

## **Swine Biogas Permit Modifications**

### **Public Meeting Report and Recommendations**

Virtual Public Meeting

January 26, 2021

Public Comment Period:

December 22, 2020 through January 29, 2021

Pertaining to Draft Permit Modification for four existing  
Swine Animal Feeding Operations:

- AWI310035 – Waters Farm-M&M Rivenbark
- AWI310039 – Benson Farm
- AWS820005 – Kilpatrick Farm 1, 2, 4, & 5 & Merritt Farm
- AWI820466 – Farm 2037 and 2038 (Goodson Farm)

#### **Meeting Moderator**

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## I. Background

On December 23, 2019, the North Carolina Department of Environmental Quality (DEQ), Division of Water Resources (DWR), Animal Feeding Operations Branch (AFO) received four applications for permit modification from Smithfield Hog Production (dba Murphy-Brown, LLC). The four swine animal operations that submitted applications are currently covered under the State Swine Waste Management General Permit. The purpose of the applications was to modify the existing waste treatment systems by the construction and operation of anaerobic digesters at each of four facilities.

The applications were submitted for the following swine animal feeding operations:

- Waters Farm–M&M Rivenbark Farm, 885 Bonham Rd, Magnolia, NC in Duplin County (draft State Individual Permit No. AWI310035).
- Benson Farm, 956 Veaches Mill Rd, Warsaw, NC in Duplin County (draft State Individual Permit No. AWI310039).
- Kilpatrick Farm 1, 2, 4, & 5, & Merritt Farm, 1457 AK Bryan Rd, Magnolia, NC in Sampson County (draft State General Permit Certificate of Coverage No. AWS820005).
- Farm 2037 and 2038 (Goodson Farm), 779 Old Goodson Farm Lane, Turkey, NC in Sampson County (draft State Individual Permit No. AWI820466).

## II. Water Quality Permit Application and Permit Review

DWR's mission is to protect, enhance, and manage North Carolina's surface water and groundwater resources for the health and welfare of the citizens of North Carolina and the economic well-being of the state. To accomplish this mission, DWR requires animal feeding operations to apply for and receive water quality permit modification approval prior to construction, installation, or operation of any modification that changes the nature or volume of the waste being treated by the current permitted system. This includes the installation of additional treatment units (digesters) being proposed at the four referenced animal feeding operations.

The applications would allow for installation of digesters to serve as the primary treatment units at each of the four animal operations. In addition to the digesters, the applications include the on-farm installation of necessary pump stations (mixing and lift stations), piping, controls, gas collection and conditioning equipment, and an emergency flare for each animal operation. All four applications are for existing, permitted swine animal feeding operations. None of the requests involve expansion of a swine animal feeding operation, which is defined as an increase in the permitted steady state live weight associated with the animal waste management system [15A NCAC 02T .1302(4)].

At each facility, the animal waste from the barns would flow to the digester where the biogas is captured and directed for offsite use. The waste liquid (effluent) from the

digester is then transferred to one of the existing onsite lagoons for secondary treatment and storage. The effluent is recycled from the secondary treatment/storage lagoon(s) to flush the waste from the barns to the digester. The excess wastewater in the secondary treatment/storage lagoons will then be land-applied in accordance with the facility's approved Nutrient Management Plan (NMP). The NMP is one component of the Certified Animal Waste Management Plan (CAWMP) that is required by state law and state administrative code [*G.S. §143-215.10C and 15A NCAC 02T .1304(b)*].

The Waters Farm–M&M Rivenbark Farm, a 12,308 Wean-to-Finish swine operation, proposes the installation of a new synthetically lined and covered digester receive all waste from swine barns before the effluent is transferred to the three existing lagoons for secondary treatment and storage prior to land application.

The Benson Farm, a 6,120 Feeder-to-Finish swine operation, proposes the installation of a new synthetically lined and covered digester receive all waste from swine barns before the effluent is transferred to the existing lagoon for secondary treatment and storage prior to land application.

