



## Division of Surface Water Response to Comments

**Project: Emerald BioEnergy, LLC Draft NPDES Permit Renewal  
Ohio EPA ID #: 4IN00204\*BD**

### **Agency Contacts for this Project**

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Ohio EPA held a public hearing on December 10, 2020, regarding Emerald BioEnergy draft National Pollutant Discharge Elimination System (NPDES) permit renewal. This document summarizes the comments and questions received at the public hearing and during the associated comment period, which ended on December 17, 2020.

**Please note Emerald BioEnergy no longer accepts sewage sludge or biosolids as feedstock for anaerobic digester. Therefore, the biosolids rules no longer apply to this portion of the facility. However, biosolids remain in the storage ponds on the property. The permit updates the biosolids storage and land application requirements and includes conditions to bridge the transition of operations.**

The facility is required to land apply treated digestate according to this permit until a land application management plan (LAMP) and permit to install (PTI) are approved for the land application of the non-biosolid effluent regulated under Ohio Administrative Code 3745-42-13. When all biosolids are removed from the storage ponds and a LAMP and PTI have been issued, this permit may be terminated.

Ohio EPA reviewed and considered all comments received during the public comment period. By law, Ohio EPA has authority to consider specific issues related to protection of the environment and public health. Often, public concerns fall outside the scope of that authority. For example, concerns about zoning issues are addressed at the local level. Ohio EPA may respond to those concerns in this document by identifying another government agency with more direct authority over the issue.

In an effort to help you review this document, the questions are grouped by topic and organized in a consistent format.

**Odors**

**Comment 1:**           **At what levels do odors reach the level of “nuisance” and how does Ohio EPA objectively and quantifiably measure these levels?**

**Response 1:**           Odors from anaerobic digesters and their impact can be subjective in nature and may vary widely depending on numerous factors, including but not limited to environmental conditions, feedstock, facility design and management, and how sensitive a person is to a particular odor. Ohio EPA’s Division of Surface Water (DSW) determines an odor associated with biosolids to be a nuisance if the odor is persistent offsite, pervasive, and strong enough to interfere with the reasonable use of property or is injurious to public health.

Ohio EPA DSW staff who perform odor surveys of the area around Emerald BioEnergy have historically met periodically in the field together to train and calibrate on odor and the area. Gas meters are not practical to use in this situation as they typically only monitor a single compound which may not be present and can be logistically difficult to use in the field. Ohio EPA is currently evaluating the use of monitors such as the Nasal Ranger to assist inspectors during odor surveys.

**Comment 2:**           **Ohio Administrative Code (OAC) 3745-40-07(A) says that biosolids shall be stored in a manner that does not create nuisance odors. What is Ohio EPA’s plan to abate the nuisance odors caused by the storage ponds at Emerald that residents have complained about for years?**

**Response 2:**           In the approved permit, the permittee must submit to Ohio EPA an Odor Mitigation Plan (OMP) for the purpose of reducing nuisance odors. Items to be included in this plan are outlined in the permit renewal. Should a nuisance odor be generated at the facility, a storage facility, or a beneficial use site, Emerald BioEnergy must do all necessary corrective actions to eliminate nuisance odors, including the installation of appropriate odor control equipment in accordance with an approved Permit-to-Install (PTI), which shall be immediately implemented.

Ohio EPA will perform site visits to evaluate odors. If the visits verify nuisance odors that consistently occur off site of the facility, then Ohio EPA will take further action.

**Comment 3:** **Is it true that Ohio EPA does not regulate air pollution or noxious odors related to biosolids? What regulatory body is responsible for air pollution and significant nuisance odors?**

**Response 3:** Nuisance odors related to biosolids are regulated by Ohio EPADSW.

**Comment 4:** **What odor control equipment is planned for corrective action of nuisance odors and what is the status of PTI of such equipment?**

**Response 4:** To date, Ohio EPA has not received an application for new odor control equipment. New odor control equipment may be needed if a nuisance odor is detected after Emerald's OMP and corrective actions are implemented.

**Comment 5:** **Will the OMP report required by March 1 every year be available to the public or submitted as an official Ohio EPA document on the eDocs site?**

**Response 5:** Yes, the OMP will be a public record and available through [Ohio EPA's eDocument Search](#).

**Comment 6:** **What is Ohio EPA's plan to investigate odor complaints since the odors from Emerald are usually worse after hours and on weekends?**

**Response 6:** Ohio EPA COVID-19 restrictions have been revised, and Ohio EPA DSW staff are resuming inspections and odor checks at and around the Emerald facility. These checks will be timed as much as possible to occur when weather conditions may contribute to nuisance odors. Odor checks and complaint inspections for all facilities, including Emerald, are usually unannounced unlike some other compliance inspections. Ohio EPA has not found a facility-specific reason why odors may be worse after hours unless there is active mixing of the storage ponds during that time. Weather conditions such as dense air in the evening and early morning may be a contributing factor to stronger odors during these times.

Ohio EPA has investigated off-site odors in the early mornings and after work hours after complaints have been received but has not noted nuisance odors during these visits. Ohio EPA will perform inspections based on complaints, weather conditions, facility operations, and the agency's COVID-19 inspection protocols.

**Comment 7:**        **The draft permit says that Renergy has 30 days to submit a plan for the odor and noise. Can you please tell me why this would be allowed when Ohio EPA is aware of the numerous odor and noise complaints?**

**Response 7:**        The draft permit has a compliance schedule that requires submittal of a plan to address odors within two months of permit issuance. Once this plan is reviewed by Ohio EPA, Renergy will have 30 days to make any necessary changes (see page 21 of the draft permit). Ohio EPA does not regulate noise so a plan to address noise is not required by this draft permit. Noise complaints should be addressed at the local level.

