

Virtual Public Information Session September 28, 2022

Presentations by:

Department of Natural Resources and Environmental Control
And BioEnergy Development Company

Virtual Public Information Session

For DNREC Permits covering the Anaerobic Digester being proposed by BioEnergy Development Company (BDC) at the BioEnergy Innovation Center, Seaford Delaware

Welcome. Any visual content that is part of this workshop will appear in this window. You can use your computer audio to listen to this workshop. Use the audio connections menu to turn audio on your computer on or off. Or you can dial-in to the hearing using the following information:

Dial-In Information

Phone Number: +1-646-931-3860

Meeting ID: 948 5598 0261

Passcode: 674870

Closed-captioning, in languages including English and Spanish, is available as an option when logged into this meeting via the Online link. Translation is not available to participants calling into the meeting utilizing the dial-in information above (audio only).



Welcome to the Virtual Public Information Session

- Closed captioning is available for those joining via Zoom app whether via computer, iPhone or Android.
- CC button - click to turn on captioning.
- iPhone and Android
 - ... More
 - Meeting Settings
 - Closed Captioning slider to ON
 - Translation Language



DIVISION OF AIR QUALITY PROJECT SUMMARY

- BDC has requested permits to construct:
 - One (1) natural gas-fired emergency generator (EG) with a standby power rating of 1,082 KW (1,451 HP); and
 - Four (4) anaerobic digesters (ADs) with associated biogas upgrade and air pollution control equipment.



DIVISION OF AIR QUALITY PROJECT SUMMARY (CONT.)

- Construction of the proposed equipment would occur in two (2) phases:
 - Construction of the EG, two (2) ADs, and the biogas upgrade and air pollution control equipment associated with the AD process would begin upon receipt of the associated construction permits.
 - Construction of the remaining two (2) ADs would commence during the commissioning of the phase 1 digesters.



DIVISION OF AIR QUALITY PROJECT SUMMARY (CONT.)

- The EG would only be permitted to operate during emergencies or for testing/maintenance purposes.
- The EG is certified to meet the applicable regulatory emission standards.



DIVISION OF AIR QUALITY PROJECT SUMMARY (CONT.)

- The facility would be permitted to receive up to a combined 250,000 tons of the following feedstocks over the course of a twelve (12) month period for use in the ADs:
 - Poultry litter;
 - Poultry industry liquid and solid cake dissolved air flotation (DAF); and
 - Bioreactor sludge from the on-site wastewater treatment plant.
- All solid and liquid feedstocks would be delivered by truck and offloaded in their respective receiving areas and transferred/stored in contained systems upstream of the ADs.



DIVISION OF AIR QUALITY PROJECT SUMMARY (CONT.)

- Biogas produced in the ADs would be cleaned to remove many of the pollutants from the gas stream.
- Remaining pollutants will be emitted through air pollution control equipment.
 - RTO (routine operations)
 - Flare (non-routine operations)
 - Will not operate simultaneously



DIVISION OF AIR QUALITY FACILITY CLASSIFICATION

BDC's facility in Seaford is considered a Natural Minor Source because the combined emissions from its existing (compost facility) and proposed sources (AD system & EG) do not have the potential to emit above the Major Source Threshold for Sussex County based upon information submitted within the permit application.



DIVISION OF AIR QUALITY APPLICATION TIMELINE

- January 13, 2022 – DAQ Received Permit Application
- From March 30, 2022-May 13, 2022 – DAQ Requested and Received Additional Information from BDC
- From June 24, 2022-July 14, 2022 – DAQ Sent, Received Comments, and Reviewed Comments on Pre-Notification Draft Permits



DIVISION OF AIR QUALITY PERMITTING PROCESS

- Review application for administrative and technical completeness
- Determine if the source is in the Coastal Zone, and if so, a Coastal Zone Permit is required
- Verify proof of local zoning approval
- Review technical information and confirm emissions calculations
- Perform Air Dispersion Modelling to estimate the concentration of air pollutants at the plant's property line to ensure public health, welfare, and safety will not be adversely affected

DIVISION OF AIR QUALITY PERMITTING PROCESS (CONT.)

Permit Requirements

- Draft technical memorandum
- Determine applicable Federal (EPA) and State requirements
- The technical memorandum is the basis for the emission limits, operating limits, monitoring, testing, record keeping and reporting requirements in the permit
- Provide public notice of construction permit (in this case, 15 days for Natural Minor permits, which has been completed)



DIVISION OF AIR QUALITY PERMITTING PROCESS (CONT.)

- A Public Hearing will be held if requested (in this case, a public hearing was scheduled in advance)
- If the construction permits are issued, DAQ will conduct Construction-to-Operation inspections following the completion of construction
- Following a successful Construction-to-Operation inspection, the updated terms of the construction permit(s) will be converted into operating permits for the relevant equipment.



DIVISION OF WATER PROJECT SUMMARY

Bioenergy DevCo, LLC (BDC) proposes to construct an anaerobic digestion system and a wastewater pretreatment system that processes poultry industry wastes into digestate, pipeline-grade renewable natural gas and compost.