Kilpatrick Farm 1, 2, 4, & 5, & Merritt Farm, a 18,419 Wean-to-Finish swine operation, proposes converting one existing synthetically lined lagoon to a digester for the treatment of all waste from the 13,336 swine at the Kilpatrick Farm sites before the effluent is transferred to an existing lagoon for secondary treatment and storage prior to land application. The waste from the animals located on the Merritt Farm site will continue to be treated using the lagoon at that location.

Farm 2037 and 2038 (Goodson Farm), a 20,992 Feeder-to-Finish swine operation proposes the installation of a new synthetically lined and covered digester receive all waste from swine barns before the effluent is transferred to the three existing lagoons for secondary treatment and storage prior to land application.

Requests for additional information regarding the four subject applications were sent January 23, 2020 and responses were received on February 3, 2020. Other additional information and corrections were provided in December 2020 for the Waters Farm-M&M Rivenbark Farm, the Kilpatrick Farm 1, 2, 4, & 5, & Merritt Farm, and Farm 2037 and 2038.

### III. Notice of Public Meeting

The Director of the Division of Water Resources, as allowed under 15A NCAC 02T .0108(b)(3), decided to hold a Public Meeting regarding the issuance of these four permit modifications to obtain additional relevant information, to inform the community about these permit modifications, to answer questions, and to receive comments from the public. Due to the ongoing COVID-19 pandemic and the associated safety and social distance concerns, DWR determined that it would be appropriate to hold the Public Meeting in a virtual, online format rather than an in-person event. This decision is in line with the way other public meetings by DEQ programs have been conducted during the pandemic.

A notice of the Public Meeting and public comment period was issued December 22, 2020 and posted on the DEQ webpage in both English and Spanish at [deq.nc.gov/swinebiogas](http://deq.nc.gov/swinebiogas) and sent directly to DEQ's interested parties list. News releases were also provided to local media. DEQ placed notice of the Public Meeting and public comment period in the *Sampson Independent* newspaper on December 26, 2020 and January 6, 2021, the *Duplin Times* newspaper on December 31, 2020 and January 7, 2021, and in the *Wilmington Star-News* on December 26, 2020 and January 4, 2021. DEQ elected to publish the notices twice in each newspaper in consideration of the timing as related to the Christmas holiday. Based on the Draft Environmental Justice Report developed regarding the issuance of these permit modifications, DEQ provided additional outreach and opportunities for meaningful involvement including direct notification of known environmental justice organizations, local churches, the Coharie Indian Tribe, and consultation with local community organizations. DEQ also advertised the Public Meeting and public comment period on various social media platforms in both English and Spanish. Additionally, DEQ translated a flyer that detailed the project, the Public Meeting information and the public comment period into Spanish and sent it to known Latinx Community groups. Finally, notices were mailed to sensitive receptors and others located within one mile of each of the four facilities.

The virtual Public Meeting was held at 6:00 PM on January 26, 2021 through WebEx online platform. The WebEx link and event password as well as the English and Spanish call-in numbers and access codes were posted on the DWR swine biogas website and included with the flyer distributed in both English and Spanish. The public comment period closed Friday, January 29, 2021.

#### IV. Overview of Public Comments Received

Over the course of the 38-day comment period, DWR received over 625 written comments, of these over 475 were resubmission of comments previously provided during the Division of Air Quality's comment period for the associated Align RNG permit process. Forty-one people provided verbal comments during the January 26, 2021 virtual Public Meeting and one verbal comment was left in the voicemail box dedicated for public comments related to these permit modifications. No comments, verbal or written, were received in Spanish despite significant outreach. A significant number of written comments were submitted to support the issuance of the proposed permit modifications. Meanwhile, many of the verbal comments were in opposition.

All comments received during the Public Meeting and the public comment period, both written and oral, have been evaluated and copies of written comments and any attachments to those written comments can be made available by DWR upon request. Audio recordings of the Public Meeting are posted on the DWR website [deq.nc.gov/swinebiogas](http://deq.nc.gov/swinebiogas). All comments were given equal consideration, whether they were submitted in writing, made verbally at the January 26, 2021 Public Meeting, or left verbally via the voicemail box designated for comment. Many of the oral and written comments expressed similar concerns either in support or opposition. The vast majority of written comments seemed to use identical language similar to the use of a form letter. Due to the large number of public comments received, the comments are being categorized based on being in support or opposition to the issuance of the draft permit modifications. The comments were further categorized based on the expression of similar recurring issues either in support or opposition. This report will address these comments.

