

SUBJECT: Plan Approval Application Review Memo
Encina Fort Union LLC
Point Township Circular Manufacturing Facility
Point Township, Northumberland County
Plan Approval 49-00069A

TO: Muhammad Q. Zaman
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Air Quality Program
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on behalf of

THROUGH: Daniel C. Husted, P.E. *DCH*
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FROM: Benjamin Hankins *BH*
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Proposal Overview

On November 7, 2022, the Department received a plan approval application (49-00069A) from Encina Fort Union LLC (Encina) for the construction and operation of a plastics sorting operation at its proposed Point Township Circular Manufacturing Facility located in Point Township, Northumberland County. The plastics sorting operation itself is not anticipated to be a significant source of air emissions, but the project involves the construction of an emergency generator and two fire pumps to support operations at the facility. Additionally, fugitive dust from facility roadways is anticipated due to trucks delivering plastic to and from the facility. Therefore, Encina submitted an Air Quality plan approval application to the Department for the proposed plastics sorting operation. Encina included in the plan approval application proof of notification to the county and township, a completed compliance review form, and the fees required by 25 Pa. Code Chapter 127 Subchapter I. The Department deemed the application complete on November 16, 2022. On May 25, 2023, Encina submitted a revised plan approval application to the Department which included a second fire pump and increased the size of the proposed emergency generator.

The proposed Point Township Circular Manufacturing Facility is a new site and there are no existing Department-issued air quality permits for equipment or operations at this location. The application indicates that the proposed facility would receive post-consumer plastics via truck, primarily from a Materials Recovery Facility, then sort and bale the materials, followed by shipment off-site for further recycling. The company envisions eventually constructing a petrochemical process at the site to produce organic chemical feedstock chemicals (e.g., benzene, toluene, and xylene) from the post-consumer plastic feedstock instead of shipping it off-site,

however, this process is not part of the current proposal. The plan approval application and supplemental information refer to the proposed plastics sorting operation as ‘Phase 1’ while the potential petrochemical process at the site is referred to as ‘Phase 2’. The company has indicated its intent to operate the facility with only the Phase 1 plastics sorting operation as a standalone process even in the event that Phase 2 is never constructed.

The Department has previously indicated to Encina that if Phase 2 were to occur, a separate plan approval authorization would be required and the emissions from both Phase 1 and Phase 2 would need to be aggregated for the purpose of evaluating the applicability of New Source Review (NSR) and Title V requirements. Encina has stated that they are in agreement with the Department’s position on these matters. On December 22, 2022, the Department sent Encina a technical deficiency letter requesting, among other things, the total projected emissions from both phases of the project so that it could be determined whether NSR requirements such as Lowest Achievable Emission Rate (LAER) or the purchase of Emission Reduction Credits (ERCs) were applicable for the construction of the sources proposed in Phase 1. While Encina initially stated in its January 27, 2023 response that it believed this information was not necessary in order to process the subject plan approval application, on April 20, 2023, Encina provided emissions estimates according to their current best available information which indicated that the combined emissions from Phase 1 and Phase 2 would not exceed any major source thresholds that would trigger NSR requirements.

On August 4, 2023, the Department sent Encina a second technical deficiency letter requesting further technical information regarding the selection of an EPA Tier 2-certified diesel engine as Best Available Technology (BAT) for the emergency generator engine included in the May 25, 2023 revised plan approval application. Encina’s response to the second technical deficiency letter was submitted on October 18, 2023 and, following conference calls between Encina and Department staff, a supplemental letter providing further detail on the BAT issues for the generator engine was submitted on December 5, 2023.

Based on the information included in the application and supplemental materials, the facility will be a natural minor source of air emissions for all regulated air pollutants emitted by the proposed sources. The only applicable New Source Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAPs) regulations for the proposed sources apply to the diesel-fired reciprocating engines associated with the emergency generator and fire pumps. A list of sources associated with the proposed project can be found in Table 1 below.

<i>Source ID</i>	<i>Source Description</i>	<i>Status</i>
P101	1,676 bhp CAT C32 Emergency Generator Engine	New
P102	315 bhp Clarke UFAD98 Fire Pump Engine #1	New
P103	315 bhp Clarke UFAD98 Fire Pump Engine #2	New
P104	Facility Roadways	New

Best Available Technology

Pursuant to 25 Pa. Code §§ 127.1 and 127.12, new sources shall reduce emissions to the minimum attainable through the use of the best available technology (BAT), as determined by the Department, as of the date of issuance of the plan approval for the new source. The BAT analyses for the proposed sources at the Encina Point Township Circular Manufacturing Facility are detailed in this section of the review memo.