Ohio EPA performed 16 odor surveys of the area surrounding Emerald over a four month period at various times of day and detected off-site nuisance odors due to Emerald BioEnergy on one occasion. Because nuisance odors appeared to be abated following the inspection, no further action by the company was required. However, continued complaints have prompted Ohio EPA to require an OMP be developed and implemented. Requiring the OMP through a compliance schedule in the permit sets forth enforceable timeframes. It is standard practice to allow the permittee time to develop any required plans.

**Comment 8:**        **Regarding the odor mitigation plan required by the permit, do citizens have access to previous plans? How are odor complaints handled and who decides that the odor must be mitigated?**

**Response 8:**        Odor monitoring and managements plans were submitted to Ohio EPA Division of Air Pollution Control as part of the air permitting process. These plans are available upon request. The OMP required in this permit is the first OMP that has been required by Ohio EPA DSW. This OMP is more specific to biosolids related odors and requires mitigation measures to be implemented. Please see Responses 1, 2, and 6 regarding odor checks and potential mitigation.

**Comment 9:**           **Why are there no requirements in place to cover the ponds to control odor?**

**Response 9:**       Ohio EPA's current regulations regarding the design of biosolids storage facilities do not mandate that they be covered.

**Health and Safety Concerns**

**Comment 10:**       **Several commenters expressed concerns about possible impacts to their health from the odors emitted by Emerald and the land application of biosolids generated by Emerald.**

**Response 10:**     Regarding the safety of the land application of Class B biosolids, Ohio EPA bases its permits on applicable rules, regulations, science, and data. As noted previously, Emerald no longer receives sewage sludge as a feedstock. Past concerns about the use of sewage sludge as a feedstock at Emerald revolved around the possibility of the presence of disease-causing organisms called pathogens. Any biosolids that remain in the storage ponds at Emerald were treated by the anaerobic digestion process. This is a recognized treatment technology used to eliminate pathogens so that biosolids are safe for land application. Site restrictions followed during land application of these biosolids prevent human contact with the small volume of pathogens that may remain in Class B biosolids. Concerns have also been raised about contaminants that may be present in the sewage sludge that is treated by anaerobic digesters. To date, research and risk assessments have shown that the low concentrations of contaminants that may be present in biosolids have not caused adverse effects to human health or the environment. U.S. EPA continues to assess emerging contaminants, including those that may be present in biosolids, and is updating regulations and guidance as needed. Overall, the beneficial use of the biosolids that remain in the storage ponds is protective of human health and the environment when biosolids are treated and managed in accordance with regulations. Anyone who has health concerns should discuss them with a medical physician.

- Comment 11:** Commenters asked about the possible presence of COVID-19 in the sewage sludge that was received by Emerald and if testing is required.
- Response 11:** U.S. EPA and the World Health Organization (WHO) have indicated there is no evidence to date that COVID-19 virus has been transmitted via sewage systems, with or without wastewater treatment. You can find more information here: <https://www.epa.gov/coronavirus/can-i-get-covid-19-wastewater-or-sewage>.
- Comment 12:** What testing is completed by Ohio EPA to ensure Per- and polyfluoroalkyl substances (PFAS) and Perfluorooctanoic acid (PFOS) levels are within acceptable ranges for biosolids? Does Ohio EPA plan to add this testing in the future? Should permits be issued if a known toxin is present, but the Ohio EPA has not established testing?
- Response 12:** Regulation-compliant biosolids application as a soil amendment and fertilizer has been practiced for decades with no documented harm to human health or the environment. The Clean Water Act requires U.S. EPA to identify emerging pollutants that may be found in biosolids, determine whether pollutants found present risks, and to regulate those pollutants that pose unacceptable risks. U.S. EPA is continually performing risk assessments on pollutants that may be present in biosolids (including PFAS). Ohio EPA closely follows U.S. EPA's progress with risk assessments and will update our rules accordingly if U.S. EPA recommends additional requirements for the treatment, sampling, and land application of biosolids. Information on U.S. EPA's risk assessments of pollutants in biosolids can be found [here](#).
- Comment 13:** Will ground water sampling include testing for PFAS and PFOA? If not, please explain why.
- Response 13:** The draft permit does not include monitoring ground water for PFAS. The primary purpose of the ground water monitoring requirements in the draft permit is to determine if there is any migration of material from the ponds through the clay liners. If any parameters are detected in the ground water above established background levels, then corrective actions to identify the cause and correct the issue, will be required. The parameters included in the permit are indicator

parameters that have been demonstrated to be the first indicators of a release since they are the most mobile within ground water.

**Comment 14:**      **How often is digestate tested for heavy metals and other contaminants? Can a community request testing beyond those minimally required by Ohio EPA? Is that testing data publicly available?**

**Response 14:**      The current permit requires sampling the biosolids every other month for the nine metals required by Title 40 of the Code of Federal Regulations Part 503 (40CFR503). The permit renewal increases this sampling frequency to once per month. The monitoring results required by the permit are submitted by the permittee through Ohio EPA's electronic monitoring report system. If any result exceeds a permit limit, an automatic email requiring further action is sent to Ohio EPA staff and the permittee. All reported results are available to the public upon request.

**Comment 15:**      **What operational and safety protocols does Ohio EPA require for the facility to have in place to protect ground water and the watershed?**

**Response 15:**      The storage ponds were designed and installed based on the local hydrogeology to be protective of ground water. The geologist's review for the most recently installed pond indicated there is no significant drinking water supply aquifer in the area; water yield is very low; the bedrock is non-water-bearing; and public drinking water service is available in the area. Therefore, the likelihood of impacts to a drinking water source aquifer from the storage ponds is relatively low. As a precaution, the draft permit requires reporting sampling results from the monitoring wells surrounding the storage ponds.

To prevent runoff of biosolids to surface waters, [OAC 3745-40](#) OAC 3745-40 sets requirements for the land application of biosolids. Ohio's sewage sludge rules are modeled after 40CFR503 and in some cases are more stringent than the federal regulations. Briefly, OAC 3745-40 requires specific treatment technologies and limits be met prior to land application and sets site restrictions for land application that include applying nutrients at the correct rate for crop needs; soil monitoring; no land application on frozen or snow-covered ground or during precipitation events; isolation

distances from surface waters, wells, and homes; and harvesting restrictions. OAC 3745-40 should be consulted for a complete list of requirements to land apply biosolids.

