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DEPARTMENT OF NATURAL RESOURCES
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June 3, 2015

Michele B. Corash
Counsel to Bloom Energy
Morrison Foerster
425 Market Street
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Dear Ms. Corash:

This letter responds to yours dated March 12, 2015 concerning Bloom Energy's desulfurization canister units (Desulf Units). I appreciate the information that you supplied as a follow-up to our discussion earlier this year.

I also appreciate Bloom's provisional accommodation in using hazardous waste protocols in handling the Desulf Units in the interim while we reviewed whether the Desulf Units fall within the manufacturing process unit exemption in Delaware's *Regulations Governing Hazardous Waste* § 261.4(c).[1]

The manufacturing process unit exemption is as follows: A hazardous waste which is generated in a manufacturing process unit is not subject to regulation as a hazardous waste until it exits the unit in which it was generated unless the hazardous waste remains in the unit more than 90 days after the unit ceases to be operated for manufacturing.

The rationale for the exemption is that manufacturing process units are designed and operated to hold valuable products or raw materials during manufacturing. "Because of their design and operation, these units are capable of holding, and are typically operated to hold, hazardous wastes which are generated in them, until the wastes are purposefully removed. Thus, these hazardous wastes are contained against release to the environment (except of course when abnormal circumstances such as fire or explosion occur) and the risks they pose to human health

[1] 7 *Del. Admin. C.* § 1302. This exemption is identical to the corresponding exemption in 40 CFR 261.4(c).

or the environment are very low and are only incidental to the risks posed by the valuable product or raw material with which they are associated."[2]

Based on Bloom's representations, and the information known to me as of the date of this letter, I conclude that the Desulf Units fall within the manufacturing process unit exception.

Under Delaware's Coastal Zone Act and regulations, the generation of electricity is considered to be manufacturing. The installation of 30MW of generation from Bloom's Servers at the Red Lion Energy Center near Delaware City required a Coastal Zone permit as a manufacturing activity. I am not aware of any binding or persuasive authority to the contrary in the present context. Accordingly, the Desulf Units are involved in manufacturing within the meaning of the exemption.

The robust structural integrity of the Desulf Units (which are made to be reused for as long as 15 years), and the low levels of benzene contained in the Desulf Units, are of particular significance, as is the representation that not all of the Desulf Units contain levels of benzene that would trigger RCRA requirements as hazardous waste.

Accordingly, any hazardous wastes in the Desulf Units are contained against release to the environment and the risks they pose to human health or the environment are very low and are only incidental to the risks posed by the valuable product or raw material with which they are associated. The Desulf Units, and the circumstances surrounding them, fall within the rationale for the manufacturing process unit exemption.

You have acknowledged the 90-day limitation in the manufacturing process unit exemption and I appreciate your indication that as applied to the present circumstances, the process of servicing the Desulf Units takes days not months.

While any wastes in the Desulf Units are not considered hazardous by Delaware until the Units are opened, EPA guidance suggests that the Units are still considered to contain solid wastes.

"Manufacturing process units often hold materials which can be classified as solid wastes and potentially hazardous wastes (e.g. precipitated residues). Even though these materials are exempt from hazardous waste regulation under Section 261.4(c), they are still considered solid wastes, thereby rendering the manufacturing process unit a Solid Waste Management Unit."

As such, I believe that the Desulf Units should be collected and transported by a permitted Delaware Solid Waste Transporter pursuant to 7 Del. Administrative Code § 1301 –

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[2] 45 F.R. 72025

7.0. In addition, should any facility in Delaware become a centralized collection point for Desulf Units, the location would likely be considered a Transfer Station subject to permitting and regulatory requirements under 7 Del. Administrative Code § 1301 – 10.0 However, I recognize that your letter did not provide a detailed analysis on certain aspects of the issue of solid waste and you offered to provide further details. If you have additional information we can review it.

I expect that there will be additional conversations between Bloom and EPA to seek clarification on this matter given that Bloom has Energy Servers in service in multiple states and EPA Regions. We look forward to further guidance that may result from those communications.

Sincerely,

David S. Small
Secretary

cc: David L. Ormond, Jr.
Deputy Attorney General
Delaware Department of Justice