1,676 bhp CAT C32 Emergency Generator Engine

The proposed 1,676 brake-horsepower (bhp) diesel-fired engine would power a 1,250 kW emergency generator in order provide power to the facility during an emergency situation where the supply of power from the electric grid is interrupted or lost. The source is subject to emission limits pursuant to NSPS Subpart IIII, which requires the engine to be certified to the proper EPA emissions tier for compression ignition engines of the size and vintage proposed. In the case of this engine, Subpart IIII requires it to meet emission rates of 4.8 g/bhp-hr NO_x + NMHC (Non-methane hydrocarbons), 2.7 g/bhp-hr CO, and 0.15 g/bhp-hr Filterable PM. Compliance with these emission limits is based on a weighted cycle, the specific parameters of which are detailed in Subpart IIII and 40 CFR Part 1039. Typically, the tests to establish compliance with these limits are performed by the manufacturer prior to the point of sale and the engine is accompanied by documentation that it was certified to EPA emission standards. The vendor information included with the plan approval application states that the proposed engine is certified to EPA Tier 2 emission standards, which is the appropriate NSPS standard for an emergency use only engine of this size.

On August 4, 2023, the Department sent Encina a technical deficiency letter requesting further technical information regarding the selection of an EPA Tier 2-certified diesel engine as Best Available Technology for the emergency generator engine. The letter requested that Encina evaluate the feasibility of installing a Tier 4-certified engine for the proposed project, which is the highest tier of emissions performance for diesel-fired engines that is available. There are no Tier 3 emission standards for engines rated at greater than 560 kW of power. Tier 4 engines achieve the NO_x emission standards by utilizing a technology known as Selective Catalytic Reduction in which NO_x in the exhaust gas is reacted with ammonia or urea in the presence of a catalyst in order to convert it into N₂ and H₂O, neither of which is classified as an air contaminant.

Encina's response to the technical deficiency letter, which was submitted on October 18, 2023, proposes that Tier 4 engines should be considered technically infeasible for standby power generation operations. Encina states that this is in part because the SCR system associated with Tier 4 engines would not reduce emissions associated with the typical operations of an emergency generator engine, which is maintenance and readiness testing. The SCR system must reach a certain temperature before it can catalyze the desired chemical reaction to eliminate NO_x emissions and the duration of maintenance/readiness testing is often too short to reach the required temperature. Only during actual emergency operations (defined as the unplanned loss of primary power from the electric grid) where the engine may run continuously for an extended period would the SCR system provide an emissions reduction from the proposed engine. It is the Department's experience with other industrial facilities in the Northcentral region that lengthy periods of emergency operation are unusual and occur less frequently than annually.

Encina raised additional concerns regarding the SCR system associated with Tier 4 engines being prone to failure because the typical readiness testing performed on emergency generator engines would not allow for temperatures to reach levels that would exercise the SCR system. Encina claims that in order to ensure the SCR system is ready to operate under an actual emergency scenario, they must conduct readiness testing that is either longer in duration or at higher load in order to get the SCR up to the proper temperature to exercise the system and confirm readiness. This would result in more fuel being combusted to perform the test, increasing emissions in years when an emergency use doesn't occur.

The Department's own research on the reliability matter, which included discussions with vendor representatives, suggests that Tier 4 engines are considered to be as reliable as Tier 2 engines (neither of which is 100%) and there are no formal vendor recommendations or maintenance instructions indicating that Tier 4 engines should be subjected to additional readiness testing beyond what would be performed for a Tier 2 engine. Some vendor representatives did state that a longer readiness test should be performed *if* the operator intends to test the SCR system. Even in the event that purported reliability issues with Tier 4 diesel engines are illusory or overstated, the permittee may end up conducting longer readiness testing on the engine simply because they believe that the technology is less reliable.