Additionally, Ohio EPA DSW monitors the quality of Ohio's watersheds routinely. Nearby Whetstone Creek is in the Olentangy River Watershed. The most recent study for the Olentangy River Watershed is available [here](#). If the Agency becomes aware of biosolids runoff into Ohio waters, Ohio EPA staff will respond and take water quality samples in real time and notify anyone who may be impacted.

**Comment 16:**        **The draft permit states, “The director has determined that granting an exemption from the applicable solid waste provisions of ORC Chapter 3734 to use industrial waste in the quantities and under the circumstances specifically authorized in this permit is unlikely to adversely affect the public health or safety or the environment.” What data/studies were reviewed to make this determination?**

**Response16:**      This provision was mistakenly included in the draft permit. It is not applicable to the material (biosolids) that are being land applied under the permit, so it has been deleted.

**Comment 17:**      **Knowing that tornadoes are part of life in Ohio, we would like to see the plan for how neighbors will be protected and the biosolids will be handled in the event of a tornado or natural disaster.**

**Response 17:**      Ohio EPA DSW does not require permittees to submit plans for natural disaster preparedness. You may wish to contact the county emergency management agency for more information.

**Fire at Emerald on June 22, 2020**

**Comment 18:**      **What safety procedures or emergency response plans are required if another fire happens like the one that occurred in Cardington on June 22, 2020? Is smoking banned on Emerald's property due to the highly explosive properties of methane? Why were neighbors not notified of the fire and the possibility of an explosion?**



**Response 18:** Ohio EPA does not regulate this. These comments fall under the Ohio fire code. This enforcement falls under Ohio's Fire Marshal under the Ohio Department of Commerce and is not a requirement for Ohio EPA's permit process. More information on this office can be found here:  
<https://www.com.ohio.gov/fire/>

**Comment 19:** **Local Fire/EMS service providers have told citizens that they have no knowledge about digester facilities and what is required of them if an emergency occurs. Should local emergency responders be briefed about what goes on at the facility?**

**Response 19:** This comment falls under Ohio's fire code and regulation. See Response 18 for more information.

**Comment 20:** **The fire on June 22, 2020, was never reported by Emerald to Ohio EPA as required by the NPDES previously issued to the facility. Why would Ohio EPA think that Emerald is going to comply with the new NPDES permit that requires reporting of issues outside of normal operations?**

**Response 20:** A Renergy representative notified Ohio EPA about the fire at Emerald at 10:29 a.m. on June 22, 2020. Ohio EPA emergency response staff were also notified and contacted Renergy. The current permit does not include the requirement to report issues outside of normal operations, but the fire was reported regardless. Therefore, it is the expectation that Renergy will comply with the requirement in the draft permit to report abnormal operations.

### **Digester Feedstocks**

**Comment 21:** **What materials does Emerald have on site?**

**Response 21:** The only material that Emerald currently is permitted by Ohio EPA DSW to store is biosolids in the storage ponds. Feedstocks are not allowed to be stored outside of the receiving tanks.

**Comment 22:** **Where is the waste coming from? We believe that material is being transferred to and from Renergy/Emerald to the Renergy/Dovetail facility in Bath Township, Greene County.**

**Response 22:** The feedstocks approved for use at Emerald are listed in the draft permit. Currently, most of these materials come from food manufacturing and include off-spec food products and associated rinse water, restaurant grease trap waste, and manure from the adjacent hog operation. The draft permit allows material to be transferred to or from other digester facilities.

**Comment 23:** **What are the constituents of the waste? We would like to see the Material Safety Data Sheets (MSDS) for the last year based on the material going into and out of the Renergy biodigester.**

**Response 23:** The feedstocks for anaerobic digestion as listed in the draft permit are organic in nature. None of these feedstocks or the resulting biosolids are required to have safety data sheets since they are not classified as potentially hazardous substances.

**Comment 24:** **Renergy has stated they would no longer be using sewage sludge. Check out page 23 Section F of the draft permit that lists sewage sludge as an approved feedstock. Also, why are there plans for removal of the existing biosolids in this draft permit?**

**Response 24:** The draft permit is for Emerald operations when sewage sludge was used as a feedstock and includes requirements for removing the biosolids that are still present in the storage ponds. Therefore, the sewage sludge rules still apply for this portion of the facility. Renergy has stated that as of October 1, 2020, Emerald is no longer receiving sewage sludge from wastewater treatment facilities. However, Ohio EPA has not received a revised application from Renergy to modify the permit for Emerald. Once an application is received and Renergy demonstrates that biosolids have been removed from the Emerald storage ponds, a new permit can be considered that does not include sewage sludge as an approved feedstock.

**Comment 25:** **Can the public see what businesses are sending material to Emerald and the contracts to verify what materials and how much are accepted by Emerald?**

**Response 25:** The draft permit requires records be submitted that list the type and volumes of feedstocks accepted at Emerald. Ohio

EPA would not be able to provide business names if requested by the public.

**Comment 26:**      **Is it only municipal sludge that has been eliminated? How is it verified that the sources are not municipal? Where are the municipal sludges going now? Did Ohio EPA or Renergy decide to stop accepting municipal sludge?**

**Response 26:**      Renergy has stated that they no longer accept sewage sludge from municipal wastewater treatment facilities. This will be verified by the feedstock records required by the draft permit to be submitted monthly. With Renergy no longer accepting sewage sludge, some municipalities that utilized Renergy as a beneficial use option are now land applying biosolids, landfilling the sludge, or transferring sludge to other wastewater plants. Renergy made the decision to no longer accept sewage sludge.

