

US EPA ARCHIVE DOCUMENT



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

APR 09 2013

Mr. Randy Smith
Vice President/General Manager
Formosa Plastics Corporation, Texas
P.O. Box 700
Point Comfort, TX 77978

RE Completeness Determination for Formosa Plastics Corporation, Texas
Greenhouse Gas Prevention of Significant Deterioration (PSD) Permit Application
2012 Expansion Project: Two Gas Turbines

Dear Mr. Smith,

The EPA has reviewed your Greenhouse Gas (GHG) Prevention of Significant Deterioration (PSD) permit application for Formosa Plastics Corporation, Texas that was received by the EPA on December 11, 2012, including supporting documentation, and determined that your application is incomplete at this time. A list of the information needed from you so that the EPA can continue its completeness review is enclosed (see Enclosure). Please notify us if a complete response is not possible by April 29, 2013.


The requested information is necessary for EPA to develop a Statement of Basis and Rationale for the terms and conditions for any proposed permit. As we develop our preliminary determination, it may be necessary for EPA to request additional clarifying or supporting information. If the supporting information substantially changes the original scope of the permit application, an amendment or new application may be required.

The EPA may not issue a final permit without determining that: 1) there will be no effects on threatened or endangered species or their designated critical habitat, or 2) until it has completed consultation under Section 7(a)(2) of the Endangered Species Act (16 USC § 1536). In addition, the EPA must undergo consultation pursuant to Section 106 of the National Historic Preservation Act (NHPA) (16 USC § 470f). As a reminder, NHPA implementing regulations require that EPA provide information to the public with an opportunity for participation in the Section 106 process. 36 CFR § 800.2(d). We look forward to receiving the Biological Assessment and Cultural Resources Reports that you have agreed to prepare for EPA for our use in complying with these statutes.

If you have any questions regarding the review of you permit application, please contact Melanie Magee of my staff at (214) 665-7161 or magee.melanie@epa.gov.

Sincerely yours,



 David F. Garcia
Acting Director
Multimedia Planning and
Permitting Division

ENCLOSURE

EPA Information Request
Formosa Plastics Corporation, Texas (FPC TX)
2012 Expansion Project: Two Gas Turbines
Application for Greenhouse Gas Prevention of Significant Deterioration Permit

1. Please provide supplemental data that includes the efficiency and loading curve of the proposed turbine proposed for this project that supports describing the unit as “efficient turbine design”. (this information may be represented graphically in load/efficiency curves). Also, please provide any benchmark data that compares this turbine to similarly designed combustion turbines that have been recently permitted by air permitting authorities nationwide.
2. On page 28 of the permit application, it states that for burner maintenance “there are three basic maintenance levels: combustion inspections, hot gas path inspections, and major overhauls.” Please provide supplemental details about each maintenance level such as what is involved, frequency of each level of maintenance, monitoring, and recordkeeping requirements.
3. On page 29 of the permit application, it states that “GE Model 7EA combustion turbines have sophisticated instrumentation and controls to automatically control the operation of the combustion turbine....the control system monitors the operation of the unit and modulates the fuel flow and turbine operation to achieve optimal high-efficiency, low-emissions performance under for full load and part load conditions.” Please provide more information pertaining to the automation of the combustion turbine operation that will ensure optimal fuel combustion. Please provide supplemental information that discusses details of what operating parameters will be monitored and how will it be used to determine that the turbines are operating at optimal efficiency and fuel combustion is occurring including temperature and pressure. How will proper air/fuel ratios be assured? What type of analyzers will be utilized? Will these analyzers provide continuous monitoring? Will there be manual overrides and alarms to alert on-site personnel to operating abnormalities? What is the company’s proposed monitoring strategy (e.g. CEMs)?
4. On page 29 of the permit application, it states that by firing hydrogen or tail gas (primarily methane and hydrogen) in the HRSG duct burners, FPC TX will be recovering heating value from these process streams that are normally vented or flared, thereby reducing GHG emissions from flaring. Please provide supplemental technical data and supporting calculations that quantifies this reduction in GHG emissions.
5. On page 29 of the permit application, it states that the HRSG are heat exchangers designed to capture as much thermal energy as possible from the combustion turbine exhaust gases. If available, please provide any supplemental benchmark data that compares the design of the proposed HRSG to existing or similar sources in the industry. How will heat transfer efficiency be ascertained? What will be monitored and recorded to demonstrate compliance? Also, it is stated that to minimize fouling of the tube surfaces in the HRSG, the filtration of the inlet air to

the turbines is performed, and by reducing the fouling, the efficiency is maintained. What operating parameters will be monitored to ensure equipment is operating by design?

6. On page 31 of the permit application, it is stated that efficiency of the turbines is increased by superheating the fuel prior to combustion. The proposed BACT analysis on page 32 states that pre-heating will be utilized. Please provide any supplemental data that discusses improved percent increase of operating efficiency for the proposed combustion turbine compared to combustion turbines that do not utilize fuel pre-heating. How will heat transfer efficiency to the fuel be ascertained and assured for the fuel pre-heater?
 7. On page 32 of the permit application, for the combustion turbine the proposed BACT is the efficient turbine design, but the analysis does not appear to compare the selected turbine model to other available combustion turbines. Since efficient turbine designs can vary among turbines, please provide supplemental data to the BACT analysis that explains if other turbines were evaluated for this project and why they were eliminated. If a more efficient design was evaluated and eliminated, please explain why. Also, please provide supplemental data that explains why the turbines selected are the most efficient for this source.
 8. On page 41 of the permit application, FPC TX proposes to use weekly AVO monitoring. Please provide supplemental data that discusses the details of what this program will involve. What is the proposed compliance strategy including recordkeeping, schedule, and the protocol for equipment repairs? Is there a TCEQ LDAR method that would be preferred to use? Please provide supplemental data that includes the basis for utilizing this preferred method versus other potential methods.
-