

HEARING OFFICER'S REPORT

TO: The Honorable Shawn M. Garvin
Cabinet Secretary, Department of Natural Resources and Environmental Control

FROM: Lisa A. Vest
Regulatory Specialist, Office of the Secretary
Department of Natural Resources and Environmental Control

RE: Pending permit applications of Bioenergy Development Company, LLC (“BDC”), as follows: (1) Division of Waste and Hazardous Substances Resource Recovery Permit; (2) Division of Air Quality 7 DE Admin. Code 1102 Natural Minor Permit; and (3) Division of Water Wastewater Facility Construction Permits, to permit BDC to expand their existing organic waste composting operation to include an anaerobic digestion system, a wastewater pretreatment system and a biogas upgrading plant located at 28338 Enviro Way, Seaford, Delaware (Hearing Docket No. 2022-P-MULTI-0012)

DATE: September 5, 2023

I. BACKGROUND AND PROCEDURAL HISTORY:

A joint virtual public hearing was held on Wednesday, October 26, 2022, at 6:00 p.m. via the State of Delaware Zoom for Government Virtual Meeting Platform by the Department of Natural Resources and Environmental Control (“DNREC” or “Department”) to receive comment on the following permit applications of Bioenergy Development Company, LLC (“BDC” or “Applicant”) currently pending before the Department at this time:

- One (1) Resource Recovery Permit from the Division of Waste and Hazardous Substances (“DWHS”);
- Two (2) 7 DE Admin. Code 1102 Natural Minor Permits from the Division of Air Quality (“DAQ”); and
- Two (2) Wastewater Facility Construction Permits from the Division of Water (“DW”).

The above permit applications are necessitated by the Applicant's proposal to expand their existing organic waste composting operation to include an anaerobic digestion system, a wastewater pretreatment system and a biogas upgrading plant at BDC's property located at 28338 Enviro Way, Seaford, Sussex County, Delaware ("proposed project").

The Applicant's property, known as the Bioenergy Innovation Center ("BIC"), located at the physical address noted above, is identified as tax parcel: 1-32-11.00-41.00 & 41.02, 1-32-6.00-88.01 & 95.00. The BIC is currently permitted to accept organic waste from approved poultry industry sources for composting. The proposed expansion, as set forth in greater detail below, includes construction of an anaerobic digestion system, a wastewater pretreatment system and a biogas upgrading plant. There will also be an emergency generator. Byproducts from the process would include pipeline-grade renewable natural gas ("RNG") and digestate, which would be dewatered and is proposed for use in the adjacent compost facility or to be marketed, in the future, as a soil amendment (this would require a Distribution and Marketing permit, which is neither part of the Applicant's proposed project, nor one of the applications submitted to the Department by BDC currently pending before the Department at this time). The proposed facility would have the capacity to receive and process up to 250,000 tons per year ("TPY") of permitted organic waste.

The statutory and regulatory authority for the Department's review of the matters contained herein is established and provided for under 7 *Del C.* Chapter 60, as well as the following State of Delaware Regulations:

- 7 DE Admin. Code 1102, *Permits*;
- 7 DE Admin. Code 1301, *Regulations Governing Solid Waste*;
- 7 DE Admin. Code 7103, *Guidance and Regulations Governing the Land Treatment of Waste*; and
- 7 DE Admin. Code 7201, *Regulations Governing the Control of Water Pollution*.

It should be noted that the proposed equipment covered by the DAQ Draft Permits is subject to additional State of Delaware DAQ Regulations, as set forth in DAQ's Memorandum from Jordan Matthews, P.E., to Amy Mann, P.E., dated March 20, 2023. This Memorandum (attached as Appendix "J" to the Department's Technical Response Memorandum ["TRM"] and discussed in greater detail below) lists the following additional regulations incorporated into the DAQ Draft Permits:

- 7 DE Admin. Code 1102, *Permits*;
- 7 DE Admin. Code 1103, *Ambient Air Quality Standards*;
- 7 DE Admin. Code 1104, *Particulate Emissions from Fuel Burning Equipment*;
- 7 DE Admin. Code 1105, *Particulate Emissions from Industrial Process Operations*;
- 7 DE Admin. Code 1106, *Particulate Emissions from Construction and Materials Handling*;
- 7 DE Admin. Code 1108, *Sulfur Dioxide Emissions from Fuel Burning Equipment*;
- 7 DE Admin. Code 1114, *Visible Emissions*;
- 7 DE Admin. Code 1119, *Control of Odorous Air Contaminants*;
- 7 DE Admin. Code 1144, *Control of Stationary Generator Emissions*;
- 7 DE Admin. Code 1145, *Excessive Idling of Heavy Duty Vehicles*;
- 7 DE Admin. Code 1149, *Regulations Governing the Control of Noise*;
- 40 CFR Part 60, Subpart JJJJ, *Standards of Performance for Stationary Spark Ignition Internal Combustion Engines*; and
- 40 CFR Part 63 Subpart ZZZZ, *National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*.

The following section of this Hearing Officer's Report ("Report") provides a detailed description of what each permit application currently pending before the Department would allow with regard to the Applicant's proposed project:

Division of Waste and Hazardous Substances (“DWHS”):

The Resource Recovery Facility Permit, issued by the Department’s DWHS (“DWHS Draft Permit”), would allow BDC to construct an anaerobic digestion system, biogas upgrading plant, and compost facility, located at the above referenced address. The facility would be designed to process poultry industry wastes into digestate, pipeline-grade RNG, and compost. Wastes the facility will accept include poultry litter, hatchery waste, dissolved air flotation (“DAF”) solid cake and liquid sludge, offal, waste activated sludge, agricultural residuals (e.g., soybean husks, etc.) from feed operations, and fats, oils, and greases. As stated previously, the capacity of the proposed facility is 250,000 TPY of permitted organic waste. The original permit application received by DWHS had a limit of 256,000 tons which was inconsistent with the tonnage limits on the other permit applications. DWHS reduced the tonnage limit to reflect the correct 250,000 TPY limit for consistency with the other pending permit applications submitted to the Department for this proposed project and the resulting *revised* Draft Permits.

Division of Air Quality (“DAQ”):

The two 7 DE Admin. Code 1102 Natural Minor Permits, issued by the Department’s DAQ (“DAQ Draft Permits”), will provide permission for BDC to construct one (1) natural gas fired emergency generator with a standby power rating of 1,082 KW (1,451 HP) and four (4) anaerobic digesters with associated biogas upgrade and air pollution control equipment at the above referenced address. The engine used in the proposed generator set is certified to comply with, and will be required to adhere to, the United States Environmental Protection Agency (“EPA”) regulations under the provisions of 40 CFR 60, Subpart JJJJ, and the applicable emissions standards located therein. Construction of the generator will be completed in accordance with the requirements of Permit: APC-2022/0048-CONSTRUCTION.