**Comment 27:**      **Given that Emerald no longer receives human waste, are proper procedures in place to sanitize septic trucks that are being used to take food waste and grease to Emerald?**

**Response 27:**      Ohio EPA has raised this concern with Renergy. Renergy committed to clarifying this issue and ensure the trucks hauling grease trap waste are dedicated to that use

**Comment 28:**      **Does vector attraction reduction still apply if no sewage sludge is received by the facility? If so, are applicable standards in accordance with OAC 3745-40-04(B)(4) or other OACs still required?**

**Response 28:**      Since Emerald is no longer receiving biosolids, the permit can be modified at Renergy's request once Ohio EPA can verify that all biosolids have been removed from the ponds. The modified permit would not require Vector Attraction Reduction (VAR) as specified in OAC 3745-40-04 for biosolids to be met. However, there would be conditions to ensure proper treatment of the food waste based on industry guidance.

**Comment 29:**      **What is the projected mass balance of waste going into the site and what is going out?**

**Response 29:** The draft permit limits the amount of feedstocks that can be treated to 50,120 gallons per day based on the capacity of the digester. This equates to a maximum of 18.3 million gallons that could be treated in a year. The amount of biosolids leaving the facility can be estimated using data reported on past annual sludge reports. The average amount of biosolids removed from the facility for land application for the past three years was 3,537 dry tons per year. Based on the average percent total solids of the biosolids, this equates to an average of 12.2 million gallons of biosolids per year that has been land applied. The amount of digestate leaving the facility for land application is dependent on several factors such as weather and field availability. The facility has more storage than is required to account for this variability.

### **Storage Ponds**

**Comment 30:** **What is Emerald's plan for monitoring the storage ponds?**

**Response 30:** The draft permit sets forth the required monitoring for the ponds which includes reporting levels and monitoring the material going into the ponds for eventual land application. For odors, the draft permit requires an OMP to be submitted that will lay out any additional monitoring Emerald plans to perform. This OMP will be reviewed for acceptance by Ohio EPA.

**Comment 31:** **OAC 3745-42-13(H)(4), Table H-3 states that an earthen impoundment that holds more than 10,000 gallons is required to have a minimum of 3 foot freeboard. In this NPDES renewal, there are no requirements for the freeboard level only maximum operating level (MOL). Why are there no freeboard requirements?**

**Response 31:** The draft permit requires reporting the freeboard levels for each of the six storage ponds used by Emerald. The MOLs will also be reported and are required to be under the maximum gallons listed for each pond. The MOLs equate to the volume the ponds can hold at the designed MOL. The MOL is either the same or more restrictive than the approved freeboard. As shown in the table below, the depth from the top of berm to MOL ranges from 1 foot to 3.4 feet, depending on each pond design. Ponds 2, 3, 4, and 5 were approved by the Ohio Department of Agriculture (ODA) when they had regulatory oversight of the facility. Ponds 1 and 7 were

approved by Ohio EPA. All freeboard requirements are based on the engineered design and are included in the associated PTIs.

	L1	L2	L3	L4	L5	L7
Design Freeboard - feet	2.0	1.0	1.0	1.0	1.0	1.0
Design Freeboard - gallons	5,485,068	600,000	500,000	2,857,143	1,565,000	22,623,166
Max Operating Level (MOL) - feet	2.0	3.4	3.4	1.0	2.3	2.0
Max Operating Level (MOL) - gallons	5,485,068	387,693	331,764	2,857,143	1,362,000	20,769,686

**Comment 32:**        **Records indicate that Emerald BioEnergy’s storage ponds are routinely above MOL and even though a violation was issued, they remain above capacity for extended periods of time. What is going to be done to remedy this ongoing problem? Does Ohio EPA intend to perform surprise inspections to ensure that Emerald remains in compliance? What is the procedure or solution to protect our waterways and neighboring properties if these ponds overflow?**

**Response 32:**        Renergy currently reports the MOLs by email to Ohio EPA for review. The draft permit requires reporting the MOLs electronically which will automatically send Renergy a request for a compliance report to be submitted if a pond exceeds the MOL listed in the permit. If the MOL continues to be exceeded, a notice of violation will be issued and possibly further enforcement action. If pond levels get too high, other facilities are available for material to be sent before reaching a point that could cause a pond overflow. The draft permit requires Renergy to submit a yearly evaluation of the storage capacity of the ponds and take action to ensure the MOLs are not exceeded.

Ohio EPA will continue to perform inspections, as needed. These inspections may be announced or unannounced as circumstances warrant.

**Comment 33:**        **Have the MOLs been changed to allow for more waste?**

**Response 33:**        See Responses 31 and 32 regarding MOLs for the Emerald ponds. These MOLs have not been changed from the original approved design.

**Comment 34:**        **Since climate change is increasing the frequency and severity of weather events, the current freeboard level of one foot (which we understand was reduced from the**

**original safety plan of two feet) may not be enough to prevent a breach of the storage ponds and protect the environment.**

- Response 34:** See Responses 31 and 32 regarding monitoring of MOLs. The freeboards of the ponds at Emerald have not been changed from the original approved design.
- Comment 35:** **One commenter requested to see Ohio EPA's assessments of factors by which climate change, in particular the disruption of predictable weather patterns, will increase stresses on the storage ponds, as well as on the ecological balance of an area.**
- Response 35:** Ohio EPA reviewed the design of the two newest storage ponds in accordance with OAC 3745-42 and Natural Resources Conservation Service Conservation Practice Standard Waste Storage Facility Code 313 which require consideration of large storm events. The other ponds were originally designed and constructed prior to construction of the Emerald digester in accordance with ODA requirements which also consider large storm events. Wastewater treatment and storage ponds are prevalent worldwide. These systems are designed, installed, and maintained to not disrupt the environment or ecological balance of an area. See Response 30 regarding monitoring of pond levels.
- Comment 35:** **OAC 3745-40-07(G)(5)(a) states that no person shall store biosolids at a regional storage facility for more than two years without proper authorization. What is the allowable time Ohio EPA has set forth with this NPDES permit? With the decrease in the available land for beneficial use sites, i.e., fields being retired, fields being oversaturated, crops on the fields, what is Ohio EPA's allotted time frame for storage?**
- Response 35:** The Emerald storage ponds are regulated under OAC 3745-40-10 for facility storage of biosolids, not as regional storage. There is no time limit set forth for the length of storage at a facility. These ponds are constantly being turned over with frequent addition and removal of biosolids so there is no set time frame for storage.
- Comment 36:** **Shouldn't the ponds be drained on a yearly basis and cleaned or dredged? If not, shouldn't Emerald be classified as a solid waste disposal site?**

