UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

MAY 1 9 2016

REPLY TO THE ATTENTION OF:

Andrew Hall
Permit Review/Development Section
Ohio EPA, DAPC
50 West Town Street, Suite 700
P.O. Box 1049
Columbus, Ohio 43216-1049

Dear Mr. Hall:

The U.S. Environmental Protection Agency has reviewed the draft Permit to Install, permit number P0118959, for Pallas Nitrogen LLC, located in Wellsville, Ohio. To ensure that the source meets Federal Clean Air Act requirements, that the permit will provide necessary information so that the basis of the permit decision is transparent and readily accessible to the public, and that the permit record provides adequate support for the decision, EPA has the following comments:

1. Permit term f(a) on page 36 says that the carbon monoxide (CO) Best Available Control Technology (BACT) emissions limits for emission unit B002, Primary Reformer Heater, is based on the potential to emit (PTE) of the emission unit. 40 CFR 52.21 and OEPA's Ohio Administrative Code 3745-31(S) both define BACT as "an emission limitation based on the maximum degree of reduction for each regulated NSR pollutant which would be emitted from any proposed major stationary source....". A top-down 5-step process should be completed to determine BACT. Setting a BACT limit at PTE does not meet the definition of BACT or indicate that the BACT analysis was given the due diligence required for a BACT analysis. The Ohio Environmental Protection Agency (OEPA) should perform the top-down 5-step BACT process for all the emission units and pollutants that are subject to BACT and then make the necessary changes to the permit regarding these BACT limits.

   Similarly, the permit terms based on PTE include the majority of the pollutants throughout the permit including emission units B002, B003, F001, P001, P002, P003, P004, P005, P006, and P007. Please make the necessary changes to the permit regarding these BACT limits or explain how PTE meets the definition of a BACT limit.

2. Permit term f(a) Applicable Compliance Method on page 36 explains how the CO BACT limits were calculated using the maximum heat input and the maximum 8,760 hours per year, giving the maximum PTE as the CO emission limits. But this section, and the permit in whole, does not require any monitoring, testing, recordkeeping or reporting to assure compliance with the CO BACT emission limits, it merely describes how the

emission limits were created. This language is seen for the different emission units and pollutants throughout the entire permit. After OEPA goes back and sets proper BACT limits throughout the permit (see prior comment), please add the necessary monitoring, testing, recordkeeping and reporting to assure compliance with the emission limits throughout the permit for all the emission units and all the pollutants.

3. The permit does not require any initial testing or periodic testing for any of the emission units except for nitrogen oxide (NOx) testing for two of the emission units. Please add appropriate testing requirements to the permit for all pollutants.

4. Permit term 2(g) on page 30 says that the BACT emission limits are based on the BACT analyses located in the Pallas Nitrogen LLC permit application. Section 2(g) also lists several BACT determinations from the permit application. Similar permit language is found for most of the BACT pollutants throughout the permit. As written, this permit language does not equate to enforceable permit requirements because it does not specifically require the permittee to comply with any emission limit or operate any control equipment, or take any action, it merely states what was determined to be BACT in the Pallas Nitrogen application. Please revise all such permit language to: (1) identify whether they are OEPA BACT determinations and whether OEPA concurs with the BACT determinations conducted by Pallas Nitrogen (which are identified in the permit), and (2) clearly enforceable permit requirements.

5. Section B. Facility-Wide Terms and Conditions on page 14 of the permit should have monitoring, recordkeeping, and reporting of methanol and Total Hazardous Air Pollutant (HAP) emissions to ensure that the facility remains under the 10/25 tons per year (tpy) HAP threshold. Please add the appropriate monitoring, recordkeeping, and reporting requirements to the permit.

6. Permit term 2(a) on page 21 says that the Best Available Technology (BAT) requirements for emission unit B001, Startup Heater, "includes compliance with the requirements of OAC rule 3745-31-10 through 20". Please confirm whether this means that the BAT limits are equal to the BACT limits listed in the permit.