Several commenters, including elected officials, environmental advocacy organizations, industry groups, and consultants, provided significant written technical, regulatory, and policy comments. These comments were categorized and addressed in a manner like that described above.

##### A. Comments from Speakers at the January 26, 2021 Virtual Public Meeting

On Tuesday, January 26, 2021, DWR held a virtual Public Meeting beginning at 6:00 PM. The meeting was held in both English and Spanish with live translation. The virtual Public Meeting was held on the WebEx online platform with simultaneous English and Spanish language broadcasts. Additionally, dedicated phone numbers were provided to allow citizens without reliable internet access to call into the meeting, ask questions, and provide comments. The virtual Public Meeting was moderated by Mr. Linwood Peele, Supervisor, Water Supply Planning Branch, Division of Water Resources. Ms. Christine Lawson gave a presentation summarizing the proposed modifications and the facilities involved. The presentation was followed by a Question-and-Answer session that lasted approximately until 7:00 PM. Ms. Lawson answered water quality permitting questions regarding the draft permit modifications. Mr. Michael Pjetraj, Deputy Director of the Division of Air Quality answered questions

related to air quality, air quality permitting, and the Align RNG air quality permit associated with the overall biogas project.

DWR received public comment following the Question-and-Answer session. Citizens were asked to register in advance to speak at the Public Meeting. Of the 61 people who registered as of noon January 26, 2021, 41 individuals provided verbal comment during the Public Meeting. The remaining registered speakers were called upon twice and either declined to speak or were not present to speak. Speakers were allowed two minutes to provide comment and were called upon in the order in which they registered. After all registered speakers provided comment, DWR provided anyone else in attendance to comment. Throughout the Public Meeting, DWR staff and the meeting moderator monitored the Spanish translation session for comment. No comments were provided via the Spanish translation webinar.

A majority of those providing comment were in opposition to the proposed permit modifications. Hearing comments were not as detailed as written comments due to the time limit, and some speakers followed up their oral comments with written comment.

Several themes emerged in the comments provided.

Examples of statements and claims made by speakers in opposition to issuing the permit modifications include:

- General Statute 143-215.1(b)(2) requires that to issue a permit, DEQ must prevent violation of water quality standards due to the cumulative effects of a number of projects including effects of additional projects similar to the requested permit in areas available for development in the vicinity. The impacts of the other farms in the project are not being considered. DEQ must consider cumulative impact of all the swine farms in Duplin and Sampson Counties.
- We need to know the name and location of all the farms that will be sending biogas to Align to evaluate the impacts. Must consider cumulative impacts of all farms, the Align biogas facility and the pipelines together.
- NC should end the use of lagoon-sprayfield practices for swine waste management.
- Swine farms disproportionately harm communities of color.
- Where are the monitoring protocols to protect the air and water?
- The smell is horrible and fear that biogas would make it worse.
- 30 miles of pipeline will be laid underground to transport the waste to the biogas facility, and spills are a concern.
- Methane is dangerous and not a true natural gas.
- Other states with cattle biogas facilities have had issues due to odor complaints.
- Biogas projects encourage more density in animal feeding operations.
- Biogas projects relies on and would cement in place the lagoon-sprayfield system which the legislature banned in 2007.
- Two of the four farms have submitted Plans of Action (POAs) for non-compliance for sludge and high lagoon levels.

- The Environmental Justice analysis is incomplete but underscores the impacts to communities.
- DEQ should require the use of environmentally superior technologies as required in the 2000 Smithfield Agreement and phase out lagoon-sprayfield system.
- Farm 2038 is located within 100 feet of the 100-year floodplain.
- Biogas is a false climate solution. There are no significant methane emissions under natural aerobic conditions. It's only in the lagoon with anaerobic conditions where large quantities of methane are generated.
- Should use different method where methane would not be produced.
- Leakage can undo climate benefit.
- These modifications will increase nutrient concentrations in the waste being sprayed on the fields.
- We do not need new hog lagoons.
- Putting profit for Smithfield over people.
- “Greenwashing” effort. Exhaust from barns still being released to atmosphere and waste still being applied to fields.
- The virtual Public Meeting was a “cold and detached” platform to share information. The community did not have sufficient opportunity to participate. The public should see who they are talking to.
- DEQ do more to meaningfully engage communities.