**Response 36:** See Response 35 for timing of biosolids storage. This draft permit is for the beneficial use of biosolids per OAC 3745-40. If Emerald's permit is changed to reflect the new operation of no longer accepting sewage sludge for treatment, it will be regulated for the beneficial use of liquid waste that is applied to the land for agronomic benefit under OAC 3745-42-13. Biosolids and liquid waste are excluded from the solid waste regulations by OAC 3745-27-03. Therefore, Emerald cannot be classified as a solid waste facility.

**Comment 37:** **With all the storage lagoons for this facility, what limits will Ohio EPA impose if additional storage is requested by this facility?**

**Response 37:** If Renergy applies for additional storage at Emerald, the application will be reviewed and considered per the applicable PTI requirements.

**Comment 38:** **What will happen to these lagoons if zoning shuts this facility down? Will Ohio EPA be there to clean it up, since this agency permitted these lagoons?**

**Response 38:** If the facility discontinues operations for any reason, the storage ponds would need to be properly closed by Renergy. The draft permit requires a closure plan to be submitted if the facility will be permanently closed which may require pond closures in accordance with an approved PTI.

**Comment 39:** **If nuisance vectors are found to be associated with the storage ponds what corrective actions would Ohio EPA require of the permittee to address the situation?**

**Response 39:** Currently, biosolids are still stored in the ponds at Emerald. The biosolids have been specifically treated to reduce attractiveness to vectors so there is no expectation of nuisance vectors being present due to the storage ponds. During the change in permitting structure to reflect sewage sludge no longer being a feedstock, other treatment requirements will be included in the permit that are more specific to digestion of food waste to reduce vector attractiveness. It should be noted that there is a lot of agricultural activity near Emerald including hog operations and cattle grazing that could potentially be sources of vectors.

**Land Application**

**Comment 40:** The biosolids from Emerald are being spread on Ohio farms for dubious benefits. The claim that biosolids, like compost, enrich the nutrient level in the soil, is only true where soil has been depleted to lifeless dirt, by non-regenerative farming practices. Biosolids, especially when processed at low temperatures such as the product of this facility, have been found to contain pathogens, heavy metals, pharmaceuticals, and other toxins, which do not benefit the long term fertility of our Ohio soil, nor the nutrition of the crops grown in that soil. The Ohio EPA should deny this permit to stop enabling the bad farming practices which are accelerating climate change.

**Response 40:** One of the primary roles of Ohio EPA's biosolids program is to encourage the beneficial use of biosolids. The use of biosolids to provide nutrients has been shown for decades to improve soil health and crop yields. Management of biosolids has been shown to mitigate climate change by reducing organic waste and associated methane gas production in landfills, sequestering carbon in soils, reducing the need for nonrenewable energy resources, and off-setting energy-intensive and greenhouse gas generating fertilizer production.

Regarding pathogens in biosolids, the Emerald treatment process is mesophilic anaerobic digestion which requires maintaining a digester temperature of 95 to 100 degrees Fahrenheit. This process has been found to remove 94 to 99 percent of pathogens and has been determined by U.S. EPA to be an effective process to significantly reduce pathogens to generate Class B biosolids. This treatment technology, combined with site restrictions required at Class B biosolids land application sites, are protective of human health and the environment.

Regarding metals, biosolids produced by Emerald have been consistently below the metals limits set by 40CFR503. These limits were developed by extensive risk assessments performed by U.S. EPA.

Microconstituents in biosolids are unlikely to pose a risk to human health or the environment for the following reasons:



- Synthetic organic compounds that survive wastewater treatment are degraded or strongly bound to organic matter in soil.
- Plant roots do not take up significant amounts of these compounds.
- Site management practices for biosolids (such as buffer zones and restrictions on application timing) reduce the opportunity for these compounds to move to water bodies.

This study can be found [here](#).

Ohio EPA continually monitors the research of microconstituents in biosolids and will update the regulations as needed. Ohio EPA believes that the beneficial use of biosolids is protective of human health and the environment when biosolids are treated and managed in accordance with regulations.

**Comment 41:**      **Citizens are concerned that changing weather norms due to climate change could increase runoff from the biosolids beneficial use sites and could cause an exceedance of previously considered safe levels in our Ohio water.**

**Response 41:**      The land application of biosolids must be performed in accordance with the precipitation restrictions found OAC 3745-40-08 which include not surface applying biosolids during a rain event or when the forecast indicates there is at least a fifty percent chance that 0.5 inches of rain will occur within 24-hours after beneficial use. Biosolids may be injected into the ground (as is Renergy's practice) under this forecast. Any fields with tile drainage are required to be monitored to ensure any unanticipated flow is stopped or captured. These steps, in addition to the required isolation distances from surface waters and slope restrictions, have been shown to be best management practices for preventing runoff. Therefore, when biosolids are applied in accordance with the requirements, there is no expectation of exceeding water quality standards. If an accidental release to surface waters through runoff is detected, the flow can be stopped and remediation of the stream can be performed.