Encina also states that not requiring add-on control technology for emergency-use engine is consistent with statewide precedent for BAT for the type of source under review, as well as EPA New Source Performance Standards, and the air quality regulatory requirements for most of the country with the exception of a few areas that are in severe nonattainment status for the NAAQS. While the Department's air quality regulations do not differentiate between emergency and non-emergency status, and neither do general permits or permit exemption criteria, it is correct that for diesel engines which typically only operate a small number of hours per year, add-on control has not been required. This means that Tier 2 for engines rated at greater than 560 kW and Tier 3 for smaller engines (excluding fire pump engines, which do not utilize the Tier system) has been considered BAT for diesel engines that operate infrequently.

Because the proposed generator engine is certified to federal NSPS emission standards for emergency use, it will be required to comply with the definition of an emergency engine in Subpart IIII which limits it to a maximum of 100 hours per year of non-emergency operation for the purposes of maintenance, readiness testing, etc. As significant emergencies are infrequent, it is expected that actual operation of this source will be less than 100 hours in most calendar years.

Based on the anticipated limited operation of the proposed engine, the fact that an add-on SCR system would not provide any emissions control during the routine maintenance and readiness testing operations of this source, and the likelihood an operator would want to conduct additional readiness testing on an SCR system which may result in higher actual emissions, I recommend that the proposed Tier 2 diesel engine satisfies the Best Available Technology requirements of 25 Pa. Code §§ 127.1 and 127.12 for the purposes of providing standby power at Encina's proposed plastics recycling facility. Therefore, I also recommend establishing the previously listed NSPS Subpart IIII emission limits for Tier 2 diesel engines as emission limits in the proposed plan approval, in conjunction with the 500 hour per year operational limit that was used as the basis for Encina's emissions calculations for this source in the plan approval application.

315 bhp Clarke UFAD98 Fire Pump Engines

The proposed 315 brake-horsepower (bhp) diesel-fired engines will drive fire pumps that provide the necessary hydraulic power for the facility's fire protection system. These sources are subject to emission limits pursuant to NSPS Subpart IIII, which requires the engine to be certified to the emission limits of Table 4 of Subpart IIII for the size of engine proposed. In the case of these engines, Subpart IIII requires it to meet emission rates of 3.0 g/bhp-hr NO_x + NMHC, 2.7 g/bhp-hr CO, and 0.15 g/bhp-hr Filterable PM. Compliance with these emission limits is based on a weighted cycle, the specific parameters of which are detailed in Subpart IIII. Typically, the tests to establish compliance with these limits are performed by the manufacturer prior to the point of sale and the engine is accompanied by documentation that it was certified to EPA emission standards. The vendor information included with the plan approval application states that the proposed engines will be certified to EPA emission standards for emergency standby fire pump engines of this size.

As these sources are also diesel-fired emergency-use stationary reciprocating internal combustion engines, the BAT analysis previously conducted for the 1,676 bhp generator also apply to these sources except for that fire pump engines have their own unique emission standards under Subpart IIII instead of the Tier standards. However, the recommendation of establishing the NSPS emission limits in conjunction with a 500 hour per year operational limit as Best Available Technology for these sources remains the same.

Facility Roadways

The transport of post-consumer plastics to and from the facility will require significant truck traffic, and fugitive dust may be produced by disturbing material on the surface of the roads. Particulate matter emissions from this source were estimated based on the applicant's projections for truck traffic to the facility and EPA AP-42 emission factors. Encina calculates potential PM emissions to be a maximum of 23.80 tpy, however, there is some uncertainty in the traffic estimate, site-specific conditions, and the AP-42 emission factors themselves. Encina has indicated that it believes the 23.80 tpy value to be an overestimate. This may be of particular importance in the event a plan approval application is submitted for Phase 2 and the PM emissions are near the major source threshold that would trigger the applicability of additional requirements.

Encina has proposed to control the roadway dust emissions to the maximum extent by applying multiple mitigation techniques and work practices. First, Encina has proposed that all roadways at the facility will be paved. Because trucks will come from a paved highway onto the paved facility roadways in the plant and never travel onto unpaved areas there will be minimal opportunity for dragging dirt, mud, or other material onto the facility roadways. Additionally, Encina will limit the maximum speed of trucks at the facility to 20 mph in order to avoid creating excessive fugitive dust. Finally, Encina will maintain the facility roadways with vacuum street sweeping to keep the roadways clear of any material that could be disturbed and become airborne by trucks entering and exiting the facility.