The Applicant’s facility is proposed to receive and anaerobically digest poultry industry liquid and solid cake DAF waste, poultry litter, and bioreactor sludge from the on-site wastewater plant. Biogas generated during the anaerobic digestion process would be filtered and conditioned to meet the standards required for use in the natural gas pipeline grid.

The digestate produced would be dewatered and proposed for use in the adjacent compost facility. A series of filtration equipment would be used to refine the gas and separate unwanted compounds from the product gas stream. The unwanted gas stream would be combusted by a regenerative thermal oxidizer (“RTO”) or, in the event of equipment maintenance or excessive biogas production, a flare prior to emission into the atmosphere.

Emissions from the regenerative thermal oxidizer associated with the anaerobic digestion process will be permitted to emit 0.017 TPY of Volatile Organic Compounds (“VOCs”), 1.104 TPY of nitrogen oxides (“NO_x”), 0.023 TPY of particulate matter (“PM”), 0.002 TPY of sulfur oxides (“SO_x”), and 0.258 TPY of carbon monoxide (“CO”) by the DAQ Draft Permit. It should be noted that the NO_x limit originally advertised in the Department’s Public Notices in this matter was the limit that was proposed in BDC’s initial application. During the Department’s application review process, DAQ reviewed the calculations provided in BDC’s original application and shared concerns with the Applicant regarding those calculations. Based upon the concerns raised by DAQ, BDC revised the emissions calculations, resulting in a higher NO_x emission rate/limit. DAQ performs air dispersion modeling using a computer program called “AERSCREEN” prior to issuing a permit. AERSCREEN modeling utilizes scientifically sound worker exposure limits and DAQ applies a safety factor to ensure that results are protective of the general population and exposure times. That higher emission rate/limit was used in the AERSCREEN modeling that was performed by DAQ, but due to an oversight, the original lower values were mistakenly included by Department staff in the original DAQ Draft Permit and Public Notice. Accordingly, the NO_x emissions section of the DAQ Draft Permit was updated on September 23, 2022, to reflect a change to the permitted annual air emissions for NO_x from 0.037 TPY to the current 1.104 TPY. The revised NO_x emission limit does not impact the short-term modeling or regulatory applicability review performed by DAQ for this Draft Permit.

Division of Water (“DW”):

The two Wastewater Facility Construction Permits, issued by the Department’s DW (“Draft Water Permits”), would allow BDC to construct (1) an anaerobic digestion system and (2) a wastewater pretreatment system as part of the proposed resource recovery facility.

The anaerobic digestion system and wastewater pretreatment system would include three (3) 0.208-million-gallon (“MG”) pretreatment tanks, and four (4) 1.95 MG fermentation tanks, a Membrane Bioreactor System (“MBR”), a 0.198 MG anoxic tank, a 0.412 MG aerobic reactor, a 0.198 MG ultrafiltration feeding tank, and ultrafiltration and reverse osmosis treatment systems. The treated wastewater will be pumped and hauled to the Seaford wastewater treatment and disposal facility. Additional construction phases may be proposed in the future by BDC to eliminate the need to transport the treated wastewater via truck; however, such proposals are not part of the Applicant’s permit applications currently pending before the Department in this matter. Any future construction activities proposed for the BDC facility would necessitate new permit applications to be submitted by the Applicant to the Department at that time.

The Department processed all the above permit applications received from BDC regarding this proposed project together, and held the Joint Virtual Public Hearing on October 26, 2022, to assure both efficiency and transparency, and to make sure the public was afforded the ability to provide meaningful comment on the proposed project in its entirety, as noted above.

Given the level of public interest on the Applicant’s proposed project, the Department made the decision to issue a Joint Public Notice on August 21, 2022, of (1) the permit applications having been received by the Department; (2) a Joint Virtual Public Workshop (“public workshop”) to be held by DNREC on September 28, 2022; and then (3) a Joint Virtual Public Hearing (“public hearing”) to be held by DNREC on October 26, 2022. On September 23, 2022, DNREC issued an update to the Joint Public Notice to reflect an emission change for one of the Draft DAQ Permits, as noted above, and updated supporting documentation for one of the Draft Water Permits. The September 23, 2022, update to the Joint Public Notice was also translated to both Spanish and Haitian-Creole. The translated Joint Public Notices were made available on DNREC’s website on October 13, 2022. Accordingly, the public hearing was held on October 26, 2022, as noted above.

Department staff, representatives of the Applicant, and members of the public attended the aforementioned public workshop and public hearing events held on September 28, 2022, and October 26, 2022. Both of these events were held virtually on the Zoom platform, resulting in not only a greater level of participation by members of the public (when compared historically to in-person attendance at such events), but also enabling the virtual attendees at both events to use automated closed captioning in their choice of over 20 languages to further enhance understanding of BDC's proposed project. There were approximately 110 virtual participants at the Department's public workshop held on September 28, 2022. The public workshop lasted approximately three (3) hours in duration, during which time members of the public were able to learn greater details about the Applicant's proposed project and ask questions about the same if they wished to do so. The public hearing, subsequently held by the Department on October 26, 2022, had approximately 160 virtual attendees, and lasted approximately two and a half (2 ½) hours in duration.

The Department received a total of 189 comments from the public regarding this matter: twenty-seven (27) comments were received verbally at the time of the public hearing, and the remaining one-hundred-sixty-two (162) comments were received in writing, submitted to the Department either before or after the public hearing, during the time period in which the Hearing Record ("Record") remained open to receive public comment. All comments were posted on the DNREC public hearing web page dedicated to this matter upon their receipt. Proper notice of the hearing was provided as required by law.

Subsequent to the close of the public comment period on December 2, 2022, this Hearing Officer requested a TRM from the Department's subject matter experts in the permitting Divisions identified above. That TRM, dated March 29, 2023, along with additional post-hearing memoranda received from the permitting Divisions in this matter, including, but not limited to, an Addendum TRM dated July 18, 2023, are discussed herein in greater detail below.

II. SUMMARY OF THE PUBLIC HEARING RECORD:

The Record consists of the following documents:

(1) The official verbatim Transcript of Proceedings from Wilcox & Fetzer, Ltd. (Lexitas), generated from the virtual public hearing of October 26, 2022;

(2) An extensive list of DNREC Exhibits, provided by each of the responsible permitting Divisions in this matter regarding the proposed project of BDC, as referenced above, introduced by responsible Department staff at the aforementioned hearing, as follows:

- Following the hearing presentation by Jordan Matthews, P.E., on behalf of the Department's DAQ, DAQ Exhibit Nos. 1-27 were incorporated into the Record;
- Following the hearing presentation by Derrick Caruthers, P.E., on behalf of the Department's DW, Water Exhibit Nos. 1-24 were incorporated into the Record; and
- Following the hearing presentation by Adam Schlachter, Program Manager, on behalf of the Department's DWHS, DWHS Exhibit Nos. 1-32 were incorporated into the Record.