**Comment 42:**        **How much time is required between land application of biosolids and the next forecasted rainfall?**

**Response 42:**       See Response 41.

**Comment 43:**       **Who monitors land application? It seems that some fields get applications quite often. Are the fields being sampled after commercial fertilizers are applied?**

**Response 43:**       Monitoring of fields that receive biosolids is a joint effort between the farmer, the biosolids generator, and Ohio EPA. The farmer will communicate the planned crops to the generator who is required to calculate the agronomic rates based on the crop needs, soil sampling, and the nutrient content in the biosolids. This information is required to be provided to the farmer. Ohio EPA reviews this information when it is reported in the annual sludge report. Currently, and with the renewal of this permit, Renergy provides the agronomic rate information to Ohio EPA for review prior to land application. Application of other nutrient sources such as commercial fertilizers must be considered when the biosolids rate is calculated. Soil samples for phosphorus and pH are required to be less than three years old at the time of biosolids land application.

**Comment 44:**       **For land application, soil samples are required. Who is required to check the bodies of water where runoff occurs such as ditches, ponds, and the Whetstone River?**

**Response 44:**       Sampling of surface waters after land application of biosolids is not required. See Response 41 for best management practices that are utilized to prevent runoff of biosolids.

**Comment 45:**       **Is surface water sampling or soil sampling required after land application? Citizens have concerns about nearby cattle drinking water and walking in the fields.**

**Response 45:**       See Responses 41 and 43 for sampling requirements. Best management practices are utilized to prevent runoff of biosolids to surface waters. The cattle near Renergy do not graze on fields approved for biosolids from Emerald so they will not come into contact with any biosolids that may be land applied.

**Inspections**

**Comment 46:** Does Emerald perform self-inspections? Federal agencies such as the Federal Aviation Administration have determined that self-inspection is not a recommended practice.

**Response 46:** Renergy does not perform self-inspections in lieu of required Ohio EPA inspections. Ohio EPA performs inspections at the frequency required by U.S. EPA and as needed in response to complaints or other issues that may arise. Renergy does perform self-implemented daily checks to ensure proper operation of the facility. Self-monitoring and reporting in the form of sampling required by permits is a common regulatory framework that relies on oversight by a regulatory agency through agency inspections and review.

**Comment 47:** What have been the results of past Ohio EPA inspections at Emerald? Can past inspections be available on the Ohio EPA website for public review and comment? How often was the facility inspected (before COVID-19)?

**Response 47:** Odor surveys of Emerald and the surrounding areas performed by Ohio EPA have been added to Ohio EPA's eDocument system (eDocs). During 2019, odor surveys were performed on almost a weekly basis between April and August for a total of 17 surveys. Odor surveys were timed to be performed in relation to complaints and when weather conditions, especially wind direction, were forecasted to potentially cause odors north and west of Emerald. Overall, on County Road 156, an off-site nuisance odor was detected once out of the 17 surveys. At the same general location, three other surveys indicated strong off-site odors, four indicated slight odor, and the remaining nine checks detected no off-site odors. See eDocs for copies of the odor survey forms.

Facilities of this type are required by U.S. EPA to be inspected every five years. Generally, when odor surveys near Emerald are performed, cursory facility inspections are also performed and findings will be noted on the odor survey form. With the frequency of odor surveys, the facility is being evaluated more often than federally required.

**Permitting Process**

**Comment 48:**        **Have any of the permit requirements changed in any way from the previous permit? If so, how?**

**Response 48:**     The draft permit includes the following requirements and conditions that were not in the original permit:

- Internal monitoring stations to evaluate performance of the anaerobic digester. These performance indicators include alkalinity/volatile fatty acids ratio, pH, chemical oxygen demand, and biogas production graphs.
- The new internal stations also include limits such as minimum temperature, detention time, and maximum loading rate. This information was previously only required to be submitted with the annual sludge report.
- Monthly reporting of the freeboard of each storage pond. There are also limits for the maximum gallons that can be stored in each pond to ensure the required MOL are not exceeded. Immediate notification to Ohio EPA is now required if a pond level exceeds MOL. A storage evaluation is required to be submittal annually. Many of these are already required by PTIs or ODA permits and are included here for consistency and database tracking.
- Reporting of ground water monitoring as recommended during the PTI review of the new storage pond.
- Monthly submittal of the type and amounts of feedstocks received.
- Review of the facility operational plan that details operating conditions of the digester and includes standard operating procedures for routine maintenance, odor mitigation, and emergency conditions. All NPDES permits require maintaining facilities in good working order. However, this draft permit specifically addresses what components to include in the operational plan.
- Submittal of a sampling plan.
- Submittal of agronomic rate calculations in advance of land application to avoid overapplication of nutrients.

- Previously, these were required to be submitted with the annual sludge report.
- The treatment, storage, transfer, disposal, or beneficial use of digester effluent or biosolids shall not result in the generation of a nuisance odor, as determined by Ohio EPA. Should a nuisance odor be generated at the facility, a storage facility, or a beneficial use site, all necessary corrective actions to eliminate nuisance odors, including the installation of appropriate odor control equipment in accordance with an approved PTI, shall be immediately implemented.
- Submittal of an OMP for acceptance by Ohio EPA.
- Reporting of issues related to environmental regulations that are outside of normal operations to Ohio EPA within 24 hours.

**Comment 49:**      **Is the noncompliance record of Renergy relevant to the decision to issue the permit? What is a full list of violations at Emerald?**

**Response 49:**      The compliance records for Emerald were considered when drafting this permit renewal. Conditions added to this draft permit were a result of past compliance records. For example, providing feedstock records was a result of the violation for overfeeding the digester and providing agronomic rate calculations was a result of a violation for over application of nutrients on fields. Although only one off-site nuisance odor has been detecting during Ohio EPA odor surveys, Ohio EPA considered the number of odor complaints when drafting the stability and OMP submittals. Notices of violations issued to Emerald are available through Ohio EPA's eDocument system.