Encina's proposed methods of control are consistent with BAT determinations imposed at other industrial facilities with significant truck traffic and represent BAT for roadway emissions. I recommend PM emissions from this source be limited to 23.80 tpy in the plan approval with an associated requirement that a site-specific silt loading analysis be performed within 180 days of

commencement of operation in order to more accurately determine emissions from this source. The Department will also require daily monitoring of the roads to ensure they are maintained. The proposed work practice standards to minimize fugitive emissions from the facility roadways should also be established as requirements in the plan approval pursuant to Best Available Technology requirements.

Note that the facility will also be subject to 25 Pa. Code §§ 123.1-123.2, which also deals with fugitive emissions from roadways. After implementing the proposed control measures, further control is not likely to be economically feasible and the remaining fugitive emissions will be of minor significance with respect to causing air pollution and will not prevent or interfere with the attainment or maintenance of any ambient air quality standard.

Facility Emissions

In the plan approval application, Encina calculates the PTE from the proposed emergency-use engines based on the maximum rated horsepower of the engine, vendor-provided emission rates, EPA certified emission rates for NO_x, NMHC, CO, and PM and AP-42 Chapter 3 emission factors otherwise except for greenhouse gases (GHGs), which utilize emission factors from 40 CFR Part 98 Subpart C. The NO_x to NMHC ratio for the proposed fire pump engines was based on the ratio established in EPA's Tier 1 standards for compression ignition engines. The application applies this same methodology to the larger emergency generator engine, however, the vendor data for that engine supplied with the application contains engine-specific emission factors which lists a NO_x emission factor that is higher than the value derived by Encina. The vendor-provided NO_x emission factor was utilized to calculate the PTE value contained in Table 2 for Source ID P101. Note that the vendor data is not based on a weighted cycle like the EPA Tier limits and the NO_x PTE value based off the vendor data is somewhat higher than the application projections.

The application considers VOC emissions to be equal to NMHC, which appears to be reasonable in this case as the projected emissions of oxygenated organic compounds such as formaldehyde and acetaldehyde are negligible. The maximum hours of operation of the engines was calculated as 500 hours per year in accordance with the 1995 EPA guidance document titled "Calculating Potential to Emit (PTE) for Emergency Generators". The horsepower rating of the engines, hours of operation, and appropriate emission factor allow for calculation of emissions on an hourly and annual basis. Fuel consumption rate is not a required parameter in the calculation, although it may allow for an alternate pathway to estimating certain types of emissions.

Fugitive roadway emissions, as previously discussed, were based on EPA AP-42 Chapter 13 emission factors and Encina's projection of truck traffic at the facility. While there is uncertainty in this estimate, the calculated value is not near any regulatory threshold where additional requirements would become applicable. Provided the company is utilizing the previously described Best Available Technology to minimize emissions from the roadways, a more precise estimate of the PM emissions is not necessary for this Phase 1 application. While the Phase 2 emissions provided to the Department by Encina are tentative and indicated as not being suitable for technical review at this time, they are much closer to the major source threshold.

The potential to emit for each source, the total combined emissions from all sources at the proposed facility, and the associated major source thresholds are listed in Table 2 below. Please refer to the plan approval application for a more detailed breakdown of the individual compounds included in the HAP and GHG categories as well as the condensable/filterable fractions of the PM emissions. The calculated emissions totals for the facility indicate that, when considering only the sources proposed in Phase 1 of the Point Township Circular Manufacturing Facility, the facility will be natural minor for each type of regulated air contaminant.

Table 2: Potential Emissions from the Encina Facility [Phase 1] (Tons/Year)									
	NO_x	CO	PM^a	PM₁₀^a	PM_{2.5}^a	VOC	SO_x	HAPs	GHGs^b
P101	4.74	2.41	0.16	0.16	0.16	0.55	0.01	0.01	555
P102	0.45	0.45	0.03	0.03	0.03	0.06	*	*	104
P103	0.45	0.45	0.03	0.03	0.03	0.06	*	*	104
P104	---	---	23.80	4.76	1.17	---	---	---	---
Total	5.64	3.31	24.02	4.98	1.39	0.67	0.01	0.01	763
Major Threshold	100	100	100	100	100	50	100	10/25 ^c	N/A

^a Includes both filterable and condensable fractions of particulate matter.

