

# **DNREC comments on The Data Centers LLC's draft application for the proposed Newark project**

## **Page 2 of Cover Letter**

The Department has provided Duffield Associates permitted annual emissions for the major facilities located within 10 km of the project. Cumulative modeling based on the permitted emissions shall be included in the application.

## **Page 2 of Cover Letter**

The letter states that "Although not addressed in this permit application, TDC plans to design and construct a carbon dioxide capture system" Mentioning the CO2 capture this way makes the application look incomplete. When will the CO2 capture system be addressed? If CO2 capture isn't going to be done at this time it needs to be clear that the capture is not necessary to achieve the federal standards of the Best Available Control Technology (BACT) under the Tailoring Rule. The BACT analysis says that CO2 capture isn't commercially viable and that they are using energy efficiency to meet BACT, but page 2 mentions CO2 capture.

## **Page 2 of Cover Letter**

Application fees for the equipment outlined in the Draft application will be \$2230 and advertising fees will be \$1980. This is based on application fees for 7 turbines at \$165 each, 3 generators at \$215 each and 2 cooling towers at \$215 each for a total of \$2230 and \$165 advertising fee for 12 pieces of equipment for a total of \$1980.

## **Cover Letter**

The cover letter should address that sufficient offset credits are available, where they will be coming from if this information is known, and that TDC will have offsets in place before the operation permit is issued.

## **Executive Summary**

CO is not subject to NSR because of the control equipment that is being installed on the equipment. Throughout the application you state that the facility will be minor for carbon monoxide and subject to minor new source review. CO is **not** a pollutant subject to MNSR. See 7 **DE Admin Code** 1125 Section 4.1.4.

## **Executive Summary Pg 3**

The construction start date is listed as Winter 2014, please clarify if this is January 2014 or December 2014. Please note that the Department issues standard non-NSR/PSD construction permits within 90 days of receipt of a complete application if no public hearing is requested. Construction permits with complex NSR/PSD issues may take up to 180 days if no public hearing is requested. If a public hearing is requested the Department cannot predict the permit issuance timeframe.

## **Executive Summary Pg 5**

It is stated that the property is zoned properly; the Department will need verification from the local zoning department that the property is zoned for this use.

**Executive Summary Pg 7**

It is stated that simple cycle conversions of heat to electrical energy.....This language needs to be changed, simple cycle doesn't convert heat to energy.

**Executive Summary Pg 10**

The sulfur in natural gas will need to be verified according to the procedure in 40 CFR Part 75 Appendix D.

**Executive Summary Pg 11**

PTE should be based on operating 8760 hours per year with all equipment in operation not anticipated hours of operation. If PTE is being based on anything less the facility needs to state that in the application and the state will use these limits to develop permit conditions. If you don't want these types of federally enforceable limits in your permit then PTE needs to be based on all equipment operating 8760 hours per year. (Ex. No more than 6 turbines shall be operated at any time, the engines will not operate more than 8580 hours per year, etc.) See 7 **DE Admin Code** 1130 for the definition of potential to emit.

**Executive Summary Pg 12**

What is the basis for the 3 hour average for NOx concentrations.

**Executive Summary Emissions**

Please add total HAPs and formaldehyde to Table 2.1 and identify what VOCs are being emitted. Is there any stack test data available for the engines or turbines or other emissions information from the manufacturer? HAP emissions are very close to major source threshold based on an AP-42 factor. Is there any information to confirm that the highest emissions for the engines are at 100% load? The Department has documented experience with other similar engines that the highest non-methane organic compound emissions occur at lower loads. Since two of the engines plan to be operated at 50% load this is a concern. Emissions for the units and the BTU ratings of the equipment appear to be based on the lower heating value (LHV) of natural gas in Table B-2, what value for the LHV was used?

**Executive Summary Pg 21**

Startup time for the turbines is stated as 10 minutes. Will the SCR be up and running in 10 minutes? In the Department's experience, SCR typically takes longer to warm up. Shutdown emissions were not addressed for the turbines. Startup and shutdown emissions were not addressed for the engines. Some type of limitation on startups and shutdowns needs to be proposed along with a method for determining compliance. (Ex. Number per year, xx hours per year, etc)

**Executive Summary Pg 27**

Offsets will need to be based on permitted emissions.

**Executive Summary Regulatory Discussion**

The application needs to discuss the area source RICE MACT (40 CFR Part 63 Subpart ZZZZ) and 7 **DE Admin Code** 1144. Please note that if updated HAP emission calculations

indicate that the site is a major source of HAPs, other MACT standards may apply. In addition, please note that if updated HAP emission calculations indicate that the site is a major source of HAPs and the site remediation activities that were conducted under Chrysler will be continued, 40 CFR Part 63 Subpart GGGG-Site Remediation will apply.

#### **Executive Summary Proposed Limits**

The facility needs to address how they will demonstrate initial compliance and ongoing compliance with all emission limits including VOC, GHG, ammonia and formaldehyde.

#### **CO<sub>2</sub>e BACT**

CO<sub>2</sub>e BACT must be demonstrated separately for the turbines and the engines. The measured and demonstrated value for CO<sub>2</sub>e BACT must show the efficiency of the units: EPA encourages permitting authorities to establish an output based BACT emission limitation or a combination of output and input based limits, wherever feasible and appropriate to ensure that BACT is complied with at all levels of operation. (Ex. lb CO<sub>2</sub>e /MW power produced not a tons per year CO<sub>2</sub>e basis) Also include how compliance will be demonstrated with the proposed limit.

#### **Executive Summary Modeling**

Modeling will have to be redone if building structure, stack location etc change from application. The Department would also like to see some type of risk assessment modeling for ammonia and formaldehyde.

### General Comments/Questions

The following information needs to also be included in the final application:

- Calculations need to be provided for emissions in the tables in Appendix B
- Applicant Background Questionnaire
- Proof of Zoning
- Separate AQM-4.9 forms should be completed for the SCR and oxidation catalyst
- Manufacturer's Specification Sheets for turbines, engines, SCR, oxidation catalyst
- Any available testing data for equipment
- Supporting documentation for emission factors
- Modeling Inputs
- Since noise seems to be a big concern to the public maybe it should be addressed in the application
- Will there be any ancillary equipment that emits to the atmosphere? (Ex. Fire pumps, comfort heating, emergency generators, etc.)
- Who is going to be operating the power plant?
- The Department will require initial stack testing to verify emission factors for all pollutants, the application should propose methods and monitoring to demonstrate ongoing compliance with the emission limitations