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Stevenson Exh. #1

Karen Mattio
DNREC Division of Air Quality
State Street Commons
100 West Water St., Suite 6A
Dover, DE 19904

1/10/2019

Re: **Fuel Cell Permit Request Changes Needed**

Dear Ms. Mattio,

I submitted comments in advance of the planned January 10, 2019, Public Hearing on the Diamond State Generation Partners, Inc. permit requests to replace Bloom Boxes at Red Lion and Brookside locations. Based on the issues below, the current permit needs to be denied as incomplete. A new permit should include details on how solid waste, Hazmat, and decoking issues will be handled. In addition, a new Coastal Zone Permit is needed as there will be hazardous waste that were not considered in the original Coastal Zone permit, and the current permit limits waste disposal tonnage at levels below what can be expected from Bloom's re-construction plan. New permits need to go through the normal review process along with an additional public hearing. A complete record needs to be publicly available including any consultations, and communications between the applicant and DNREC.

1) The AQM 3.1 submission needs these changes:
   a) Line 9.1 states no by-products are produced. That needs to be changed to show the products produced and stored in the desulfurization canisters
   b) Line 12 states there is no air pollution control equipment. That needs to be changed to yes, and the details of the desulfurization process need to be included including the amount of materials created, and the frequency of canister exchanges listed.
   c) Line 12.13 checks no boxes for pollution controls. The SOX box needs to be checked.
2) In the original Coastal Zone permit request the applicant stated there were no Hazardous Materials generated. Subsequent information showed there is hazardous waste produced confirmed by a September 8, 2015, letter from the Environmental Protection Agency, and by fines levied in other states for improper disposal. Natural gas contains small amounts of sulfur that can interfere with the fuel cell process, and also creates sulfur dioxide, an air pollutant that can cause health problems, and is restricted by the EPA. The sulfur is removed by pollution control equipment in the Bloom Boxes, and temporarily stored in stainless steel canisters. The canisters also contain benzene, listed as a hazardous material known to be a human carcinogen linked to leukemia, blood and neurological disorders, along with lead, chromium, arsenic, and hydrogen sulfide. The canisters are periodically shipped to regulated incinerators in other states. There is also a decoking process used 3% to 4% of the time, and there is no description of how that impacts emissions. The permit request needs to be changed to show hazardous waste, and a new Coastal Zone permit is needed. The applicant needs to include at least the following information;
   a) How much hazardous material is produced annually, and what is the composition?
   b) Will warning placards be attached to each Bloom Box alerting first responders to the existence of hazardous waste?

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c) Will material handlers receive Hazmat training?
d) Where and how will the waste be disposed?

3) The old Bloom Boxes weigh over 6 million pounds. Much of that weight is in electronic waste that is difficult to recycle. The current Red Lion permit limits disposal of electronic waste to 10,000 pounds a year. On what basis is that limit being ignored? Delaware law prohibits sending regular waste out of state as tipping fees are needed at the Delaware Solid Waste Authority to pay for bonds used to build landfills. Will the old Bloom Boxes be sent to landfills for disposal, sent somewhere else for recycling, or be re-sold? The fuel cell process uses a proprietary catalyst that may be hazardous (scandium?). How will that waste be handled? The permit needs to state how all this waste will be handled. Once again, this suggests a new Coastal Zone permit is needed.
4) In the original tariff discussions the current Bloom Boxes were to be upgraded every three to five years with new fuel cell stacks, rather than being replaced. We note Delmarva Power monthly reports to the PSC still show the original Bloom Boxes are producing power at a rate of 227,000 megawatt-hours a year, under 1% less than in 2014 when the bloom Boxes were new. Why are the old boxes being completely replaced with new boxes? The new boxes may cost hundreds of millions of dollars with only about an 8% better natural gas fuel economy worth about $5-6 million in Net Present Value. How can that justify replacement? There is a federal Investment Tax Credit of 30% of the new product cost that could cost taxpayers as much as $100 million dollars. Will Bloom Energy, Diamond State Generation Partners, financiers, or anyone else be claiming the ITC?

Clearly, these are substantive issues, and we encourage Bloom Energy, and DNREC be prepared to answer these questions on January 10th.

Sincerely Yours,

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