^b Reported as CO₂e; 1 ton CH₄ = 25 tons CO₂e; 1 ton N₂O = 298 tons CO₂e.

^c Major Threshold is 25 tons of all combined HAPs or 10 tons of any single HAP.

* Potential emissions calculated to be less 1 tpy for GHGs or less than 0.01 tpy for other emission types.

Regulatory Evaluations

This section of the review memo addresses the applicability of various regulatory requirements pertinent to the proposed project. In many cases, regulatory requirements concerning emission rates, control devices, source testing, etc., will have monitoring, recordkeeping, and reporting requirements associated with them. It is the intent of this section to address the significant requirements of the regulations; additional ancillary requirements designed to verify compliance should be understood to apply in the case of any applicable emissions, control device, or testing requirement. However, all applicable regulatory requirements, including notifications, recordkeeping, and reporting requirements, have been included in the plan approval.

Title V Permitting

Based on the Phase 1 potential emissions from the facility as detailed in Table 2, as well as the Encina’s projected emissions for the facility after the completion of Phase 2, the Point Township Circular Manufacturing Facility will be non-major for all regulated air contaminants. The facility will not be subject to any regulatory requirement that would require a non-major emissions source to obtain a Title V Operating Permit. If the Department determines that the proposed sources at the Point Township Circular Manufacturing Facility are ultimately constructed and operated in compliance with the plan approval conditions and the specifications of the application for Plan Approval 49-00069A, the requirements established in the plan approval will be incorporated into a State Only Operating Permit pursuant to the administrative amendment provisions of 25 Pa. Code § 127.450.

New Source Review (NSR) / Prevention of Significant Deterioration (PSD)

The Point Township Circular Manufacturing Facility will not be a major facility or major stationary source pursuant to the NSR/PSD definitions of those terms based on emissions projections supplied by Encina in the plan approval application and supplemental materials. Because the facility will not be a major stationary source, and the proposed project does not constitute a major stationary source in of itself, the NSR and PSD regulations are not applicable to the project. In the event that Encina submits a plan approval application for Phase 2, NSR/PSD applicability will be re-evaluated, and if triggered, the Phase 1 sources at this facility will also be subject to any applicable requirements.

Reasonably Available Control Technology (RACT)

The proposed project is not subject to the RACT requirements of 25 Pa. Code §§ 129.91 – 129.115 because the project only proposes new sources, while RACT is applicable to existing sources. Additionally, the facility will not be a major facility for NO_x or VOC emissions.

Compliance Assurance Monitoring (CAM)

The requirements of Compliance Assurance Monitoring (CAM) codified in 40 CFR §§ 64.1 through 64.10 apply to control devices at a major source that is required to have a Title V permit, which are used to comply with emissions limitations for sources which have pre-control emissions greater than the applicable major source threshold. The proposed plastics sorting operation will not be subject to CAM because Phase 1 of the Point Township Circular Manufacturing Facility will not be a major source, as that term is defined in 40 CFR § 64.1, and will not operate under a Title V Operating Permit.

New Source Performance Standards (NSPS)

The New Source Performance Standards are codified in 40 CFR Part 60. The diesel-fired engines associated with the proposed emergency generator and fire pumps will be subject to 40 CFR Part 60 Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines. Subpart IIII establishes emissions standards that subject engines must be certified to, which have been streamlined with the BAT emissions limits in the proposed plan approval. The engines must also utilize fuel containing less than 15 ppm sulfur by weight, often referred to as ultra-low sulfur diesel (ULSD) fuel. Additionally, Subpart IIII establishes limitations on the hours of operation of emergency-use sources, generally restricting operation to less than 100 hours per year of non-emergency operation. The engines are also required to be equipped with a non-resettable hour meter to track the operation of each engine and records must be kept regarding periods of operation and the reason the engine was operating during that time. There are no other proposed sources included in the current plan approval application that are subject to a subpart of 40 CFR Part 60.

National Emission Standards for Hazardous Air Pollutants (NESHAPs)

The National Emission Standards for Hazardous Air Pollutants, which establish Maximum Achievable Control Technology (MACT) requirements, are codified in 40 CFR Part 63. The

proposed generator engine and fire pumps are subject to 40 CFR Part 63 Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines. However, pursuant to 40 CFR § 63.6590(c)(1) compliance with NSPS Subpart IIII constitutes compliance with NESHAPs Subpart ZZZZ. There are no other proposed sources included in the current plan approval application that are subject to a subpart of 40 CFR Part 63.