Examples of statements and claims made by speakers in favor of issuing the permit modifications include:

- Installation of the digester systems will reduce greenhouse gas emissions.
- The additional income from the biogas will help farmers diversify.
- Biogas is reliable, renewable energy.
- Biogas will provide steady income for farmers.
- Installing digesters will provide protection from weather events, provide resiliency and sustainability.
- Biogas provide broad economic benefits.
- These digester systems are more environmentally friendly.
- These modifications propose no increase in number of animals. The moratorium is still in effect.
- These propose improvements in treatment and without these systems, it will continue as it is now.
- Concerned about this process to require public comment which is delaying action. It sends a message to farmers; it's a deterrent to those wanting to bring improvements.
- Digesters are proven technology and will improve both air and water quality in Duplin and Sampson Counties and has already been proven to work in eastern NC.
- Digesters reduce odors and capture methane that would otherwise be released into the environment.



- Digesters are the most cost-effective way to meet most of the environmentally superior technology standards.
- EPA Climate '21 Project Transition Memo provides climate change recommendations to President Biden. The memo includes recommendations to provide financial assistance to capture methane from animal waste and that this would help address environmental justice issues associated with swine farms.

A recording of the Public Meeting as well as a list of persons who spoke at the meeting can be made available by DWR upon request.

Response:

The comments and issues expressed during the Public Meeting are similar in nature to the written comments and will be addressed in the response to written comments. All public comments, both written and oral, were considered carefully in the development of this report.

B. General Written Comments in Support of Permit Issuance

Many of the written comments provided during this public comment period were also provided during the comment period for the Align RNG's Air Quality permit in October-November 2020. Many of the individuals used similar language to each other and was echoed in the oral comments during the Public Meeting. Following are some examples of the text of the general comments in favor of issuing the permit modifications:

- *“By converting waste methane into repurposed energy for homes and businesses, this project introduces a sustainable solution that will significantly clean up our communities. The creation of new jobs and business opportunities will diversify and expand our local economies. Furthermore, local farm families will benefit from new revenue streams produced by Align’s RNG technology. We want the best for our neighbors and ourselves. Align RNG will create better, cleaner and more sustainable future that allows our region to continue operating its vital hog industry. Please help our communities grow and prosper by approving the Animal Feeding Operation Permits for our local farms.”*
- *“I’d like to start by clearing up some misconceptions being spread by those who oppose this important project:  
  
First, the proposed modifications to these permits DO NOT increase the number of permitted animals allowed on these farms. There have been no new hog farms constructed in North Carolina since 1997 and the moratorium on new farms remains in effect today. We are not increasing*

*the number of hogs raised in North Carolina – we are only making the pork industry more environmentally friendly and sustainable for future generations of pig farms.*

*Second the proposed modifications to these permits represent IMPROVEMENTS to the current manure management system. Adding covered digesters, capturing methane gas and generating renewable energy is a step in the right direction – not a step backward. If these permits are not approved, the farms will continue to operate as they always have.*

*And, lastly, the draft permits for the farms that want to embrace new technology to provide clean, renewable energy to our neighbors were submitted in 2019. These permits are only becoming more stringent – 11 additional permit conditions have been added to the existing 78 burdensome conditions contained in the general permit.”*

- *“This project provides farmers like me another opportunity to do something good for our environment by reducing greenhouse gases.”*
- *“The opportunity to capture methane gases and generate renewable energy is another financial tool that will benefit our farmers. It will help us remain in business and continue to do the noble work of feeding a hungry world.”*
- *“By converting waste methane into repurposed energy for homes and businesses, this project introduces a sustainable solution that will significantly clean up our communities. The creation of new jobs and businesses opportunities will diversify and expand our local economies. Furthermore, local farm families will benefit from new revenue streams produced by Align RNG technology.”*
- *“The swine industry is vital to NC, especially eastern NC. This new application of old technology opens up new revenue streams and opportunities on existing farms while also reducing the environmental footprint of the farms.”*

Response:

DEQ and DWR acknowledge the economic role that the swine industry plays in North Carolina for individual farmers, support industries, the community and the state. The additional treatment provided by the proposed digester systems will serve to capture greenhouse gases.

