DNREC Virtual Public Hearing

On the Bioenergy Development Company, LLC's Air, Wastewater, and Resource Recovery Construction and Operations Application and Draft Permits.
(Docket #2022-P-MULTI-0012)

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You can use your computer audio to listen to this hearing. 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 Number: 1-646-558-8656
Meeting ID: 982 6676 7693
Passcode 368147

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DELAWARE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL

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 modeling to determine downwind concentrations of air pollutants. Permits are not issued unless screening criteria are met.

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.)

- 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 Air Quality
Public Hearing Exhibits

- Exhibit 1: Permit Application
- Exhibit 2: March 30, 2022, Request for Additional Information
- Exhibit 3: April 11, 2022, BioEnergy Response to March 30, 2022, Request For Additional Information
- Exhibit 4: May 5, 2022, Request For Additional Information and Clarification
- Exhibit 5: May 13, 2022, BioEnergy Response to May 5, 2022, Request For Additional Information
- Exhibit 6: Pre-Notification Draft Permit APC-2022_0048 and Associated Email

Division of Air Quality
Public Hearing Exhibits (continued)

- Exhibit 7: Pre-Notification Draft Permit APC-2022_0049 and Associated Email
- Exhibit 8: July 8, 2022, BioEnergy Comments on Pre-Notification Draft Permits
- Exhibit 9: July 14, 2022, DNREC Response to Comments Provided by BioEnergy on Pre-Notification Draft Permits
- Exhibit 10: Emergency Generator Draft Permit
- Exhibit 11: August 21, 2022, Anaerobic Digester Draft Permit
- Exhibit 12: August 21, 2022, Draft Permit Technical Memo
- Exhibit 13: August 21, 2022, Joint Public Notice of Permit Applications and Public Hearing, Delaware State News

Division of Air Quality
Public Hearing Exhibits (continued)

- Exhibit 14: August 21, 2022, Joint Public Notice of Permit Applications and Public Hearing, News Journal
- Exhibit 15: August 21, 2022, Joint Public Notice of Permit Applications and Public Hearing, DNREC Website
- Exhibit 16: August 23, 2022, Joint Public Notice of Permit Applications and Public Hearing, Cape Gazette
- Exhibit 17: September 23, 2022, Revised Anaerobic Digester Draft Permit
- Exhibit 18: September 23, 2022, Revised Draft Permit Technical Memo
- Exhibit 19: September 23, 2022, Joint Public Notice of Permit Applications and Public Hearing, Updated, Cape Gazette

Division of Air Quality
Public Hearing Exhibits (continued)

- Exhibit 20: September 23, 2022, Joint Public Notice of Permit Applications and Public Hearing, Updated, DNREC Website
- Exhibit 21: September 23, 2022, Notice in Translation, En Español
- Exhibit 22: September 23, 2022, Notice in Translation, An Kreyòl Ayisyen
- Exhibit 23: September 25, 2022, Joint Public Notice of Permit Applications and Public Hearing, Updated, Delaware State News
- Exhibit 24: September 25, 2022, Joint Public Notice of Permit Applications and Public Hearing, Updated, News Journal
- Exhibit 25: September 28, 2022, Public Meeting Calendar
- Exhibit 26: October 26, 2022, DNREC Presentation
- Exhibit 27: October 26, 2022, Public Meeting Calendar

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 WATER
Public Hearing Exhibits

- Exhibit 1: DNREC Regulations Governing the Control of Water Pollution
- Exhibit 2: DNREC Website Project Details Page https://dnrec.alpha.delaware.gov/public-hearings/bioenergy/
- Exhibits 3-9: Bioenergy DevCo's Wastewater Collection and Conveyance Systems Construction Application Package
- Exhibit 10: DNREC Draft Construction Permit for Anaerobic Digestor
- Exhibit 11: DNREC Draft Construction Permit for Membrane Bioreactor Pretreatment System
- Exhibit 12: August 21, 2022, Joint Public Notice of Permit Applications and Public Hearing, Delaware State News
- Exhibit 13: August 21, 2022, Joint Public Notice of Permit Applications and Public Hearing, News Journal

DIVISION OF WATER
Public Hearing Exhibits (continued)

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DIVISION OF WATER
Public Hearing Exhibits (continued)

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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.

DIVISION OF WASTE AND HAZARDOUS SUBSTANCES
Public Hearing Exhibits

- Exhibit 1: Resource Recovery Application Checklist
- Exhibit 2: Application Table of Contents
- Exhibit 3: Solid Waste Management Facility Application
- Exhibit 4: Remittance of Public Notice Fee
- Exhibit 5: Proof of Ownership
- Exhibit 6: Plan of Operation
- Exhibit 7: Engineering Report
- Exhibit 8: Recycling Analysis
- Exhibit 9: Plan for Sampling and Analysis and Disposition of Ash
- Exhibit 10: Hydrogeological Assessment
- Exhibit 11: Hydrogeological Assessment Exhibit 8

DIVISION OF WASTE AND HAZARDOUS SUBSTANCES
Public Hearing Exhibits (cont.)

- Exhibit 12: Environmental Assessment
- Exhibit 13: Site Maps
- Exhibit 14: Proof of Zoning, Permit Applications
- Exhibit 15: Conceptual Closure Plan
- Exhibit 16: Proof of Financial Responsibility for Closure
- Exhibit 17: Siting Criteria
- Exhibit 18: Completed Applicant Background Statement
- Exhibit 19: Draft Resource Recovery Permit
- Exhibit 20: August 21, 2022, Joint Public Notice of Permit Applications and Public Hearing, Delaware State News

DIVISION OF WASTE AND HAZARDOUS SUBSTANCES
Public Hearing Exhibits (cont.)

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DIVISION OF WASTE AND HAZARDOUS SUBSTANCES
Public Hearing Exhibits (cont.)

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- Exhibit 31: October 26, 2022, DNREC Presentation
- Exhibit 32: October 26, 2022, Public Meeting Calendar

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.

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(Docket #2022-P-MULTI-0012)

Thank you for joining us. We will accept comments on this matter through December 2, 2022.

You can submit your comments using the DNREC comment form, via email, or by USPS mail, as noted on the hearing event page.

A copy of the Court Reporter's full, verbatim transcript will be posted on this hearing's web page as soon as it becomes available.

For more information, find the event page for this hearing on the DNREC Public Hearings page (de.gov/dnrechearings).