7. Regarding Emission Unit B001, Startup Heater, page 8 of the Permit Strategy Write-Up lists selective catalytic reduction (SCR) and selective non-catalytic reduction (SNCR) as "Infeasible" BACT control options for the NOx emissions. Please explain whether they are technically or economically infeasible and why.

8. Regarding Emission Unit B002, Primary Heater:

    I. Permit term g(iii) on page 30 lists greenhouse gas (GHG) BACT as "good operational practices and energy efficient operation". Please explain what they are and list them out in the permit as enforceable requirements.

II. Page 8 of the Permit Strategy Write-Up lists SNCR and low-NOx burners (LNB) as NOx BACT control – please add this to the permit as an enforceable requirement.

III. Page 8 of the Permit Strategy Write-Up has a 0.0125 lb/MMBtu NOx limit excluding startup/shutdown/Malfunction (SSM). A BACT limit cannot exclude SSM emissions unless a separate BACT limit is created for time of SSM events. Please add a BACT limit to the permit for times of SSM events as an enforceable requirement.

9. Regarding Emission Units B003 and B004, Package Boilers #1 and #2:

I. Permit term c(3) on page 44 of the permit says that a one-time energy assessment, per 40 CFR Part 63, subpart DDDDD, must be performed and submitted no later than January 31, 2016 – that date has already passed.

II. Page 11 of the Permit Strategy Write-Up lists LNB and flu gas recirculation (FGR) as NOx BACT control – please add this to the permit as an enforceable requirement.

10. Permit term 2(e) on page 52 of the permit appears to have a typographical error – it lists "good combustion control Paving of all plant roads that will be used for raw material and product transport" as BACT control for particulate emissions from Emission Unit F001, Paved Roadways. It seems that "good combustion" can be removed from the permit term. Please revise accordingly.

11. Regarding Emission Unit P001, Amine Regenerator (MDEA Stripper):

I. Both the draft permit and Permit Strategy Write-Up lists "proper designed operation" as BACT control for both the CO and the volatile organic compound (VOC) emissions for this emission unit. Please explain what this entails and add it to the permit as an enforceable requirement.

II. Page 9 of the Permit Strategy Write-Up lists both thermal oxidation and catalytic oxidation as "infeasible" BACT control options. Please explain whether they are technically or economically infeasible and why.

III. Permit term 5(a)(1)(e) lists a GHG BACT limit of 758,509 tpy of carbon dioxide equivalent (CO_2e) but neither the permit nor Permit Strategy Write-Up lists what the GHG BACT controls are for this emission unit. Please list and explain what the GHG BACT controls are and add them to the permit as enforceable requirements.

12. Regarding Emission Unit P003, Back-End Process with Flare:

I. Permit term 2(e)(ii) on page 71 of the permit lists "good operational practices and energy efficient operation" as GHG BACT control for this emission unit. Please explain what this entails and add it to the permit as an enforceable requirement.

II. Page 9 of the Permit Strategy Write-Up lists a "Minimization Plan" for the ammonia plant flare as GHG BACT control. Please add this Minimization Plan to the permit as an enforceable requirement.

13. Regarding Emission Unit P004, Ammonia Synthesis Process with flare:

I. Permit term 2(e)(ii) on page 80 of the permit lists "good operational practices and energy efficient operation" as GHG BACT control for this emission unit. Please explain what this entails and add it to the permit as an enforceable requirement.

II. Page 79 of the permit lists the design capacity of Emission Unit P004 as 150 MMBtu/hr and the NOx BACT limit is 0.068 lb/MMBtu which corresponds to a maximum emission rate of 10.2 lb/hr. However, permit term 8.(b)(1)(d) on page 79 says that the lb/hr limit is 12.44 lb/hr. The permit limits this process to 960 hours of operation per year, so at this allowable lb/hr emission rate, the annual NOx emissions should be about 6.0 tons per year, but is instead to the permit limit is 6.6 tons per year. The permitted emission limit should not exceed the bounds of the operational limit. Please adjust the emission limits accordingly.

