UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 7
11201 Renner Boulevard
Lenexa, Kansas 66219

MAR 19 2014

Ms. Marian Massoth
Air Permitting Chief
Kansas Department of Health and Environment
1000 S.W. Jackson Street, Suite 310
Topeka, KS 66612-1366

Dear Ms. Massoth:

We have reviewed the revisions to Abengoa Bioenergy Biomass of Kansas's prevention of significant deterioration (PSD) permit. After reviewing the draft permit, application and Permit Summary we have the following comments. We provide the comments to help ensure the project meets the federal Clean Air Act (CAA) requirements, that the permit will provide necessary information so that the basis for the decision is transparent and readily accessible to the public, and that the record provides adequate support for the permit decision.

1) This is a revision to a PSD permit that the Kansas Department of Health and Environment (KDHE) issued on September 16, 2011 and amended on January 13, 2013. At this time, the facility is nearing the completion of its construction. In situations like this we would recommend that KDHE only take comments on the revisions to the permit not the entire permit. For example, KDHE could provide a redline/strikeout version of the permit and only request comment on the permit revisions. We are limiting our comments to sections of the permit that are related to the permit revisions.

2) Permit conditions V.G.13.d. and V.G.14.h. and i. establishes particulate matter (PM), PM_{10} and $PM_{2.5}$ best available control technology (BACT) emission limits for the reheat burner. Since the reheat burner's and boiler's emissions exit through the same stack it is not possible to determine compliance with these emission limits. The permit also contains BACT limits for the combined emissions of the boiler and reheat burner making the reheat burner limits unnecessary.

3) The permit does not specify the length or number of test runs for the testing to determine compliance with the volatile organic compound (VOC) BACT limit in V.G.17. We recommend the permit specify the minimum test length and the number of test runs used to determine compliance with the limit. The test length must be long enough for compliance to be determined with the averaging period of the emission limit. The draft permit's VOC limit has a 30 day averaging period. Considering the difficulties of testing to determine compliance with a 30-day average, KDHE should consider either requiring a VOC continuous emission monitoring system (CEMS) or establishing a VOC BACT limit with a shorter averaging period.

4) The permit contains BACT PM, PM_{10} and $PM_{2.5}$ limits for the fly ash truck and rail loadout slide gates, bottoms ash loadout, and the fugitive emissions from washed sand, dirt production, dirt offloading, wet cake production, and wet cake emergency pad and reclaim. The permit does not contain any testing or monitoring to verify compliance with these limits. Note that BACT allows

for design, equipment, work practice, operational standard, or combination thereof when technological or economic limitations on the application of measurement methodology make an emission standard infeasible.

5) The VOC BACT limit for the enzymatic hydrolysis CO_2 scrubber in V.J.7. needs to specify the averaging period and testing and monitoring requirements.

6) The VOC BACT limit in V.L.1. for lignin storage and loadout is unclear. It specifies the BACT limit as less than or equal to 1.29 tons per year (0.39 lb/hr) in each consecutive 12 month period. The 0.39 lb/hr would equal 1.7 tons per year. Is the 0.39 lb/hr a limit that must be achieved on a shorter averaging period?

7) A number of emission points were modeled with $PM_{2.5}$ emission rates less than allowed by the permit. Either the permit needs to be revised to reflect the modeled rates or revise the modeling to reflect the permit rates.

Emission Point	Permit Rate	Modeled Rate
Floor Sweep System Baghouse (EP-11700)	0.002 lbs/hr	0.0018 lbs/hr
Biomass Boiler Storage Bin (T-11130 and T-11230) DC (EP-11400)	0.122 lbs/hr	0.120 lbs/hr
Washed sand (FUG_WSL)	0.0001 lbs/hr,	0.000086 lbs/hr
Dirt production (FUG_DP)	0.0003 lbs/hr	0.000273 lb/hr
Wet cake emergency pad and reclaim (FUG_WCE)	0.0004 lbs/hr	0.000362 lbs/hr
Lime handling baghouse #1 (EP-20512)	0.06 lbs/hr	0.03 lbs/hr

8) We have not verified emission rates for every emission point for PM_{10} but have discovered several where modeled rates do not match permit limits for PM_{10}. This could impact increment modeling and modeling to determine compliance with the national ambient air quality standard (NAAQS). KDHE should ensure modeled rates for all pollutants equal or exceed permitted limits.

9) The berm (EP-10002) was modeled at an emission rate of 0.00000001127 lb/hr/ft2. The correct rate is 0.00000056172 lb/hr/ft2. In addition to this error, the characterization of the berm in the model does not match the facilities construction plan which will have the berm constructed around the fenceline of the facility. Currently the berm is modeled as an area source in a single location. The construction will be ongoing as the facility produces waste. These emissions will occur around the entire facility, including near the receptors controlling increment analysis for PM_{10}. Additional analysis should be performed to ensure the berm emissions occurring around the entire facility will not have adverse air quality impacts.

10) The reheat furnace (EP-20002) is modeled separately with an emission rate of 7.5 lbs/hr for nitrogen. Our understanding is that both the reheat furnace and the boiler are subject to a combined limit of 157.5 lbs/hr for nitrogen oxides (NOx). Therefore, it is not clear why both were modeled.

11) The permit allows no more than 132 linear feet of unstabilized berm which is approximately the size of berm constructed in 32 days. It could be difficult in some periods to stabilize the berm. For example, it will likely not be possible to get vegetation to grow in the winter. Therefore, Abengoa will likely have to store berm materials for months. The permit should specify how these materials can be stored. The modeling should also include any emission points necessary to move the materials into or out of the storage.

Feel free to contact Ward Burns of my staff at (913) 551-7960 if you have any questions concerning this letter.

Sincerely,

Mark Smith, Chief
Air Permitting and Compliance Branch