Additional Regulatory Requirements

The proposed processes at the Point Township Circular Manufacturing Facility are subject to the fugitive emission requirements of 25 Pa. Code §§ 123.1 and 123.2, the particulate matter limitation of § 123.13, and the opacity limitations of §§ 123.41 and 123.42. A condition has been included in the proposed plan approval specifying the applicability of § 123.13 to the proposed processes that have the potential for PM emissions, which in this case is the emergency generator engine and fire pump engines. The remainder of these requirements are included at the facility level (Section C) of the proposed plan approval. The emissions sources proposed in the plan approval application are also subject to the Best Available Technology requirements of 25 Pa. Code §§ 127.1 and 127.12. Pursuant to the BAT requirements, the new sources shall meet the emissions limitations and other applicable requirements established in the BAT section of this review memo.

25 Pa. Code § 121.9 prohibits the use of, among other things, a stack height which exceeds good engineering practice (GEP) stack height which conceals or dilutes the emission of air contaminants which would otherwise be in violation of the air quality regulations. While the facility design has not yet been finalized and Encina has not yet provided the final stack height for the sources in the plan approval application, the stacks for sources such as emergency generators and fire pumps are typically low and do not exceed GEP, which is at least 213 ft above ground level. Additionally, the emissions from an emergency-use engine that has been certified to EPA emissions standards is unlikely to cause a violation of the NAAQS or other applicable air quality regulatory requirement. There are no other requirements related to the stack height for these sources. Therefore, the company providing the stack information to the Department upon completion of final engineering/prior to startup is acceptable in this case.

25 Pa. Code §§ 129.63 and 129.63a regulate degreasing operations and industrial cleaning solvents, respectively. In the plan approval application, Encina indicates that the facility will not be utilizing any cold cleaning machines nor will it use any VOC-containing cleaning solvents that would trigger the applicability of § 129.63a. If Encina were to change its plans in this regard and begin using VOC-containing industrial cleaning solvents at the facility, it would be required for the permittee to contact the Department at that time regarding permitting requirements for a modification to the facility operations as well as comply with all applicable air quality requirements including 25 Pa. Code § 129.63a and/or any applicable NESHAPs standard.

Conclusion

Based on my review of the plan approval application, the construction of the plastics sorting operation which includes an emergency generator, two fire pumps, and fugitive emissions from facility roadways at the new Point Township Circular Manufacturing Facility, will satisfy Best

Available Technology as well as all other applicable state and federal requirements. I recommend the issuance of Plan Approval 49-00069A to Encina Fort Union LLC for the construction at the proposed facility located in Point Township, Northumberland County. I recommend including the following conditions in the proposed plan approval to ensure compliance with all applicable regulatory requirements:

- (1) Pursuant to the best available technology provision of 25 Pa. Code Sections 127.1 and 127.12, the emissions from the diesel-fired engine associated with the emergency generator engine shall not exceed: (a) Nitrogen Oxide and Non-methane Hydrocarbons (NO_x + NMHC) - 4.8 grams per horsepower-hour and 4.43 tons in any 12 consecutive month period. (b) Carbon Monoxide (CO) - 2.7 grams per horsepower-hour and 2.42 tons in any 12 consecutive month period. (c) Filterable Particulate Matter (FPM) - 0.15 grams per horsepower-hour and 0.14 tons in any 12 consecutive month period.
- (2) Pursuant to the best available technology provision of 25 Pa. Code Sections 127.1 and 127.12, the emissions from the diesel-fired engine associated with the fire pump engines shall not exceed: (a) Nitrogen Oxide and Non-methane Hydrocarbons (NO_x + NMHC) - 3.0 grams per horsepower-hour and 0.52 tons in any 12 consecutive month period. (b) Carbon Monoxide (CO) - 2.7 grams per horsepower-hour and 0.46 tons in any 12 consecutive month period. (c) Filterable Particulate Matter (FPM) - 0.15 grams per horsepower-hour and 0.03 tons in any 12 consecutive month period.
- (3) All diesel fuel fired in each emergency-use engine shall comply with the following per-gallon standards: (a) Sulfur content: (i) 15 ppm maximum. (b) Cetane index or aromatic content, as follows: (i) A minimum cetane index of 40; or (ii) A maximum aromatic content of 35 volume percent.
- (4) The permittee shall operate the emergency-use engines according to the requirements in paragraphs (1) through (3). Any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (1) through (3), is prohibited. (1) There is no time limit on the use of the engines in emergency situations other than the 500 hr/yr BAT limit. (2) The permittee may operate each engine for the purposes specified in paragraphs (2)(i) and (3) for a combined maximum of 100 hours per calendar year. (i) Each engine 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 permittee may petition the Department for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the permittee maintains records indicating that federal, state, or local standards require maintenance and testing beyond 100 hours per calendar year. (3) Each engine 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 paragraph (2). The 50 hours per year for non-emergency situations cannot be used for peak shaving or nonemergency demand response, or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.
- (5) A non-resettable hour meter shall be installed on each emergency-use engine prior to startup of the source.
- (6) (a) The permittee shall create and maintain comprehensive and accurate records of the operation of each emergency-use engine in emergency and non-emergency service that are recorded through a non-resettable hour meter. The permittee shall record the time of operation of each engine and the reason it was in operation during that time. (b) The permittee shall create and maintain records of the emissions calculations demonstrating compliance with the 12-month rolling emission limits for each engine. The permittee shall maintain records of the engine certification for each engine in order to demonstrate compliance with the short-term emission limits. (c) The permittee shall create and maintain records of maintenance conducted on each engine conducted in accordance with the manufacturer's specifications and good air pollution control practice for minimizing emissions. (d) These records shall be maintained for a minimum of 5 years and be made available to the Department upon request.

- (7) The permittee shall submit the following information to the Department on an annual basis: (a) The annual hours of operation for each emergency-use engine. If the total operation of the engine in any calendar year exceeds 100 hours, the report shall also include the information regarding the specific times at which the source was operated and the reason for operating during that time. (b) The emission totals for each engine on a 12-month rolling basis. The annual report shall be submitted to the Department no later than March 1 for the preceding year.
- (8) The permittee shall comply with the following for each emergency-use engine: (1) Operate and maintain the engine according to the manufacturer's emission-related written instructions; (2) Change only those emission-related settings that are permitted by the manufacturer; and (3) Meet the applicable requirements of 40 CFR part 1068.
- (9) Pursuant to the best available technology requirements of 25 Pa. Code Sections 127.1 and 127.12, the total particulate matter emissions from facility roadways shall not exceed 23.80 tons in any 12 consecutive month period.
- (10) Within 180 days of commencement of operation of the plastics sorting at the Point Township Circular Manufacturing Facility the permittee shall conduct a site-specific silt loading analysis in order to calculate more accurate actual emissions from the facility roadways.
- (11) The owner or operator shall post a sign limiting speeds to less than 20 mph on all in-plant roads.
- (12) The permittee shall promptly remove earth or other material from facility roadways onto which earth or other material has been transported by trucking or earth moving equipment, by vacuum street sweeping or other means.
- (13) A set vehicle pattern shall be established and maintained for vehicles entering and exiting the plant.
- (14) The permittee shall conduct a daily inspection of the facility during daylight hours while the facility is operating, including facility roadways, in order to detect visible emissions, visible fugitive emissions and malodors. Daily inspections are necessary to determine: (1) the presence of visible emissions. (2) the presence of visible fugitive emissions. (3) the presence of malodors beyond the facility's property boundaries. (4) the presence of dirt or other debris on facility roadways. (b) All detected visible emissions, visible fugitive emissions, malodors, or roadway debris shall be reported to the manager of the facility.
- (15) Pursuant to the best available technology requirements of 25 Pa. Code Sections 127.1 and 127.12, all roadways at the Point Township Circular Manufacturing Facility shall be paved.
- (16) This plan approval 49-00069A authorizes the construction of a plastics sorting operation ("Phase 1") at the Point Township Circular Manufacturing Facility. The proposed petrochemical processing operation identified as "Phase 2" in the plan approval application and supplemental materials requires a separate Air Quality plan approval. The permittee shall not commence construction of any Phase 2 air emissions sources unless the Department has issued a plan approval specifically authorizing the construction of those sources.

cc: File: Encina Fort Union LLC, Permits, NMOP, 49-00069
Central Office – AQ Permits