

**CITY OF NEWARK  
DELAWARE**

**COUNCIL MEETING MINUTES**

**June 2, 2014**

Those present at 7:00 p.m.:

Presiding: Mayor Polly Sierer  
District 1, Mark Morehead  
District 2, Todd Ruckle  
District 3, Rob Gifford  
District 4, Margrit Hadden  
District 5, Luke Chapman  
District 6, A. Stuart Markham

Staff Members: City Manager Carol Houck  
City Secretary Renee Bensley  
City Solicitor Bruce Herron  
Community Affairs Officer Dana Johnston  
Deputy City Manager Andrew Haines  
Planning & Development Director Maureen Feeney Roser

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1. The special Council meeting began at 7:00 p.m.
2. Ms. Houck introduced Gavin Biebuyck of Liberty Environmental to present his report to Council regarding the Delaware Department of Natural Resources and Environmental Control (DNREC) air permit application for The Data Centers, LLC (TDC).

Mr. Biebuyck reviewed the scope of the project, which was review and comment on the air permit application and the air quality impacts. The scope did not include studies of noise, visual issues, water usage, stormwater, gas pipelines, safety matters, environmental justice, power needs, or sizing of the project.

Mr. Biebuyck stated that the proposed TDC application is “clean, but not green.” It is similar to other recently permitted large fire gas power plants, but could be cleaner and there are some issues with TDC’s proposed air emissions limits. Mr. Biebuyck stated that the claims of being a CHP are questionable in light of the University’s denial that they plan to purchase steam from TDC.

Mr. Biebuyck reviewed his qualifications and past experience.

An overview was given of the TDC proposal of a series of gas-fired power systems, including seven large gas-fired combustion turbines at 23MW each and three large gas-fired internal combustion engines at 17MW each. In addition, TDC will take the hot exhaust gas from the engines to produce steam and use the steam to produce more electricity through three steam turbines at 20 MW each. The remainder of the steam will be used to run chilling systems in the facility. In the winter, there will be excess steam, but there is no host currently. There is a phased construction proposed, but a timeline has not been given by TDC yet. A timeline is important for an air permit because construction timelines for air permits are not indefinite. Types of emissions from the projects enumerated in the application were reviewed, as well as the equipment proposed by TDC to help reduce emissions. The rated capacity versus what TDC would use versus what TDC would sell was difficult to understand from the application with the notation of the N+2 redundancy.

Mr. Biebuyck stated that the sources proposed for the project are not the cleanest available. If the plant were to operate as a combined cycle gas power plant without the internal combustion engines, the project would be about as clean as possible as a fossil fuel burning power plant. There are limits that Mr. Biebuyck thinks could and should be

lower. The proposal should be at least as stringent as recently permitted sources of a similar size. There is concern that the applicants do not provide vendor guarantees for emission rates, which should be corrected before a permit is issued. The project could be cleaner, but the pollution controls being used are state-of-the-art and some of the emissions numbers are expected to decrease once TDC obtains vendor guarantees.

Mr. Biebuyck reviewed the air permit process, including the major source designation for the types of pollutants being emitted, definition of major source pollutants, the multiple regulatory agencies involved, the New Source Review Permit Program, attainment and non-attainment review programs (New Castle County is considered non-attainment for ozone and fine particulate matter [PM2.5]), emissions offset requirements, availability and caps, and LAER and BACT analyses. While DNREC will issue the air permit, U.S. EPA has oversight and can appeal and veto the permit if DNREC does not issue it properly. TDC is proposing to obtain offsets for NO<sub>x</sub> and VOC, low limits for NO<sub>x</sub> emissions of two parts per million and a 100 ton cap on PM2.5 emissions to avoid offsets which raises concerns. There are concerns with some of the modeling analyses, or lack of models, submitted as part of the application. There are also concerns about the CO<sub>2</sub> analysis as provided not being achievable and avoidance of the CO<sub>2</sub> cap and trade program. Mr. Biebuyck reviewed the individual pollutants enumerated in the permit. The only concern with this part of the permit is the amount of pollutants that would be emitted by the internal combustion engines and there is a question as to why the engines are needed. In reviewing the PM2.5 numbers, it was suggested that that offsets be purchased or modeling conducted to show the facility's impact. The air toxics shown in the application are within federal guidelines. Concerns include not all air toxics being modeled, guarantees not yet being obtained from catalyst vendors for formaldehyde reduction, a high ammonia slip, high emissions of CO<sub>2</sub>, the viability of the CHP concept and the lack of a cost analysis for carbon capture and sequestration. Mr. Biebuyck noted that comparisons between emissions from this proposed facility, Chrysler, and the grid related to the air quality in Newark are misleading and irrelevant unless TDC plans to purchase Chrysler's offsets.

Mr. Biebuyck reviewed his conclusions. The project is not a green facility since it is a fossil fuel burning power plant, but it is a relatively clean plant with state-of-the-art pollution controls. It is cleaner than other data centers in that they are using gas instead of diesel, but that is offset by the fact that the TDC proposal will be operating 24 hours per day, seven days per week instead of the 100 to 200 hours per year diesel engines are permitted. The internal combustion engines make this project not as clean as it could be. The air toxics are too high in comparison to other gas power plants. Impacts appear to be fairly low, but additional air quality assessments should be done. Start up and shut down emissions are not accounted for in the assessment, which would cause more pollutants and should be modeled. The modeling analysis is not as conservative as it should be. There should be pre-construction monitoring for at least 12 months, which is a common requirement that is often waived. There should also be post-construction modeling to prove that what was estimated in the air permit turned out to be accurate. TDC should purchase offsets or do modeling for PM2.5. The air toxics should be reassessed. Continuous emissions monitoring should be done and annual testing should be done for additional pollutants than the pollutants TDC proposes.