For the sake of brevity (and for the Secretary's ease of review), attached hereto as Appendix "A" is a screenshot of the BDC Exhibit Page ([BDC Exhibits](#)) linked to the Department's main hearing web page ([BDC Hearing Page](#)) exclusively dedicated to this pending permitting matter. Each of the above listed Department exhibits are identified therein and can be accessed individually in .pdf form from the document links provided on the BDC Exhibit Page.

(3) Copy of the Applicant's presentation offered at the time of the public hearing on behalf of BDC by Peter Ettinger and Christine McKirnan, marked as "Applicant's Exhibit No. 1";

(4) Copies of all comments received from the public regarding this matter, totaling 189 in number, as identified on the hearing web page dedicated to this matter under the “Public Hearing Transcript” and “Public Comments” sections, accessible for review via the Main Hearing Page link provided above;

(5) TRM prepared jointly by the Department’s DAQ, DWHS and DW, dated March 29, 2023. The Department’s TRM, along with all of its appendices identified fully herein below, is expressly incorporated into this Report and attached hereto as Appendix “B”;

(6) BDC TRM Correction Memo from Angela Marconi, P.E., DAQ Division Director and Katera Moore, Ph.D., Environmental Justice Coordinator, dated April 26, 2023, providing correction to the original TRM of March 29, 2023, referenced above. The BDC TRM Correction Memo is expressly incorporated into this Report and attached hereto as Appendix “C”;

(7) Addendum TRM from Jordan Matthews, P.E., Derrick Caruthers, P.E., and Adam Schlachter, Program Manager, dated July 18, 2023, providing additional review and response to the supportive public comments received by the Department in this matter. The Addendum TRM is expressly incorporated into this Report and attached hereto as Appendix “D”; and

(8) BDC Addendum Corrective Memo (September 5, 2023), providing additional clarity for the benefit of the Record with regard to clerical corrections made to App. “B”.

The Department’s persons in the aforementioned permitting Divisions primarily responsible for reviewing the BDC permit applications, each of whom helped to develop the Record with the relevant documents in the Department’s files, are as follows:

- On behalf of DAQ: Amy Mann, Environmental Program Administrator; Jordan Matthews, P.E., Engineer;
- On behalf of DW: Jennifer Roushey, Environmental Program Administrator; Derrick Caruthers, P.E., Engineer; and

- On behalf of DWHS: Jason Sunde, Environmental Program Administrator; Adam Schlachter, Program Manager.

As set forth previously herein, the Record generated in this matter indicates that a voluminous number of public comments were received by the Department regarding BDC's proposed project. At the request of this Hearing Officer, the Department's technical experts in the aforementioned permitting Divisions prepared the aforementioned TRM to (1) specifically address the concerns associated with the pending permit applications, as set forth in the public comments received by the Department; and (2) offer conclusions and recommendations regarding this pending permitting matter for the benefit of the Record. The TRM has six Appendices, which include the Department's Draft Permits from each permitting Division, as well as an in-depth DAQ Memorandum of Review (dated March 20, 2023). These documents are labeled in the TRM as Appendices I through VI and will be fully identified in further detail below.

The TRM, dated March 29, 2023, along with all its Appendices, provides a thorough summary of the public comments received by the Department that voiced concern over the Applicant's proposed project and offers detailed responses to the same. I find that the TRM, as provided by the Department's technical experts in the DWHS, DAQ and DW, addresses the areas of concern voiced by the public comments received by the Department in this permitting matter, and provides responses to those comments in a balanced manner, accurately reflecting the information contained in the Record.

Subsequently, upon further review of the Record generated in this matter, the Department's technical experts in the aforementioned permitting Divisions provided an addendum to the TRM of March 29, 2023 ("Addendum TRM"). This Addendum TRM, dated July 18, 2023, specifically acknowledges the receipt of supportive comments received by the Department in this matter, and offers additional responses to the same.

I find that the Addendum TRM, as provided by the Department’s technical experts in the DWHS, DAQ and DW, acknowledges the supportive comments received from the public in this matter, and provides additional responses to the same, accurately reflecting the information contained in the Record. Both the original TRM and the Addendum TRM are discussed in greater detail below.

For further clarity on behalf of the Record being generated in this matter, the following attachments are formally identified and attached to this Hearing Officer’s Report as formal Appendices for the Secretary’s review, and are hereby expressly incorporated herein:

- Appendix “A” – BDC DNREC Exhibits Page (Screenshot), as identified above;
- Appendix “B” – BDC TRM (March 29, 2023), as identified above;
- Appendix “C” – BDC TRM Correction Memo (April 26, 2023), as identified above;
- Appendix “D” – Addendum to original BDC TRM (App. “B”), as identified above;
- Appendix “E” – DWHS (Resource Recovery) *revised* Draft Permit (as referenced in the TRM as “App. I”);
- Appendix “F” – DW (Construction of Anaerobic Digester) *revised* Draft Permit (as referenced in the TRM as “App. II”);
- Appendix “G” – DW (Construction of Pretreatment System) *revised* Draft Permit (as referenced in the TRM as “App. III”);
- Appendix “H” – DAQ (Construction of natural gas-fired emergency generator) *revised* Draft Permit (as referenced in the TRM as “App. IV”);
- Appendix “I” – DAQ (Construction of anaerobic digestion plant) *revised* Draft Permit (as referenced in the TRM as “App. V”);
- Appendix “J” – DAQ Memorandum from Jordan Matthews, P.E., to Amy Mann, P.E. (March 20, 2023), detailing the DAQ’s review of both DAQ permit applications submitted by BDC in this matter; and
- Appendix “K” – BDC Addendum Corrective Memo (September 5, 2023), providing additional clarity for the benefit of the Record with regard to clerical corrections made to Appendix “B” noted above.

III. RECOMMENDED FINDINGS AND CONCLUSIONS:

Currently pending before the Department are the above-described permit applications submitted by BDC, necessitated by the Applicant's proposal to expand their existing organic waste composting operation to include an anaerobic digestion system, a wastewater pretreatment system and a biogas upgrading plant located at 28338 Enviro Way, Seaford, Delaware. I find that the Applicant is required to obtain the aforementioned requisite permits, for the reasons noted above. I further find that BDC's proposed project is subject to various state and federal regulatory requirements, as previously set forth herein, as well as provided for under 7 *Del.C.* Ch. 60.

In reviewing the applicable statutes and regulations, as well as weighing public benefits of this project against potential detriments, the Department's experts in the DWHS, DAQ and DW have concluded that the pending permit applications comply with all applicable federal and state laws and regulations. Upon approval by the Secretary, the finalized Draft Permits that would be issued by the Department would be reflective of the applications submitted in this matter by BDC and would be appropriately conditioned to ensure continued protection of public health and the environment.