DWR affirms that the proposed permit modifications do not result in an expansion for any of the swine operations. These permit modifications are only for the implementation of the additional treatment provided by the digester systems that also serve for methane capture. No increase in permitted swine capacity is requested nor would it be allowed based upon the submitted waste treatment system design.

### C. Comments from Industry Groups in Support of Permit Issuance

DWR received comments from several organizations and industry groups in support of the issuance of the swine biogas permit modifications. These organizations include:

- Cape Fear Farm Credit
- Carolina Farm Credit
- NC Farm Bureau Federation
- NC Pork Council
- Cavanaugh Solutions
- Align Renewable Natural Gas, LLC

Comments provided by these organizations are extensive but can be summarized into the following points and arguments in support of issuance of the swine biogas permit modifications.

- The cumulative impacts to water resources are fully addressed for the biogas project by statute, rule, and in the permit conditions. These permits prohibit the discharge of waste to surface waters. These permits contain conditions to prevent the farms from causing or contributing to a contravention of any surface or groundwater standard.
- The addition of engineered anaerobic digesters will be environmentally beneficial; nutrient loadings will not increase and will likely decrease.
- This project will result in a cumulative benefit to the communities surrounding these farms by improving air and water quality near the farms.
- Farm families are struggling to remain productive and profitable in today's challenging markets, and all opportunities to embrace new technologies which convert farm waste products into economically beneficial products should not be squandered.
- Capturing biogas and associated emissions from farms has positive benefits including environmental resiliency and sustainability as well as economic benefits for local producers and rural economies in NC.
- These permit modifications will enhance the manure management system without increasing the permitted capacity of animals on the farms and without adversely impacting the farms' nutrient management plans.
- These projects will significantly reduce emissions from the farms and produce renewable energy, both of which are consistent with the North Carolina Clean Energy Policy.
- The permit applications were submitted to DWR in December 2019 and were long ago considered to be complete.
- The EPA Climate 21 Project Transition Memo points out the benefits of anaerobic digesters in treating animal waste, stating that "this would also help with environmental justice objectives specific to hog farming in the

southeast...”. The memo further recommends that USDA increase the adoption of methane digesters for livestock.

- Anaerobic digesters reduce odors through the destruction of organic compounds.
- This project will lead to an overall reduction of emissions. Methane will be captured and injected into an existing natural gas pipeline. Hydrogen sulfide that would otherwise be lost to the atmosphere will be destroyed.

Response:

DWR recognizes the importance of economic development, reduction of greenhouse gas emissions, the goals of the NC Clean Energy Plan, and the protection of North Carolina’s water and air resources. The proposed digester systems will serve as additional pretreatment for the existing animal waste treatment system. The digester systems and associated methane capture will reduce emissions of greenhouse gases and odors from the swine operations.

Decisions regarding the issuance of the requested permit modifications must be based on the proposed treatment systems’ ability to comply with applicable state and federal regulations and laws.

D. General Written Comments in Opposition to Permit Issuance

DWR received many written comments similar to those expressed at the virtual Public Meeting that oppose the issuance of these permit modifications. Following are examples that provide a summary of the comments received.

- *“The area in which it (the permit) is to be located is already over-burdened with pollution associated with the hog farms, chicken farms, and many other polluting industries. It is also an area where predominately minority members live and should be shielded from more polluting projects as a matter of health and environmental equity.”*
- *“I am writing to express my strong objection to the permitting of biogas production from swine CAFOs in NC. Generating biogas in this way encourages the further concentration of animal production (a concern for public health and animal welfare), threatens the public health of area residents, undermines property values, and threatens surrounding and downstream ecosystems (by creating even more concentrated and toxic waste.”*
- *“We should focus on clean energy, not dirty fuel like this. By running miles of pipeline from waste lagoons that concentrate urine and feces through areas that are already disproportionately impacted by industrial pollution, you are heading in the wrong direction.”*

