited Partnership	

Describe below the type(s) of business activities performed.

The Point Township Circular Manufacturing Facility is slated for construction in Point Township, Northumberland County. This facility comprises an advanced plastics sorting facility that will implement advanced technologies to convert post-consumer materials into feedstock that can be used to manufacture thousands of new products. The project will be constructed in two separate phases.

SECTION B. GENERAL INFORMATION REGARDING “APPLICANT”

If applicant is a corporation or a division or other unit of a corporation, provide the names, principal places of business, state of incorporation, and taxpayer ID numbers of all domestic and foreign parent corporations (including the ultimate parent corporation), and all domestic and foreign subsidiary corporations of the ultimate parent corporation with operations in Pennsylvania. Please include all corporate divisions or units, (whether incorporated or unincorporated) and privately held corporations. (A diagram of corporate relationships may be provided to illustrate corporate relationships.) Attach additional sheets as necessary.

SECTION C. SPECIFIC INFORMATION REGARDING APPLICANT AND ITS "RELATED PARTIES"

Pennsylvania Facilities. List the name and location (mailing address, municipality, county), telephone number, and relationship to applicant (parent, subsidiary or general partner) of applicant and all Related Parties' places of business, and facilities in Pennsylvania. Attach additional sheets as necessary.

Unit Name	Street Address	County and Municipality	Telephone No.	Relationship to Applicant
		<i>The project is at a greenfield site. Encina has no current operations in Pennsylvania.</i>		

Provide the names and business addresses of all general partners of the applicant and parent and subsidiary corporations, if any.

Name	Business Address
	<i>None</i>

Plan Approvals or Operating Permits. List all plan approvals or operating permits issued by the Department or an approved local air pollution control agency under the APCA to the applicant or related parties that are currently in effect or have been in effect at any time 5 years prior to the date on which this form is notarized. This list shall include the plan approval and operating permit numbers, locations, issuance and expiration dates. Attach additional sheets as necessary.

Compliance Background. (Note: Copies of specific documents, if applicable, must be made available to the Department upon its request.) List all documented conduct of violations or enforcement actions identified by the Department pursuant to the APCA, regulations, terms and conditions of an operating permit or plan approval or order by applicant or any related party, using the following format grouped by source and location in reverse chronological order. Attach additional sheets as necessary. See the definition of "documented conduct" for further clarification. Unless specifically directed by the Department, deviations which have been previously reported to the Department in writing, relating to monitoring and reporting, need not be reported.

Date	Location	Plan Approval/ Operating Permit#	Nature of Documented Conduct	Type of Department Action	Status: Litigation Existing/Continuing or Corrected/Date	Dollar Amount Penalty
						\$
						\$
			None			\$
						\$
						\$
						\$
						\$
						\$
						\$
						\$

List all incidents of deviations of the APCA, regulations, terms and conditions of an operating permit or plan approval or order by applicant or any related party, using the following format grouped by source and location in reverse chronological order. This list must include items both currently known and unknown to the Department. Attach additional sheets as necessary. See the definition of "deviations" for further clarification.

Date	Location	Plan Approval/ Operating Permit#	Nature of Deviation	Incident Status: Litigation Existing/Continuing Or Corrected/Date
			None	

CONTINUING OBLIGATION. Applicant is under a continuing obligation to update this form using the Compliance Review Supplemental Form if any additional deviations occur between the date of submission and Department action on the application.

VERIFICATION STATEMENT

Subject to the penalties of Title 18 Pa.C.S. Section 4904 and 35 P.S. Section 4009(b)(2), I verify under penalty of law that I am authorized to make this verification on behalf of the Applicant/Permittee. I further verify that the information contained in this Compliance Review Form is true and complete to the best of my belief formed after reasonable inquiry. I further verify that reasonable procedures are in place to ensure that "documented conduct" and "deviations" as defined in 25 Pa Code Section 121.1 are identified and included in the information set forth in this Compliance Review Form.

Sheida R. Sahandy
Signature

Sheida Sahandy

Chief Sustainability Officer

10/27/2022
Date

Sheida R. Sahandy
Name (Print or Type)

Title

AIR QUALITY FEES FOR NEW PLAN APPROVAL

Company Information				
Federal Tax ID:		Firm Name: <i>Encina Fort Union LLC</i>		
Permit # (If any):		Facility Name: <i>Point Township Circular Manufacturing Facility</i>		
Municipality: <i>Point Township</i>		County: <i>Northumberland County</i>		
Contact Person Name: <i>Shirley Hammond</i>		Telephone Number: <i>(312)731-7159</i>		
E-mail: <i>shammond@encina.com</i>				
New Plan Approval (The following fees are cumulative.)				
Line #	Check the appropriate boxes below	Type of review requested	Fee 2021 - 2025	Total Fees
1	<input type="checkbox"/> Base Fee	Subchapter B	\$2,500	\$2,500
2	<input type="checkbox"/>	New Source Review, Subchapter E	\$7,500	
3	<input checked="" type="checkbox"/>	NSPS/NESHAP /MACT standard A. # of NSPS: <u>1</u> B. # of NESHAP/MACT: <u>1</u> C. Add lines A and B: <u>2</u> D. Maximum applicable standards: <u>3</u> E. Enter smaller of line C or line D: <u>2</u> Multiply line E by \$2,500 and enter the amount in the "Total Fees" column.	\$2,500	\$5,000
4	<input type="checkbox"/>	Case-by-Case MACT	\$9,500	
5	<input type="checkbox"/>	Prevention of Significant Deterioration (PSD) requirements. Subchapter D	\$32,500	
6	<input type="checkbox"/>	Plantwide Applicability Limit (PAL) for NSR regulated pollutants or PAL for PSD regulated pollutants or both	\$7,500	
7	<input type="checkbox"/>	Risk Assessment Analysis – Inhalation only	\$10,000	
8	<input type="checkbox"/>	Risk Assessment Analysis – Multi-pathway	\$25,000	
Add Lines 1 thru 8 of Total Fees column and write it here. 				\$7,500