The Department's TRM, attached hereto as Appendix "B," and the Addendum TRM, attached hereto as Appendix "D," both acknowledge the comments received from the public concerning the Applicant's proposed project, and provide a thorough and balanced response to the same, accurately reflecting the Record generated in this matter. Some of the public comments received in this matter voiced concerns related to certain aspects of the proposed project that fall under the permitting authority of the Department's DWHS, DAQ and DW, while other comments voiced support for BDC's proposed project.

For the purposes of brevity, this Report defers to Appendices “B” and “D” attached hereto, along with all other previously identified supporting documents that comprise the Record (including, but not limited to, the DNREC public hearing web page dedicated to this matter, where all comments received regarding this proposed project, including the source of each comment, are posted in their entirety), for a comprehensive understanding of the public comments received by the Department in this matter, as well as the Department’s formal responses to the same.

The following section of this Report provides a brief summary of each area of concern, as voiced by the public comments received in this matter, along with the Department’s responses to the same. Again, the entirety of the Department’s responses to the following comments are fully set forth in the aforementioned TRM, which again has been expressly incorporated herein as Appendix “B.”

Comments Received in Opposition to the Proposed Project

1. The proposed project represents a threat to public health

In response to multiple comments expressing concern that the Applicant’s proposed project represents a threat to public health, the Department’s TRM notes that emissions from the facility’s emission points were modeled by the DAQ using the AERSCREEN modeling program in order to calculate the Maximum Downwind Concentration (“MDC”) of the anticipated criteria pollutants, VOCs, and hazardous air pollutants (“HAPs”). The modeling results were compared against pollutant-specific significant impact levels (“SILs”) and health-based screening levels and were determined to meet the Department’s screening criteria. The DAQ screening criteria uses scientifically sound worker safety exposure limits and applies a safety factor to be protective of the general population and longer exposure times. Because the modeling indicates that the health-based screening criteria was not exceeded, there is no indication that the public health, safety, and welfare will be adversely impacted by the proposed process at the Applicant’s facility. Furthermore, the Department will require increased air monitoring around joints for any gas leaks and monitoring of groundwater for potential nutrient migration.

2. A Cumulative Health Impact Analysis should be conducted prior to any permitting determinations being made by DNREC

The Department's TRM notes that such a study is not required under Federal or State regulations. However, under 7 DE Admin. Code 1301, *Regulations Governing Solid Waste*, an Environmental Assessment ("EA") was required and performed as part of the DWHS' Resource Recovery application process. The results of the EA identified those factors that are critical to ensure permits are inclusive when written. In this case, each factor identified by the EA has been included in the Department's Draft Permits. Additionally, as part of the EA, DNREC has developed a baseline of conditions at and around the facility prior to the initial operation of any new equipment. Should the Secretary approve BDC's pending permits, DNREC will be able to determine if any environmental impacts from the Applicant's operation are occurring and will require operational adjustments if needed.

3. The proposed project is located in/adjacent to Environmental Justice Communities

In response to the concerns that the proposed project is located in/adjacent to Environmental Justice ("EJ") communities, the TRM notes that DNREC places a high priority on engaging with stakeholders in a transparent and public process for reviewing permit applications. The Department is particularly interested in hearing concerns from residents who live in EJ communities. In this instance, DNREC heard from EJ advocates regarding concerns about this project and its potential impact on the EJ communities nearby.

Throughout this permitting process, the Department met with EJ advocates on numerous occasions prior to the time of the public hearing, including July 11, 2022; July 13, 2022; September 2, 2022; September 29, 2022; and October 11, 2022. Furthermore, the TRM details additional instances of the Department's outreach efforts that were performed prior to the public hearing held in this matter, including, but not limited to:

- Providing advocates with a handout explaining the Department’s permitting process (in both English and Spanish);
- Outreach attempt to Ebenezer Haitian SDA Church in Seaford, Delaware, to offer support to ensure their congregation’s meaningful participation in the September 28, 2022 community workshop;
- Multiple visits to the area to gain a firsthand understanding of the local community;
- Posting of both the Public Notice and the public workshop presentations on DNREC’s website in both Spanish and Haitian Creole;
- Posting of the Public Notice at the mobile home park proximate to the site in English, Spanish and Haitian Creole;
- Holding the aforementioned public workshop on September 28, 2022, so that members of the public may learn more about this proposed project prior to the public hearing; and
- Enabling attendees of both the virtual public workshop and the virtual public hearing to use automated closed captioning in their choice of over 20 languages via the Zoom virtual platform, thus enhancing the public’s understanding of BDC’s proposed project.

According to the TRM, these are just some of the efforts DNREC undertook to ensure an accessible public process, with particular interest in reaching the Haitian Creole community proximate to the proposed project. The Department’s public workshop and public hearing events, both being held virtually, resulted in not only a greater level of participation by members of the public (when compared historically to in-person attendance), but also an enhanced understanding of the Applicant’s proposed project, given the hearing attendees’ ability to utilize the Zoom platform’s closed captioning of the event, as set forth above. The ability of the public to easily attend such events virtually (free of costs associated with travel to and from in-person meetings), and to receive closed captioning in the language of their choice while learning about various proposed projects and pending matters currently before the Department, are just two of the numerous benefits that have been realized with the use of virtual technology at Department-held events such as these.

Additionally, in order to enhance information sharing between the facility and the surrounding communities in response to public comments, DNREC has added a permit condition to all finalized Draft Permits, requiring BDC to submit a Community Engagement Plan (“CEP”) to the Department for approval. The CEP shall include, at a minimum: (1) a list of communities that will be included in engagement efforts; (2) goals of engagement efforts; (3) a meeting schedule for engagement events; and (4) a plan for meaningful engagement, including appropriate translation services. This condition goes into effect based on the first permit issued to BDC and requires that the plan be finalized prior to an operating permit being approved by the Department.

4. The Department’s regulatory process needs to be transparent and give members of the public a voice in the process. Also, it is inappropriate of DNREC to hold one public hearing covering five (5) permits, as it does not give the public adequate time to review the information

5.

The TRM reiterates the timeline of this particular permitting matter, namely, that beginning on August 21, 2022, DNREC issued a Joint Public Notice of permit applications being received and of a Joint Virtual Public Workshop to be held on September 28, 2022, and of a Joint Virtual Public Hearing to be held on October 26, 2022. On September 23, 2022, DNREC issued an update to that Joint Public Notice to reflect changes that had been made, as previously noted herein. That update to the Joint Public Notice was also translated to Spanish and Haitian-Creole, and those translated Public Notices were made available on DNREC’s website. Subsequent to the public hearing of October 26, 2022, the Record remained open for receipt of public comment through December 2, 2022. The total public comment period was 103 days. During the public comment period, DNREC received 189 comments. As noted previously, twenty-seven (27) comments were submitted verbally at the time of the public hearing, and the remaining one-hundred-sixty-two (162) written comments were received by the Department during either the pre- or post-hearing phases of this permitting matter.