**3.** Ms. Sierer opened the floor to questions from Council. Mr. Biebuyck responded to all of the questions from Council. Those questions included the following:

Mr. Ruckle

- Who makes the technology being used for the catalysts? Miratech is one of the several companies that makes this technology, but from an air permit perspective, evaluators look at the precedent of what has been done previously in a database maintained by the EPA. There is a case-by-case evaluation of how low emissions can go based on the information in the database to ensure state-of-the-art controls.
- Is there technology in other countries that is better? There can be, but Mr. Biebuyck is unaware of any related to CHP plants.
- Are there more efficient turbines that could be used? No, the turbines being used are the most efficient.

- Would air purification prior to entrance into the turbines make the process cleaner? That has not been looked at, but the degree of filtration proposed by TDC would need to be reviewed.
- Is there anything that could be done with the engines to make them cleaner? In this size range, these are the cleanest engines available.

Mr. Markham

- If TDC were to use strictly turbines versus engines, would the pollution be less? Yes, several key pollutants would be much lower if the project were redesigned to eliminate the engines.

Mr. Morehead

- With the comment that there would be higher pollutants at lower loads, is the situation worse than was thought? There are higher emission rates on a pound/KW basis, but does not mean that they have higher rates on a pound/hour basis. If fewer KWs are being generated, there are fewer total pollutants being emitted. However, the engines are most efficient at the highest loads. Another possible solution would be to have a higher number of smaller engines instead of the lower number of large engines, similar to what Microsoft and Yahoo use which would provide higher efficiency.

Ms. Hadden

- Regarding the drift eliminators, will this change the accuracy of statements made regarding the particulate matter from the stacks not affecting the immediate surrounding areas? This would depend on modeling. Stack height could increase up to 210 feet from 165 feet. Cooling towers would be 45 feet high, so they would not have the height or dispersion that the combustion sources will have. Cooling tower emissions will be much lower emission rates, but will have an effect closer to the property line.

Mr. Gifford

- Are the drift eliminators intended to eliminate the PM particulates or also the visual appearance of steam? They do impact particulate matter efficiently, but it is unknown whether they have any effect on the visual steam plumes.
- What is the critical distance of the dispersion of the air pollution based on the stack height of 165 feet? It depends on the modeling analysis. The applicant did do some modeling and can produce isopleth plots, which would show the effects in the surrounding terrain. They showed the maximum impact area, but the isopleth plots would be more helpful as a visual for the public instead of the tables provided. Higher stacks would move the impact further away.
- On a scale regarding critical distance, is it miles, tens of miles? Maximum impacts are within  $\frac{1}{4}$  to  $\frac{1}{2}$  of a mile. Fugitive dust emissions and cooling tower emissions maximum impact will be at the property line.

Mr. Morehead

- What is the effect of aqueous ammonia versus urea? Ammonia is needed for the catalyst to work, but the catalyst does not care what form. From an effectiveness standpoint, there is no difference, but from a safety standpoint, there is a difference between the three forms.
- How long are the vendor guarantees for catalysts? They can vary, but there are typically a lot of caveats to the guarantees. There are no guaranteed emissions rates anywhere in the application.
- Is stack monitoring for all ten stacks or is one representative of all ten? They are proposing continuous monitoring of NO<sub>x</sub> and CO<sub>2</sub> for separate stacks, so they would have to purchase separate monitoring systems for each stack. They are not proposing combining any of the stacks.

Mr. Gifford

- Is the air permit diagram an accurate representation of the physical layout of the stacks? The stacks and the building configuration are important as part of reliable modeling, so it should be an accurate representation. However, sometimes stacks

are combined in modeling for ease, but the stacks should be modeled individually for accuracy.

Mr. Morehead

- What effect does this report have on the application process? The hope is that DNREC would review the comments and require TDC to correct any technical deficiencies through amending or updating the application to address the City's concerns. DNREC does not have a procedure saying that an application is technically complete, so the City may not see a formal letter stating the application is incomplete in response to the City's comments. The next step would be for the City to submit comments on the draft permit. If the final permit is approved, the City could also appeal.
- Have you been retained to follow the permit process through? Yes, he has been retained to prepare the report, attend the public hearing and provide additional comments on the draft permit for the City.

Mr. Gifford

- Will the startup/shut down issue have an effect on emissions or mostly noise? TDC has included estimated emission rates in their annual emissions rates, but have not modeled them for air quality impacts during that time. The impact on noise will be seen in the hourly measures, but not the longer standards (24-hour, yearly).
- Is the standard AP42 2000 version the version that TDC should be using in their analysis? The version used is the newest available, however the vendor guarantees should be a more accurate and updated estimate that can be used.
- How does the feedback on design in the air permit process work? Legal doctrine says that regulatory agencies cannot recreate a project (i.e. substitute one type of fuel for another). They can tell them that modeling impacts are unacceptable which creates the need for redesign. The control technologies can also be reviewed for appropriate control technologies.

Mr. Morehead

- At what level are BACT and LAER considered? BACT and LAER are national level measures case-by-case based on precedent. However, some lower level governments have more stringent regulations due to existing air pollution (i.e. Los Angeles). However, projects do not have to be in the RBLC database to be considered as precedent.

Mr. Gifford

- Which airport was used in the modeling? Wallops Island for upper air and New Castle for other modeling.

Ms. Sierer

- As of this afternoon, according to the Director of the Division of Air Quality, TDC has not submitted a completed permit application including final modeling, per an e-mail sent to a resident.

There were no additional questions from Council.

#### **4. Meeting adjourned at 8:30 p.m.**

Renee K. Bensley  
Director of Legislative Services  
City Secretary