14. Regarding Emission Unit P005, Nitric Acid Process:

I. Permit term 2(d)(ii) on page 91 of the permit says, per the application, GHG BACT was determined to be SCR to control nitrous oxide (N_2O) GHG emissions. SCR does not control N_2O emissions, and according to the EPA December 2010 guidance document titled "Available and Emerging Technologies for Reducing Greenhouse Gas Emissions from the Nitric Acid Industry", SCR is not an effective control technology for N_2O emissions (yielding roughly a 5% reduction in N_2O). Please re-analyze the BACT analysis for both GHGs (the N_2O) and NOx to consider SNCR because it controls both NOx and N_2O emissions whereas SCR only controls NOx.

II. Page 10 of the Permit Strategy Write-Up lists "De-N_2O control options (primary/secondary/tertiary/quarterary)" as the GHG BACT control resulting in 98% N_2O reduction:

a) Please explain what the De-N_2O control options are and add them to the permit (including the 80% N_2O control efficiency) as enforceable requirements.

b) Page 10 of the Permit Strategy Write-Up lists "Fine tuning plant design" as part of the GHG BACT control. Please explain what this is and add to the permit as enforceable requirements.

15. Regarding Emission Unit P006, Urea Granulation Process:

    I. Page 102 of the permit lists the New Source Performance Standard (NSPS) Subpart VVa requirement for a Leak Detection and Repair (LDAR) program. Please consider including the option of using a Forward Looking Infrared (FLIR) camera as an alternative monitoring method.

    II. Permit term 10.(b)(1)(c) on page 101 lists the Particulate Matter less than 10 microns (PM_{10}) and Particulate Matter less than 2.5 microns ($PM_{2.5}$) emission limit as 0.11 lb/ton of granulated urea, 1.76 lbs/hr, and 7.71 tons/yr (rolling). However, permit term 10.(f)(1)(a) on page 110 lists the lb/hr emission limit as 1.8 lbs/hr. Although these emission limits are close, it's not clear whether the limit is 1.76 lbs/hr or 1.8 lbs/hr. The emission limit should be clarified.

16. Regarding Emission Unit P007, Urea Synthesis (Melt), the permit term 2(f) on page 114 says that "PM and CO_2e emissions reflect an 80% control efficiency from the wet scrubber as identified in the permit application as BACT":

    I. This is one of the conditions throughout the permit that needs to be revised. This permit condition needs to be revised to make the 80% control efficiency an enforceable requirement in the permit because, as written, it is not a permit requirement.

    II. Please explain how a wet scrubber would control CO_2e emissions.

17. Regarding Emission Units P008, Emergency Fire Pump Diesel Engine, and P009, Emergency Generator: The permit lists 40 CFR Part 63, subpart ZZZZ as an applicable requirement for these two emission units. This standard was recently vacated by the U.S. Court of Appeals for the District of Columbia Circuit. Please see the April 15, 2016 EPA guidance memorandum titled *Guidance on Vacatur of RICE NESHAP and NSPS Provisions for Emergency Engines* as to how the vacatur affects emission units P008 and P009 and this permit.

18. Permit term d(1) on page 148 requires an LDAR program for VOC emissions from emission unit F004, Urea Processes Equipment Leaks. Please consider including the option of using a FLIR camera as an alternative monitoring method.

19. The draft permit that is available for review on OEPA's website does not contain the Permit Strategy Write-Up. This document contains information that is the basis for the permit conditions in the permit. Please consider re-public noticing the draft permit with this document included so that the public has an opportunity to review the permit with the background information included.

We appreciate the opportunity to provide comments on this permit and look forward to discussing them with you. If you have any questions, please feel free to contact Richard Angelbeck, of my staff, at (312) 886-9698.

Sincerely,

Genevieve Damico

Genevieve Damico
Chief
Air Permits Section