The public notice requirements of 7 *Del.C.* Chapter 60 were met by the Department in this matter. Additional outreach efforts were also conducted by DNREC, including, but not limited to, translation of the Public Notices from English to both Spanish and Haitian-Creole; ample opportunity afforded to the public to review Draft Permits; the holding of a public workshop; and translation services provided for both the public workshop and the public hearing.

Throughout this permitting matter, DNREC coordinated the public process for these pending permits in an effort to streamline the same for the public, and to demonstrate how the Department was reviewing the proposed project holistically.

6. The BDC facility should be evaluated in its entirety and should not be individually permitted

Based upon State of Delaware environmental regulations, each Department Program must issue separate permits to the facility, pursuant to their authority. However, the TRM notes that each DNREC Division works collaboratively with other Programs to ensure that projects are properly coordinated, as evidenced by the aforementioned Joint Public Notice and Public Hearing associated with this present matter.

Similar to landfills that are built in the State of Delaware, resource recovery facilities must complete a separate construction phase and a third-party certification must be submitted to the DWHS for approval before operations can commence. This is in addition to ensuring all other permits necessitated by the proposed project have been applied for or issued prior to operations commencing.

7. The proposed project contributes to Climate Change by generating methane gas to be used as a fuel, and that potential methane leaks will also contribute to Climate Change

The proposed project will anaerobically digest poultry industry liquid and solid cake DAF waste, poultry litter, and bioreactor sludge from the on-site wastewater plant.

Biogas generated during the anaerobic digestion process would be filtered and conditioned to meet the standards required for use in the natural gas pipeline grid. The TRM notes that, while methane can be obtained from fossil fuels, the methane created from anaerobic digestion is biogenic.

Methane generation occurs naturally as organic wastes decompose. Harnessing this methane for a beneficial use may be a feasible strategy for low or zero carbon energy in the future. It also supports the strategy as set forth in Delaware's Climate Action Plan, specifically, to increase renewable natural gas production and incentivize markets for its use as a fuel. Finally, while methane does have a higher global warming potential when compared to carbon dioxide, it also has a shorter life in the atmosphere.

Additionally, the TRM notes that BDC's proposed project will also be equipped with a computerized maintenance management system for preventative and routine maintenance. The facility will also be equipped with an automated methane detection system. The lines will be tested on a reoccurring basis to prevent methane leaks. The finalized *revised* DWHS Draft Permit includes additional language requiring BDC to conduct monthly real-time monitoring of the joints and potential leak areas to ensure that seals are operating properly.

8. The proposed project poses a fire and explosion risk

The TRM notes that Section 112(r) of the Federal *Clean Air Act* requires facilities that use extremely hazardous substances to develop a Risk Management Plan that identifies (1) the potential effects of a chemical accident; (2) steps the facility is taking to prevent an accident; and (3) spells out emergency response procedures should an accident occur. Additionally, DNREC has an Accidental Release Prevention ("ARP") group that is responsible for facility compliance with implementation of the Federal Risk Management Program ("RMP") Rule. Applicability of the ARP program is determined after construction of a facility. If permitted, BDC will be evaluated to see if their process requires compliance with the RMP program. This determination would be made upon completion of construction and, if applicable, would be resolved before the *revised* finalized DWHS Draft Permit is changed to authorize operation of the facility.

Furthermore, the TRM notes that methane and hydrogen sulfide detectors will be placed throughout the proposed facility. These detectors will continuously monitor for potentially dangerous levels of gas at the facility. The proposed project will follow emergency shutdown stop (“ESTOP”) procedures when monitoring indicates a potential issue.

If an emergency shutdown is initiated, all biogas from the digesters will be routed to the flare until normal operation conditions can resume. Additionally, the facility is equipped with a fire suppression system that will include a 66,000-gallon water tank. Site plans for the proposed facility have been approved by the Delaware State Fire Marshall’s Office. As noted previously, the *revised* DWHS Draft Permit includes additional language requiring BDC to conduct monthly real-time monitoring of the joints and potential leak areas to ensure that seals are operating properly.

9. The proposed project will increase truck traffic

The Department does not regulate traffic. The lead state agency overseeing traffic flow and volume in the State of Delaware is the Delaware Department of Transportation (“DelDOT”). According to the Applicant, the increase in traffic on Seaford Road will be less than 1.5%. DelDot has approved the entrance permit for an anticipated average daily traffic of 166 vehicles.

10. Activities associated with the proposed project will result in increased air emissions and associated negative health impacts, and the DAQ Draft Permits do not consider emission from all of the activities at the facility

In response, the TRM notes that the Department conducts thorough technical reviews of all permit applications to ensure that the proposed sources comply with all State and Federal air quality rules and regulations. As noted previously herein, the requested permitted emissions were modeled by DAQ using the AERSCREEN modeling program in order to calculate the Maximum Downwind Concentration (“MDC”) of the anticipated criteria pollutants, VOCs, and HAPs.

Those modeling results were compared against pollutant-specific SILs and health-based screening levels and were determined to meet the Department's screening criteria. The TRM further notes that, since the proposed project is located at a natural minor source, each emission or process unit is permitted individually under 7 DE Admin. Code 1102, *Permits*. The facility wide emissions, including both existing and proposed stationary point sources, are considered in the associated technical memorandum from DAQ (attached hereto as Appendix "I"), and the same indicate that the facility is a true natural minor source. The potential to emit and emission limitations for the facility's emission sources were based on worst case scenarios and determined using a combination of EPA guidance documents, appropriate emission factors, and other information submitted in the Applicant's DAQ permit applications.

Moreover, the existing compost plan continues to operate under the requirements of **Permit: APC-2016/0093-Operation (Amendment 03)**. No changes to the compost plant's operations have been proposed to, or approved by, DNREC. Any changes in operation at the compost facility, would be contingent upon DNREC receiving and approving a DAQ permit application to do so and the *revised* DWHS Draft Permit reflects this requirement. It should be noted that the facility's existing emergency generator has a rated capacity below the threshold for which a DAQ permit is required.

11. The DAQ permit application does not meet all of the regulatory requirements of 7 DE Admin. Code 1102, and the technical requirements/controls in the DAQ Draft Permits are insufficient to address air pollution from the project

A thorough technical review of all pending permit applications were conducted by the Department's permitting Divisions. The TRM notes that several requests for additional information were made to BDC, as well as independent research performed by the DAQ, to ensure the accuracy of the information submitted. It should be noted that the Draft Permits and associated technical memorandum were not developed by the DAQ until the required information was obtained. DNREC considers the BDC pending permit applications administratively and technically complete.