- *“The Grady Road Project will fall short of ‘superior technology’ with capped lagoons that will create concentrated ammonia in the liquid waste that will continue to be sprayed on fields, which then runs off into our waterways and seeps into the groundwater.”*
- *“The concept of considering hog waste a renewable energy source is misleading as hog waste remains an environmental toxin and is blatant greenwashing of a fundamental problem associated with the lagoon and spray systems. This process being considered is lacking full disclosure of information and lacks any conversation and action about environmental justice in the communities where these modifications are being suggested. In addition to the lagoon changes, the building of pipelines and compressor stations to follow the installation of digesters must be considered in this proposal.”*
- *“The biogas venture between Smithfield Foods and Align Renewable Natural Gas will release more ammonia into the surrounding air, soil and water, jeopardizing the health and well-being of the people living in and around those areas. The covered hog waste lagoons are still prone to flooding during storms and hurricanes, the 30+ mile pipeline could displace families from their homes and businesses if the companies invoke eminent domain, and there is always the possibility that the pipeline could rupture, leak, or even explode.”*
- *“We don’t know enough about the project (RNG), and neither does DEQ. The agency requested more information from Align RNG for the air permit. DEQ issued the permit without receiving that info, including which 19 farms will comprise the project.”*
- *“I urge DEQ to withhold any decisions relating to granting this permit until there can be meaningful consideration of cumulative and disproportionate impacts and meaningful engagement with community members followed by a public hearing.”*

Response:

DWR is sensitive to issues involving environmental justice, clean energy, and resiliency. The following addresses issues raised, either in oral or written comment, by those in opposition to the issuance of these permit modifications.

- The necessary monitoring requirements are enumerated in the draft individual permits, Section III. Monitoring and Reporting Requirements.
- The proposed digester systems are to serve as an additional treatment unit in advance of the existing animal waste management system. The digesters would not increase odors at the animal facilities. The capture of biogas will also remove much of the hydrogen sulfide gas. The removal of hydrogen sulfide from the waste stream will reduce odors in the subsequent waste storage

structures as well as in the animal barns by reducing the amount of sulfur in the recycled wastewater used to flush the barns.

- The proposed permit modifications do not allow for a further concentration of swine animals. These permits do not allow for an increase or expansion in the swine capacity.
- The swine waste generated on these farms will remain on the farms. The swine waste will not be transported to the Align RNG facility. In the proposed system, only the biogas captured by the digesters will be collected and transported via low-pressure collection pipes to the biogas upgrading facility, Align RNG.
- In other states where odor issues occurred at biogas facilities, the odor issues were related to the transportation and storage of waste at the biogas facility. Waste will not be transferred to the proposed Align RNG biogas upgrading facility. All waste stays on the swine farms.
- Two of the swine farms did file sludge Plans of Action (POAs) in 2016. The sludge was removed in 2016 according to the POAs at both Waters Farm-M&M Rivenbark (AWS310035) and Farm 2037 & 2038 (AWS820466). These same two farms did report high freeboard levels in the past three years. Each situation was reported, a POA submitted, and returned to compliance as required by their permit. DWR staff conducted an onsite inspection of each of the four farms after the public meeting to evaluate compliance of each operation. The operations were found to be in compliance with their current permit requirements.
- The proposed digesters and the existing waste lagoon structures are not/will not be located with the 100-year floodplain. DWR verified that none of the existing structures on the four facilities have ever been inundated (flooded over) nor have they ever overtopped.
- Methane is currently being generated by animal waste being produced, stored, treated and disposed of on these swine farms. The propose permit modifications are requested for the capture of the methane.
- The biogas collection pipelines are low pressure which differs greatly from the high-pressure natural gas pipeline that the biogas will be injected into. In general, pipelines are designed to eliminate leakage.
- The proposed digester systems will not increase the nutrients or nutrient concentrations in the waste being land applied. The digesters do not increase the amount of nitrogen in the digestate; the digestate contains the same amount or marginally less nitrogen in the waste leaving the digester as what flows into the digester. Some ammonia gas will be removed with the biogas. The same waste that flows into the lagoons now will continue to flow into the lagoons after the digesters are installed minus the biogas. The existing lagoons will continue to serve as treatment lagoons and secondary containment. The same reductions in ammonia concentration will continue to occur through atmospheric losses from the lagoons.