**Comment 50:**      **How compliance is reviewed: how often, by whom, is each requirement reviewed, each time, or is it done by spot check, were any requirements not met, incomplete or not supplied in a timely manner for the previous permit period and if not, what did not meet, how was it corrected, and how long did correction take? Was it a one-time issue or reoccurring?**

**Response 50:** In general, all facilities permitted by Ohio EPA DSW submit required monitoring data at the frequency specified in their permit through Ohio EPA's eReporting system. This system automatically notifies staff if data is missing or exceeds any limit set forth in the permit. Permittees are also inspected on a routine basis and any issues that are noted during an inspection may require further follow-up in the form of a notice of violation. Many permittees are also required to submit annual reports that are reviewed to ensure compliance. If any requirements have not been met or are incomplete during any of these reviews, staff will work with the permittee to resolve any compliance issues.

Specifically, for Emerald, any notices of violation that have been issued as a result of non-compliance found during inspections or reviews can be found in Ohio EPA's eDocument system. These violations include timeframes for responses.

**Comment 51:** **Why has it taken 38 months to do a renewal on this permit? Is it because Emerald is not in compliance with Ohio EPA guidelines? Has Renergy been fined for not ensuring their permits are up to date?**

**Response 51:** The Emerald permit renewal application was received more than 180 days before the expiration date as required. This allows the facility to continue operating under the existing permit until the permit is renewed. Therefore, the permit is not out of date and no fines have been incurred. Per OAC 3745-33-03(B): "If a permit renewal application is submitted at least one hundred eighty days prior to the expiration date of the existing permit, and the director does not issue a new permit before the expiration date, the conditions of the expired permit shall continue in force until the director acts on the permit application."

The long renewal timeframe for the permit is related to a statewide initiative to renew all digester permits to ensure consistency and institute new conditions. This is a lengthy process involving research, reviews, and multi-divisional consultation.

**Comment 52:** **How can Ohio allow the industry to write their own permitting language or regulate themselves?**

- Response 52:** Ohio EPA allows facilities to comment on draft NPDES permits prior to issuance. Ohio EPA will consider any comments received and determine if any changes can be made. See Response 46 regarding “self-monitoring”.
- Comment 53:** **If comments from the comment period are not sufficiently addressed by Ohio EPA and the requesting company, why and how can Ohio EPA issue a permit that has significant issues that have been left un-addressed?**
- Response 53:** Ohio EPA responds to all comments received by the public and the permittee that are relevant to the permit under consideration. If any changes to the permit are deemed necessary based on comments received, they will be made. All comments will be addressed even if they do not result in a change to the permit. The permit will be a final action of the director may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the ORC.
- Comment 54:** **Based on OAC 3745-40-03(A)(4)(f): “To protect public health or the environment, the director may specify in any NPDES permit... Permit conditions that are more stringent than the requirements in this chapter because of site specific concerns or unique factors relevant to the treatment, storage, transfer or disposal of sewage sludge or biosolids, the beneficial use of biosolids, or the permittee’s operation or maintenance of the disposal system or beneficial use.”**
- One commenter requested that local citizens be able to submit additional requirements that they feel are necessary to be added to Renergy’s NPDES permit. Ohio EPA only asks for public comments and then there is no discussion with residents after comments are submitted. Ohio EPA has the final say and citizens only find out the results after Ohio EPA has issued the permit.**
- Response 54:** The draft permit includes conditions that are not required by and may be more stringent than OAC 3745-40. These conditions are supportable based on many factors including available technical guidance and the compliance history of the facility. By law, Ohio EPA has the authority to issue NPDES permits should applications meet the necessary

criteria within Ohio's rules. Ohio EPA holds public comment periods to allow the public a chance to comment on draft permits. Ohio EPA staff reviews and considers all comments made during the public comment period as a part of the permit process before making a final recommendation to the director about whether to issue or not issue the permit. Changes to permit conditions as a result of public comments must be supported and justified by current regulations and technological best practices.

**Comment 55:** **There seems to be multiple agencies involved in the permitting and overseeing of these biodigesters: Ohio EPA, ODA, Occupational Health and Safety Administration (OSHA). Are there other state or federal agencies involved? Can you understand how the average citizen is not only confused by this process but also is mistrustful of a state agency that doesn't have control over the entire process? Citizens are unable to find information they are looking for on Ohio EPA's website.**

**Response 55:** Oversight from multiple agencies is common at wastewater treatment facilities due to the various nature of the equipment and processes in use. Even within Ohio EPA there can be multiple divisions regulating these facilities. Ohio EPA can only regulate what falls under its authority by law. Several areas of Ohio have air agencies outside of Ohio EPA that regulate the air components such as flares and engines. OSHA regulates workplace health and safety for employees which would include items such as catwalks on tanks that are outside of Ohio EPA authority and expertise. ODA regulates the concentrated animal feeding operations (CAFOs) that are adjacent to many digester facilities. In many cases, there are digesters that fall solely under ODA authority. Ohio EPA staff understands this can be confusing but are always willing to help direct citizens to the correct agency and provide contact information.

### **Zoning**

**Comment 56:** **Multiple commenters questioned how Ohio EPA can permit Emerald after a cease and desist order was issued by the county for operating an industrial facility in an agriculturally zoned area and requested a citation of the regulation, law, or statute that does not allow Ohio EPA to consider zoning.**