- Proposed anaerobic digestion system will include:
 - (3) 0.208-million-gallon (MG) pretreatment tanks
 - (4) 1.95 MG fermentation tanks,
- Proposed wastewater pretreatment system will include:
 - Membrane Bioreactor System (MBR)
 - Anoxic tank
 - 0.412 MG aerobic reactor
 - 0.198 MG feeding tank and ultrafiltration and reverse osmosis treatment systems

DIVISION OF WATER APPLICATION TIMELINE

- February 2, 2022 - Application Received
- March 23, 2022 - Comments Provided to BioDev Co and Verdantas
- April 6, 2022 - Revised Application in Response to Comments Received
- May 2, 2022 – Comments Provided to BioDev Co. and Verdantas
- June 17, 2022 – Revised Application Documents in Response to Comments Received
- August 21, 2022 – Legal Notice for Permit Applications Published

*Please note, the Operations Plan and Engineering Report originally posted under application materials for Division of Water's permits have been updated to BDC's final versions on our website. The Plan and Report originally posted were dated January 2022. The updated version of the Operation Plan is dated June 2022 and Engineering Report is May 2022.

DIVISION OF WATER PERMITTING PROCESS

Construction Permit Requirements

- Required by 7 Del.C. Ch.60 and 7 Del. Admin. Code §7201, *Regulations Governing the Control of Water Pollution* (Section 4.0).
- Two Wastewater Facility Construction Permits from the Division of Water are required for the proposed Bioenergy Innovation Center expansion. One for the Anaerobic Digestion System and one for the Wastewater Pretreatment System.
- A Construction Permit Application Package was submitted for both permits including:
 - Narrative Summary of Proposed Actions
 - Set of Final Construction Plans and Specifications
 - Application Review Fee

DIVISION OF WATER PERMITTING PROCESS (cont.)

- These permits are for construction only. Wastewater may not be sent to the Anaerobic Digestion and Pretreatment systems under the Construction Permit.
- Initiation of construction on the wastewater pretreatment facility is prohibited until required documentation from the receiving wastewater treatment and disposal facility is submitted verifying that an acceptance agreement is in place.

DIVISION OF WASTE AND HAZARDOUS SUBSTANCES RESOURCE RECOVERY PERMIT PROJECT SUMMARY

Bioenergy Devco, LLC has applied for a resource recovery facility permit to construct an anaerobic digestion system in addition to the existing compost facility.

- Facility will continue to accept wastes including: dissolved air floatation (DAF), poultry litter, hatchery waste, offal and other agricultural residuals.
- Total facility volume (for anaerobic digester and compost facility) will be 250,000 tons.



DIVISION OF WASTE AND HAZARDOUS SUBSTANCES RESOURCE RECOVERY PERMIT APPLICATION TIMELINE

- Initial application was received on January 13, 2022.
 - Comments provided back to BDC March 15, 2022.
 - Application documents submitted for review May 9, 2022.
 - Comments provided back to BDC on June 14, 2022.
 - Complete application received on June 24, 2022.
- Waste is the last permit to be issued by the Department. Once all other permits have been issued, Waste will review a final submission by Bioenergy Devco and then modify the permit to be an operations permit based on the final facility build out.

DIVISION OF WASTE AND HAZARDOUS SUBSTANCES

RESOURCE RECOVERY PERMITTING PROCESS

Resource Recovery Permit Requirements

- Required by 7 Del.C. Ch.60 and 7 Del. Admin. Code §1301, Delaware's *Regulations Governing Solid Waste* (Sections 4.0 and 9.0).
- One single permit that covers the construction and operation of the Anaerobic Digester operations and the compost facility operations will be issued by Waste and Hazardous Substances, Compliance and Permitting Section (CAPS).
- A Resource Recovery Facility Application includes many different items including:
 - A Plan of Operation governing all onsite facility operations.
 - A Recycling Analysis that outlines proof of market for products created from waste.
 - A Plan for Sampling and Analysis of onsite water, wells and residuals to ensure they are within permitted limits.
 - Financial assurance to cover the potential need for DNREC to close the facility.

DELAWARE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL PROGRAM CONTACTS

- **Resource Recovery Permit**, please contact Zack Taylor via email at zachary.taylor@delaware.gov or via phone at (302) 739-9403.
- **Air Quality Natural Minor Permit**, please contact Tracy Mattson via email at tracy.mattson@delaware.gov or via phone at (302) 739-9402.
- **Wastewater Facility Construction Permit**, please contact Derrick Caruthers via email at derrick.caruthers@delaware.gov or via phone at (302) 739-9948.



Public Hearing Notice

REMINDER: Any questions or comments asked during tonight's workshop are not considered part of the public record for these permits. Please use the information below to participate in the upcoming public hearing or to submit a comment to the official record for consideration about the permits in question.

Joint Virtual Public Hearing

The joint virtual public hearing on the above matter will be held beginning at **6:00 PM** on **Wednesday, October 26, 2022**. The web link to the virtual hearing can be accessed through the DNREC Public Hearings site at de.gov/dnrehearings. Spanish translation will be an available option for attendees via the Zoom platform being utilized.

Those wishing to offer verbal comments during DNREC public hearings must pre-register no later than noon of the date of the virtual hearing at de.gov/dnrecomments or by telephone at 302-739-9001.

The Department will accept written public comment through the close of business on Friday, December 2, 2022. Comments will be accepted in written form via email to DNRECHearingComments@delaware.gov or by using the online form at de.gov/dnrecomments, or by U.S. mail to the following address:

Lisa A. Vest, Hearing Officer
Office of the Secretary
Department of Natural Resources and Environmental Control
89 Kings Highway
Dover, DE 19901