Additional responses to technical and regulatory based opposition to permit issuance is provided in the next section – E. Comments from Environmental Advocacy Groups in Opposition to Permit Issuance.

#### E. Comments from Legislative and Environmental Advocacy Groups in Opposition to Permit Issuance

DWR received comments from many organizations expressing opposition to the issuance of the swine biogas permit modifications. These organizations include:

- Members of the North Carolina General Assembly
- Center for Biological Diversity
- Clean Water for North Carolina
- Clean Air Carolina
- APPPL – The Alliance for the Protection of the People and the Places we Live
- North Carolina Environmental Justice Network
- Sierra Club
- Southern Environmental Law Center on behalf of Rural Empowerment Association for Community Help (REACH), Cape Fear River Watch, Sound Rivers, North Carolina Conservation Network, Crystal Coast Riverwatch, Crystal Coast Waterkeeper, White Oak-New River Alliance, Clean Water for North Carolina, Winyah Rivers Alliance, Toxic Free North Carolina, Clean Air Carolina, Center for Biological Diversity, Public Justice, Food & Water Watch, and Animal Legal Defense Fund.

These organizations submitted many comments regarding the proposed permit modifications. The breadth of the subject matter in these comments can be summarized to include the following points and claims in opposition to the issuance of the swine biogas permit modifications.

##### Environmental Justice

- The proposed project does not address the environmental justice concerns related to the swine industry. Issuance of these permits will have disparate impacts on low-income communities and communities comprised primarily of people of color including Black, Hispanic, and Indigenous peoples as well as those with limited English proficiency.
- There is a lack of transparency and crucial information; there has been inadequate details shared and inadequate time for meaningful community input.
- Smithfield will profit from the production of biogas while displacing the costs and health burden on resulting pollution onto vulnerable NC families.

### Smithfield Agreement – Environmentally Superior Technology

- In the Smithfield Agreement, signed twenty years ago, Smithfield Foods committed to transition to cleaner, more sustainable technology (environmentally superior technologies (EST)) to manage waste. DEQ should hold Smithfield to this promise.
- The Smithfield Agreement remains in effect and these facilities should be required to utilize the least adverse practicable waste treatment alternative.
- Issuing these permits further entrenches the lagoon-sprayfield system which has detrimental impacts on the environment and public health. This system is outdated and was banned in 2007.
- Biogas projects should be required to meet all the performance standards of the Smithfield Agreement which are the performance standards for new and expanding swine operations.

### Increased nutrients/pollution

- Capping lagoons to produce biogas increases water pollution due to higher concentrations of ammonia in the sprayed waste.
- When digestate enters the secondary lagoons, it contains significantly higher concentrations of nitrogen and other pollutants relative to a traditional hog lagoon.

### Cumulative Impacts

- DEQ must consider the cumulative impacts of the Grady Road Project and to do so must know the identity and location of all 19 hog operations that are involved as well as the location of the pipeline.
- Once CWR evaluates the cumulative effects of the entire project it must then adjust permit limits to prevent the violation of water quality standards.

### Monitoring – Additional Requirements

- These permits do not add critical monitoring, freeboard, or sludge management conditions to reflect the changing nature of the waste management system.
- Nutrient management plans must be updated to reflect changes to the waste.
- More stringent freeboard requirements are necessary.
- There should be additional sludge monitoring – twice annually.
- There should be additional sampling of the digestate and have emissions monitoring from the secondary lagoons.

### Biogas – not a climate solution

- Fugitive methane emissions will continue to pollute. By using digesters to maximize methane production, the amount of fugitive methane emissions will increase. There is no information on the amount of methane intentionally emitted during “venting” from swine farms when the central processing facility is not accepting biogas.



- This project proposes to make more methane and then convert it to a natural gas in a process that emits sulfur dioxide.

#### Other technologies

- Liquid-solid waste separation and nitrification-denitrification technology mitigate many of the risks associated with current and proposed animal waste treatment. This has been used in other states.