With regard to the comments suggesting that the technical requirements and controls in the DAQ Draft Permits are insufficient, the TRM notes that the DAQ Draft Permit for the anaerobic digestion system contains emission limits, operating limits, methods of demonstrating compliance, and testing requirements, all of which address the general concerns expressed in the comments received. Those general concerns include, but are not limited to:

- Odor and opacity standards that are coupled with requirements to conduct corresponding surveys and observations and instruction on corrective action to be taken in the case that standard-exceeding conditions are observed;
- Operating limitations on the volume of biogas combusted by the proposed control equipment;
- Operating limitations on the instances in which the proposed control equipment may operate;
- Monitoring activities and operating standards related to the proposed control equipment; and
- Testing Requirements, to verify compliance with the draft permit emission limits for the regenerative thermal oxidizer and the exhaust fans from the solid feedstock receiving area.

With respect to specific concerns raised in the comments regarding insufficiency of the technical requirements and controls contained in the Department's Draft Permits, the TRM notes the following:

- While DNREC believes the stringency of the visible emission observation requirements are adequate and consistent with similar sources, they have been strengthened in the *revised* DAQ Draft Permits;
- Monitoring language in the *revised* Draft Permits has also been strengthened to require that all equipment used for the purposes of monitoring air pollution control equipment pollutant breakthrough have a sensitivity capable of detecting the pollutant's minimum breakthrough concentration;

- The *revised* DAQ Draft Permits also includes language to restrict the combined regenerative thermal oxidizer and flare NO_x emissions to less than five (5) TPY to add clarity regarding Minor New Source Review applicability; and
- While the DAQ does not consider dust generated by vehicular traffic or construction activity to be “trade waste” under the definition in 7 DE Admin. Code 1101, the language used in the DAQ Draft Permits was written to be as encompassing as possible. Despite the focus on stationary, point sources of air pollution, the DAQ Draft Permits also included conditions limiting other activities, such as the idling of heavy-duty vehicles and the potential generation of particulate matter from construction and materials handling, where there was a regulatory basis to do so.

12. Chemicals from the process may be released into the groundwater and surface water, and a release of these chemicals will degrade water quality in the receiving watersheds

The TRM responds to this concern by noting that the review of the Applicant’s engineering report confirms that the water collected in the building and equipment drains will be sent to the wastewater treatment portion of the system, with the intention to eliminate unpermitted discharge of water.

The proposed design incorporates a spill pad at the liquids receiving area that can contain 2,304 gallons and will connect to a trench drain that will route back to a sump that will be connected to the wastewater treatment system in order to handle potential maximum spill volumes. It is proposed that all process wastewater generated at the facility will be pretreated onsite and subsequently disposed of at the Seaford Wastewater Treatment Plant (“WWTP”) for disposal. The facility will be required to generate a Storm Water Plan for DNREC review and approval and obtain National Pollutant Discharge Elimination System (“NPDES”) Industrial Storm Water General Permit coverage prior to going into operation to assure storm water pollution best management practices (“BMPs”) are in place to mitigate the potential for polluted storm water runoff from the facility.

In addition to the above, the TRM notes that, in consideration of the public comments received, the DWHS has *revised* the DWHS Draft Permit to include ongoing groundwater monitoring. As part of the initial hydrogeological assessment, DNREC required that five (5) wells be installed to determine a baseline impact. BDC will be required to provide ongoing monitoring of these five wells on a semi-annual basis to ensure that no migration of nutrients occurs off site.

13. The Seaford Wastewater Treatment Plant (“WWTP”) may not be able to handle the additional wastewater generated from the proposed treatment process. Additionally, questions were raised as to whether the Seaford WWTP would be able to process industrial waste that will be generated from the proposed process

In response to these concerns voiced by the public, the Department’s TRM notes that the DW Draft Permit for the wastewater pretreatment membrane bioreactor (“MBR”) system has a Special Condition that states as follows:

Construction of the wastewater Membrane Bioreactor (“MBR”) pretreatment system shall not begin until the permittee has submitted a letter from the wastewater treatment facility that will be receiving the treated effluent confirming the following: (1) that the receiving facility will accept responsibility for treating and disposing of the wastewater, and (2) that the receiving facility has capacity to accept the treated effluent and without causing violations of the receiving facility’s disposal permit or 7 Del.C. Chapter 60 and the regulations promulgated thereafter.

Additionally, the City of Seaford has also provided documentation stating that 60,000 gallons per day of capacity has been reserved at the Seaford WWTP for the BDC proposed project. Moreover, the DWHS Draft Permit also requires this agreement be in place prior to the operation of the facility.

14. Baseline water analysis and tests should be conducted prior to issuing a permit.
Also, the process uses a large amount of water for treatment of the wastewater

The TRM notes that, under the aforementioned Waste Regulations, a Hydrogeologic Assessment was required, and the results were included as part of the DWHS permit application package. The Hydrogeologic Assessment required that five (5) wells be installed around the perimeter of the BDC property to establish a baseline for groundwater analysis. The Applicant was instructed to keep these wells in place, and they will be sampled quarterly to analyze for any potential nutrient migration as a result of operations. If permits are granted in this matter, DNREC can determine if any environmental impacts from the operation are occurring and can require operational adjustments if needed.

With regard to concerns voiced about the large amount of water used for treatment of the wastewater, the TRM notes that Section 2.3.1 of the Operation Plan refers to the “On-Site Water Supplies” for this proposed project. Specifically, the facility is served by an existing private well that provides water for both potable uses and fire protection. Up to an estimated 35,000 gallons per day of water from existing on-site wells is required for the operations of the facility, and a portion of treated wastewater is also recycled for use in the facility. During the testing, start-up and commissioning of the facility, stormwater stored in the on-site lagoons is expected to be used and recycled through the facility to eliminate the need for fresh water. The proposed water usage from the wastewater treatment process utilizes up to 35,000 gallons per day of water from existing on-site wells. The Department considers this to be a minor groundwater withdrawal, being below the 50,000 gallons per day requirement for a water allocation permit from the Department, pursuant to 7 DE Admin. Code 7303, and is authorized by the well construction permit for the existing well.

15. The site must be closely inspected and regulated due to the proximity of residences and sensitive water receptor areas

In response, the TRM notes that DNREC staff regularly inspects the construction of wastewater treatment facilities to ensure they are built in accordance with the approved Plans and Specifications. Any deviations from the approved Plans require DNREC approval and the submission of an As-built plan that shows the changes from the original approved Plans. Additionally, any permits that are issued by DNREC will require follow-up inspections at the facility on a regular basis to ensure that the requirements of all permits are being met.

16. The site design and permits for controlling runoff and stormwater should go beyond minimum requirements

The TRM notes that modifications were made to the outlet structure of the stormwater facility that serves the composting operation, including the installation of aerators designed to enhance storage capacity and minimize surface water discharge through evaporation of stormwater collected in the system.