**Response 56:** Permit applications are evaluated for compliance with specific criteria established in Ohio's rules and regulations and can only be approved if those criteria are met. NPDES permits are issued pursuant to ORC Chapter 6111 and regulations adopted thereunder. There is no requirement in ORC Chapter 6111 or the regulations which establishes compliance with local zoning ordinances or restrictions as an NPDES permit approval criterion. OAC Rule 3745-33-04, which sets forth permit approval criteria for NPDES permits, does not reference zoning requirements. In *Hulligan v. Columbia Township Board of Zoning Appeals*, 59 Ohio App.2d 105, 108 (Lorain Cty. 1978), the court distinguished zoning laws from the laws governing Ohio EPA, stating: "Such zoning laws do not have inherently within them provisions or guidelines for the establishment of clean air or water quality standards, or standards for the treatment of our waste waters, or standards for the disposal and the handling of our solid wastes. In contrast, the goals of the EPA, and the determinations as made by the director thereof toward the accomplishments of such goals, are to conserve, protect and enhance the environmental quality of the state in all respects including air and water quality, waste treatment procedures and standards, and solid waste handling and disposal." The court went on to quote an unreported decision in *City of Garfield Heights v. Williams*, 77AP449 (Franklin Cty. 1977): " \* \* \* the Environmental Protection Agency does not have jurisdiction to change or affect local zoning by the issuance of a permit. Instead, the permitted use continues to be subject to local zoning. However, the director has the prerogative of granting a permit that is final so far as environmental considerations within his purview are concerned, even though the activity is not permitted by local zoning. Even if not expressly stated in the director's order, the permit issued is subject to local zoning and remains subject thereto. \* \* \*" These decisions have been cited subsequently in other cases and in Opinions of the Attorney General. Recently, in *Benton Township v. Rocky Ridge Development, LLC*, 2020 WL 4917292 (Ottawa Cty App., August 21, 2020), the court found that certain activities authorized by an Ohio EPA permit were prohibited in areas zoned agricultural by township zoning resolutions.

In summary, local zoning is not a criterion that Ohio EPA has the legal authority to evaluate when reviewing these applications and should be addressed by the local zoning

authority. Ohio EPA reviews permit applications in accordance with Ohio's environmental rules and laws that the Agency has jurisdiction over. The onus is on the applicant to ensure they meet all federal, state, and local laws that are outside Ohio EPA's jurisdiction or purview.

**Trucking/Traffic**

**Comment 57:** **Is there a limit of distance from the permittee facility to which biosolids can be shipped or applied? What applicable standards for transport are required of carriers to and from the facility for all types of products or waste?**

**Response 57:** Ohio EPA does not regulate the transportation and shipping of commercial products. Ohio State Highway Patrol enforces Federal Motor Carrier Safety Regulations and Public Utility Commission of Ohio Safety Rules that pertain to commercial motor carriers.

**Comment 58:** **Emerald transports biohazards to and from this facility which endangers everyone on the roads.**

**Response 58:** The feedstocks transferred to Emerald and the digestate hauled from the facility for land application are not classified as hazardous. There are no known risks related to the transport of these materials. Emerald has a spill contingency plan in place to react if there is an accident causing a spill of material that they are hauling. Any trucking companies contracted by Renergy to haul materials can be contacted for their contingency plans.

**Comment 59:** **Is Ohio EPA aware of the additional costs to the township for extreme industrial traffic on country roads?**

**Response 59:** Ohio EPA has not been notified directly of any township costs since it is outside of our regulatory purview. Local officials should be consulted regarding community costs.

**Other**

**Comment 60:** **The citizens requested copies of all contingency plans associated with Emerald's operations.**

- Response 60:** Ohio EPA is subject to Ohio's public records laws. Any document can be made available upon request. The public can make a request at: <https://epa.ohio.gov/dir/publicrecords>
- Comment 61:** **Is the record available to the public to allow us to see emails and text messages between Renergy and the regulators leading up to this hearing and how to address the concerns of the public?**
- Response 61:** Please see response 60.
- Comment 62:** **One commenter had questions about sampling requirements, limits, and location of the discharge from Emerald.**
- Response 62:** The draft Emerald permit falls under the NPDES permit category because of the sludge component. There is not a permitted discharge from the Emerald facility.
- Comment 63:** **Is the municipal sewage that is currently in the ponds taken in after they had received a cease and desist order?**
- Response 63:** Ohio EPA is not a party to the cease and desist order that was issued to Emerald. Renergy has stated that they have not accepted any sewage sludge at Emerald after October 1, 2020.
- Comment 64:** **Many comments expressed concern about the possibility of decreasing value of property near Emerald.**
- Response 64:** By law, Ohio EPA has authority to consider specific issues related to protection of the environment and public health. Under Ohio law, Ohio EPA does not have the authority to consider property valuation.
- Comment 65:** **Does Renergy have insurance to cover issues such as spills or pond overflow? Can the public see the insurance?**
- Response 65:** Renergy is not required by Ohio EPA to post a bond or to maintain insurance for the facility.
- Comment 66:** **Are you aware of current and ongoing litigation with Renergy? We believe this could affect their financial**

**solvency and could leave Ohio taxpayers holding the bag when they go under.**

- Response 66:** Ohio EPA is not a party to any litigation involving Renergy, therefore comments cannot be made. Environmental claims for injunctive relief to correct potential environmental issues are not dischargeable in bankruptcy. Ohio EPA has extensive experience working with bankruptcy trustees to ensure that facilities going through bankruptcy are nonetheless protective of the environment.
- Comment 67:** **Has there been any thought about making Renergy post some sort of bond that can be used to cover the hidden costs incurred by the local community?**
- Response 67:** Renergy is not required by Ohio EPA to post a bond or to maintain insurance for the facility. Local officials should be consulted regarding community costs.
- Comment 68:** **Citizens would like to see a system where they can submit their medical bills for reimbursement due to the health problems they suspect are caused by the biodigester.**
- Response 68:** Ohio EPA permits are written in such to be protective of human health and the environment. Ohio EPA recommends that residents consult their personal physician if they believe they are having health effects.
- Comment 69:** **What data/studies does Ohio EPA use/reference to keep up-to-date on biosolids and the technology being used by Renergy?**
- Response 69:** Ohio EPA biosolids staff routinely participate in webinars and conferences on biosolids topics that are sponsored by U.S. EPA, the Water Environment Federation (WEF), and other national organizations. Ohio EPA staff also participates in the Ohio Water Environment Association (OWEA) which includes the OWEA Residuals Committee that focuses on state issues related to biosolids and other residuals.

**End of Response to Comments**