**APPENDIX E –
MUNICIPAL NOTIFICATIONS**



October 14, 2022

CERTIFIED MAIL

Richard Shoch, Chairman of Commissioners
County of Northumberland – Administration Center
399 Stadium Drive
Sunbury, PA 17801

RE: Notification of Plan Approval Application Submittal to the Pennsylvania Department of Environmental Protection (PADEP)

Dear Mr. Shoch:

In accordance with Title 25, Subpart C, Article III, §127.43a of the Pennsylvania Code, Encina Fort Union LLC (Encina Fort Union), hereby notifies Northumberland County of its submittal of a Plan Approval Application (PAA) to the Pennsylvania Department of Environmental Protection (PADEP). Encina Fort Union is proposing to construct a greenfield plastics sorting operation in Northumberland, PA. The PAA is being submitted for proposed operations associated with the new Facility.

PADEP will accept comments on the PAA during a 30-day period which begins upon your receipt of this notification. A copy of the PAA is available for your review at the PADEP Reading District Office. Any comments concerning the PAA should be transmitted to PADEP within 30 days of your receipt of this letter at the following address: Commonwealth of Pennsylvania, Department of Environmental Protection, Northcentral Regional Office, Air Quality Program, 208 West Third Street, Suite 101, Williamsport, PA 17701. If you have any questions or concerns regarding the above information, please contact me at

Sincerely,

Sheida Sahandy
Chief Sustainability Officer
Encina Fort Union LLC



October 14, 2022

CERTIFIED MAIL

Amy Hoffman, Clerk
Point Township, PA
759 Ridge Road
Northumberland, PA 17857

RE: Notification of Plan Approval Application Submittal to the Pennsylvania Department of Environmental Protection (PADEP)

Dear Ms. Hoffman:

In accordance with Title 25, Subpart C, Article III, §127.43a of the Pennsylvania Code, Encina Fort Union LLC (Encina), hereby notifies Point Township of its submittal of a Plan Approval Application (PAA) to the Pennsylvania Department of Environmental Protection (PADEP). Encina is proposing to construct a greenfield plastics sorting operation in Northumberland, PA. The PAA is being submitted for proposed operations associated with the new Facility.

PADEP will accept comments on the PAA during a 30-day period which begins upon your receipt of this notification. A copy of the PAA is available for your review at the PADEP Reading District Office. Any comments concerning the PAA should be transmitted to PADEP within 30 days of your receipt of this letter at the following address: Commonwealth of Pennsylvania, Department of Environmental Protection, Northcentral Regional Office, Air Quality Program, 208 West Third Street, Suite 101, Williamsport, PA 17701. If you have any questions or concerns regarding the above information, please contact me at.

Sincerely,

Sheida Sahandy
Chief Sustainability Officer
Encina Fort Union LLC

SENDER: COMPLETE THIS SECTION

■ Complete items 1, 2, and 3.

■ Print your name and address on the reverse so that we can return the card to you.

■ Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Richard Shoch, Chairman of Commissioners
 County of Northumberland – Administration Center
 399 Stadium Drive
 Sunbury, PA 17801



9590 9402 5761 0003 2941 20

2. Article Number (Transfer from service label)

7020 0640 0001 3653 9530

PS Form 3811, July 2015 PSN 7530-02-000-9053

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A. Signature



B. Received by (Printed Name)
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C. Date of Delivery
*10/20/20*D. Is delivery address different from item 1? YesIf YES, enter delivery address below: No

3. Service Type

Adult Signature
 Adult Signature Restricted Delivery
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 Certified Mail Restricted Delivery
 Collect on Delivery
 Collect on Delivery Restricted Delivery
 Insured Mail
 Insured Mail Restricted Delivery (Over \$500)

Priority Mail Express®
 Registered Mail™
 Registered Mail Restricted Delivery
 Return Receipt for Merchandise
 Signature Confirmation™
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Domestic Return Receipt

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■ Complete items 1, 2, and 3.

■ Print your name and address on the reverse so that we can return the card to you.

■ Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Amy Hoffman, Clerk
 Point Township, PA
 759 Ridge Road
 Northumberland, PA 17857



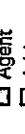
9590 9402 5761 0003 2835 56

7021 0950 0000 7951 2884

PS Form 3811, July 2015 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature



B. Received by (Printed Name)
Amy Hoffman

C. Date of Delivery
*10/20/20*D. Is delivery address different from item 1? YesIf YES, enter delivery address below: No

3. Service Type

Adult Signature
 Adult Signature Restricted Delivery
 Certified Mail®
 Certified Mail Restricted Delivery
 Collect on Delivery
 Collect on Delivery Restricted Delivery
 Insured Mail
 Insured Mail Restricted Delivery (Over \$500)

Priority Mail Express®
 Registered Mail™
 Registered Mail Restricted Delivery
 Return Receipt for Merchandise
 Signature Confirmation™
 Signature Confirmation Restricted Delivery

Domestic Return Receipt