The proposed stormwater management design for the stormwater facility that serves the former pelletizing plant will consist of one proposed and one existing wet extended detention pond designed to reduce the peak amount of stormwater runoff. The wet pond facility design incorporates requirements from the Green Technology Best Management Practices Design Manual to provide stormwater storage of 48 hours of detention time for the 1-year storm and management of the 100-year event. Additionally, BDC will be required to generate a Storm Water Plan for DNREC review and approval and obtain NPDES Industrial Storm Water General Permit coverage prior to going into operation, as previously noted herein, to assure storm water pollution BMPs are in place to mitigate the potential for polluted storm water runoff from the facility.

17. Extreme rainfall events should be considered in site design and approval

The TRM notes that BDC's engineering report states a NPDES general permit for industrial stormwater is in place for the facility and that the Applicant has submitted a Notice of Intent to implement system enhancements. The wet pond facility was designed to provide stormwater storage of 48 hours of detention time for the 1-year storm and management of the 100-year event. Pond freeboard is also required in the design and can be utilized for temporary storage of stormwater during an extreme rainfall event.

18. Out of State waste should not be accepted for use at the facility

In response, the Department notes in the TRM that the United States Constitution retains to Congress the power to regulate commerce amongst states. Because there are Constitutional implications for government actions that seek to burden interstate commerce, government must demonstrate sufficient reasons to impose those burdens. There are currently no regulatory provisions related to limiting the origins of waste or products (as applicable) used within the proposed facility. As a result, a permit condition limiting the processing of waste at the proposed facility to only waste generated within the State of Delaware is not Constitutionally allowed.

19. The waste that would be treated by the proposed project should be treated in alternate ways

The TRM notes that, at the present time, the wastes being produced by the industries served by the proposed project are either being land applied (via Nutrient Management with the Department of Agriculture), in agricultural fields or landfilled as waste. With land application, the nutrients from this material have the ability to migrate into Delaware's watersheds.

In the case of landfilling, gasses are generated and managed by the gas collection system at Delaware Solid Waste Authority ("DSWA") landfills. The proposed process of digestion in conjunction with the compost facility that is part of this site creates a more stable nutrient product that is better for Delaware's watersheds.

Additionally, BDC plans to market the compost (which contains the digestate) to a mix of in-state and regional locations, supported by letters of intent to buy the material once it's available. The more stable compost material will be utilized and/or exported to areas where it is needed rather than directly discharged as a raw waste product to agricultural lands or sent to a landfill, reducing the burden on regional watersheds.

20. There is a lack of permits and markets for the products associated with the anaerobic digestion process

The TRM notes that BDC has provided a number of markets which DNREC has verified as viable opportunities to purchase the compost being produced from the digestate that will come from the anaerobic digesters. While the current primary use of digestate is as a wetting agent utilized in the production of compost, other end uses may be approved by DNREC in the future. Based on analytical data submitted to DNREC, the digestate contains nutrients essential for plant growth. Thus, the digestate could be utilized as a fertilizer in additional end uses, including but not limited to, application onto farm fields, growing turf grass, at nurseries, or other DNREC approved end uses.

As noted previously, the land application of waste products like BDC's digestate are regulated under 7 DE Admin. Code 7103, *Guidance and Regulations Governing the Land Treatment of Waste*, Part V, *The Land Treatment of Waste Products*. Specifically, Section 162.1 states:

This document provides regulations for all people engaged in the handling, marketing or agricultural utilization of non-hazardous waste products generated by industrial or commercial activities which will be utilized in agricultural or horticultural setting as a fertilizer or soil amendment agent.

Prior to the marketing and utilization of the aforementioned digestate as a fertilizer or soil amendment, BDC will be required to obtain a DNREC-issued Distribution and Marketing permit under the above-referenced regulations. While the Applicant has not yet applied for a permit allowing for the distribution and marketing of their digestate, BDC has discussed applying for the requisite DNREC permit(s) at some point in the future.

Additionally, as part of DNREC's permitting process of the digestate, BDC would be required to provide proof of a market to satisfy requirements in the DWHS Draft permit, as well as any additional requirements from the Department's DW.

21. The citizens of Delaware will be forced to pay to clean up any environmental pollution associated with BDC's operations

The Department's TRM notes that, in order to protect the citizens of Delaware from failures of solid waste facilities, the State of Delaware's *Regulations Governing Solid Waste* (7 DE Admin. Code 1301, as referenced above) require that all permitted facilities carry financial assurance. Financial assurance is designed to provide DNREC with funding that can be accessed in the event the company fails and DNREC has to clean up the site. The Closure Plan created between BDC and DNREC outlines the different aspects of the facility that may need to be cleaned up and the costs associated with it. The Closure Plan must be updated annually and adjusted to keep up with inflation and other factors that could impact potential cleanup costs.

Comments Received in Support of the Proposed Project

As noted previously, the Department also received numerous public comments in support of the Applicant's proposed project. The following section of this Report identifies the notable areas of public comment received in this matter expressing support for the proposed project. The entirety of the Department's review and responses to the following comments are fully set forth in the aforementioned Addendum TRM of July 18, 2023, which again has been expressly incorporated herein as Appendix "D."

1. Anaerobic digestion is a proven technology with a track record of safety

The Department's Addendum TRM notes that anaerobic digestion has been used to produce energy in Europe, Asia, and the United States since World War I.

Furthermore, such technology is supported under both state and federal environmental regulations and fits into the current regulatory structure that the Department uses to protect human health and the environment.

2. Anaerobic digestion is a better way to manage agricultural waste in the Delmarva Peninsula, and will reduce nutrient pollution in waterways when compared to current methods, including land application

In response to these comments, the Department notes that the proposed anaerobic digestion facility will afford the Delmarva Peninsula an alternative disposal method to land application, and thus may result in a reduction in nutrient contributions to Delaware's watersheds and waterways.

3. The proposed project will create renewable energy and soil amendments from agricultural waste

With regard to these comments, the Department notes that Delaware's Climate Action Plan includes a strategy to increase renewable natural gas production that includes an action to review opportunities for anaerobic digestion projects to transform agricultural waste into renewable natural gas. Currently, solid waste facilities in the State of Delaware, including landfills, are capturing methane and other gases for renewable energy use. The process of collecting and purifying natural gas from organic decomposition opportunities allows Delaware to reduce reliance on fossil fuel sources of natural gas and reduces the overall need to extract these resources from the earth.

As previously noted herein, all of the public comments received by the Department regarding BDC's pending permit applications have been incorporated into the Record generated in this matter and are available for review in their entirety on the Department's hearing web page dedicated to this hearing matter.

In consideration of the public comment received in this matter, revisions were made to the original proposed Draft Permits developed by the Department's subject matter experts in DWHS, DAQ and DW, as documented in the Department's TRM (attached hereto as Appendix "B") and as summarized herein above. Should the Secretary approve the issuance of these finalized *revised* Draft Permits, the permittee will be required to update their operations plan accordingly. Furthermore, all revisions to the original proposed Draft Permits were made to either add compliance monitoring conditions or render the Draft Permits as more restrictive than those originally advertised, based on the comments received from the public in this matter. Again, the finalized *revised* Draft Permits from the Department's DWHS, DAQ and DW have all been formally incorporated into the Record generated in this matter, and are expressly incorporated herein, as noted above.

I find that the Department's TRM and the Addendum TRM, identified and attached hereto as Appendices "B" and "D," respectively, offer a thorough and balanced review of all aspects of the Applicant's pending applications, address the public comments germane to the subject matter of the aforementioned public hearing held by the Department in this matter, and provide full responses to the same in a balanced manner, accurately reflecting the information contained in the Record.

The Record developed in this matter indicates that the Department's experts in the DWHS, DAQ and DW have concluded that all permit applications associated with the proposed expansion of the BIC were reviewed and determined to be technically and administratively complete, and that the same comply with all statutes and regulations that govern such permitting actions. Furthermore, the original Draft Permits have been *revised*, in consideration of the public comments received, to be protective of human health and the environment. The Department's experts have weighed public benefits of the issuance of the finalized *revised* Draft Permits against potential detriments and have recommended approval of the same, relevant to BDC's proposed facility expansion under their Program oversight, as detailed in the Record established in this matter.

The mission of DNREC is to engage stakeholders to ensure the wise management, conservation, and enhancement of the State's natural resources; protect public health and the environment; provide quality outdoor recreation; improve quality of life; lead energy policy and climate preparedness; and educate the public on historic, cultural, and natural resource use, requirements, and issues. Furthermore, it is the policy of DNREC that no person shall, on the grounds of race, color, national origin, sex, age, or disability, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance, as provided by Title VI of the *Civil Rights Act of 1964*, the *Rehabilitation Act of 1973*, the *Civil Rights Restoration Act of 1987*, and all other related nondiscrimination laws and requirements.

The Record generated in this matter reflects that the Department's subject matter experts in each of the aforementioned permitting Divisions have consulted with DNREC's Environmental Justice Coordinator throughout this permitting process, have reviewed the Record generated in this matter in the light of potential Environmental Justice issues existing in the area surrounding the Applicant's facility, and have determined that the issuance of the finalized *revised* Draft Permits is consistent with the Department's Environmental Justice policy.

I find and conclude that the Record supports approval of the pending applications submitted in this matter to the Department's DWHS, DAQ and DW by BDC, as set forth above. If approved, the finalized *revised* Draft Permits to be issued by the Department would be reflective of the applications submitted by BDC, and consistent with the finalized *revised* Draft Permits prepared by the Department's experts in the permitting Divisions noted above, to ensure continued protection of public health and the environment, and consistent with the Record developed in this matter.

Accordingly, this Report recommends the issuance of the following State of Delaware permits, necessitated by the Applicant's proposal to expand their existing organic waste composting operation to include an anaerobic digestion system, a wastewater pretreatment system and a biogas upgrading plant at BDC's property located at 28338 Enviro Way, Seaford, Sussex County, Delaware, consistent with the finalized *revised* Draft Permits prepared by the Department's subject matter experts, and consistent with the Record developed in this matter:

- One (1) Resource Recovery Permit, to be issued by the Department's DWHS;
- Two (2) 7 DE Admin. Code 1102 Natural Minor Permits, to be issued by the Department's DAQ; and
- Two (2) Wastewater Facility Construction Permits, to be issued by the Department's DW.

Further, the Department concludes and specifically directs the following:

1. The Department has jurisdiction, as provided for under *7 Del.C. Ch. 60*, and all other relevant statutory authority, to make a final determination on the aforementioned pending permit applications submitted by the Applicant after holding a public hearing, considering the public comments, and all information contained in the Record generated in this matter;
2. The Department's permitting process included a significant amount of outreach to and from the community, provided proper public notice of the aforementioned permit applications submitted by the Applicant, and of the public hearing held on October 26, 2022, and held the hearing to consider any public comments that may be offered on the applications, in a manner required by the law and regulations;

3. The Department considered all timely and relevant public comments in the Record, as established in the Department's TRM, dated March 29, 2023, the Addendum to that TRM, dated July 18, 2023, and all TRM Appendices, including, but not limited to, the aforementioned finalized *revised* Draft Permits, all of which have now been expressly incorporated into the Record generated in this matter;
4. The Department has carefully considered the factors required to be weighed in issuing the permits necessitated by the aforementioned applications submitted by the Applicant, and finds that the Record supports approval of the same;
5. Furthermore, the Department has consulted with DNREC's Environmental Justice Coordinator throughout this permitting process, has reviewed the Record generated in this matter in the light of potential Environmental Justice issues existing in the area surrounding the Applicant's facility, and has determined that the issuance of the above-referenced permits is consistent with the Department's Environmental Justice policy;
6. The Department shall issue to the Applicant the aforementioned permits as set forth above, consistent with the finalized *revised* Draft Permits prepared by the technical experts in the Department's DWHS, DAQ and DW, and consistent with the Record developed in this matter:
7. Moreover, said permits shall include all conditions as set forth in the Department's TRM, along with the aforementioned finalized *revised* Draft Permits, to ensure that Delaware's environment and public health will be protected from harm;
8. The Department has an adequate Record for its decision, and no further public hearing is appropriate or necessary; and

9. The Department shall serve and publish its Order on its internet site.

/s/Lisa A. Vest
LISA A. VEST
Regulatory Specialist

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Appendix "A" – BDC DNREC Exhibits Page (Screenshot)

Appendix "B" – BDC TRM (March 29, 2023)

Appendix "C" – BDC TRM Correction Memo (April 26, 2023)

Appendix "D" – Addendum TRM (July 18, 2023)

Appendix "E" – DWHS (Resource Recovery) *revised* Draft Permit (as referenced in the TRM as "App. I")

Appendix "F" – DW (Construction of Anaerobic Digester) *revised* Draft Permit (as referenced in the TRM as "App. II")

Appendix "G" – DW (Construction of Pretreatment System) *revised* Draft Permit (as referenced in the TRM as "App. III")

Appendix "H" – DAQ (Construction of natural gas-fired emergency generator) *revised* Draft Permit (as referenced in the TRM as "App. IV")

Appendix "I" – DAQ (Construction of anaerobic digestion plant) *revised* Draft Permit (as referenced in the TRM as "App. V")

Appendix "J" – DAQ Memorandum from Jordan Matthews, P.E., to Amy Mann, P.E. (March 20, 2023), detailing the DAQ's extensive review of both DAQ permit applications submitted by BDC

Appendix "K" - BDC Addendum Corrective Memo (September 5, 2023), providing additional clarity for the benefit of the Record with regard to clerical corrections made to Appendix "B" noted above.