#### Non-compliance

- The swine farms covered by these draft permits have history of non-compliance.
- Farm 2037 & 2038 (AWS820466) has had a twentyfold increase in the number of animals. This farm has struggled with freeboard and sludge compliance in last two years. This farm has had discharges in 2019 – an overflow at the facility with the waste captured in backup containment. This farm had discharges in the late 1990s and early 2000s.
- Waters Farm (AWS310035) had high freeboard levels in 2018 and early 2019. There was a discharge in May 2019.

#### Response:

##### Environmental Justice

- As referenced above in the Notice of Public Meeting, the January 26, 2021 Public Meeting was accessible by both dial-in phone numbers and by the internet via the WebEx platform. The meeting was live in both English and Spanish online and over the phone. As detailed above and in the Environmental Justice Report, extensive outreach was done to contact potentially impacted communities of concern. All comments received are considered and weighed equally without regard for the method received.
- One purpose of the Public Meeting was to communicate directly with and engage communities of concern. Communication was held between DEQ and various local community organizations to increase outreach to community members.
- DEQ created and distributed a flyer to outline the details of the proposed swine biogas modifications and the public meeting. The flyer was also translated into Spanish and distributed to the Spanish speaking community.
- DEQ and DWR engaged in meaningful consideration of Environmental Justice issues and invested in public engagement and participation to ensure that all affected communities had an opportunity to have meaningful involvement in the permitting process.

### Smithfield Agreement – Environmentally Superior Technology

- The Smithfield Agreement (“the Agreement”) was entered into on July 25, 2000, by then-Attorney General Michael Easley and Smithfield Foods, Inc. and several of its subsidiaries. DEQ was not a signatory or a party to the Agreement, nor did the Agreement provide DEQ with any authority. The terms of the Agreement are not part of the statutes or rules that DEQ must rely upon when making decisions on the four pending permit modification applications.

Among other things, the Agreement provided for the identification, development, and installation of “Environmentally Superior Technologies” on Smithfield-owned farms. “Environmentally Superior Technology” is a defined term in the Agreement. In addition to meeting five specific performance criteria, the technology or technologies also must be economically feasible. Under the Agreement, whether a technology meets these criteria is a determination made by a “Designee” selected by North Carolina State University, not DEQ. The Agreement’s requirements for the implementation of “Environmentally Superior Technology” are not enforceable by DEQ and are outside the scope of the permitting decisions pending before DEQ.

- While the performance criteria for “Environmentally Superior Technology” in the Agreement are the same in substance as statutory and regulatory performance standards for new and expanding swine operations included in NC General Statute 143-215.10I(b)(2) and 15A NCAC 02T .1307-.1308, the requested permit modifications do not propose an increase in the permitted capacity of any of the swine facilities. Accordingly, those statutory and regulatory provisions are not applicable. The requested permit modifications are subject to the same statutory and regulatory requirements and limitations as the existing swine operations.

### Increased Nutrients/Pollution

- The proposed digester systems will not increase the nutrients or nutrient concentrations in the waste being land applied. The digesters do not increase the concentration of ammonia in the digestate; the digestate contains the same amount or marginally less ammonia in the waste leaving the digester as what flows into the digester. The same waste that currently flows into the lagoons from the barns will pass through the digesters and flow into the lagoons, minus the biogas. The existing lagoons will continue to serve as treatment lagoons and secondary containment. The same reductions in ammonia concentration will continue to occur through atmospheric losses from the lagoons. The waste that is land applied will have the same or slightly reduced nutrient concentration as that currently being land applied.

- The swine farms will continue be subject to non-discharge requirements. They must follow a nutrient management plan that requires waste be applied at no greater than agronomic rates. The swine farms will continue to be subject to waste and soil sampling as required by NC General Statute 143-215.10C.

#### Cumulative Impacts

NC General Statute 145-215.1(b)(2) states in part: *[t]he Commission shall also act on all permits so as to prevent violation of water quality standards due to the cumulative effects of permit decisions. Cumulative effects are impacts attributable to the collective effects of a number of projects and include the effects of additional projects similar to the requested permit in areas available for development in the vicinity.*

- The permit modifications under consideration are for existing swine operations that have been permitted for more than 20 years. The proposed modifications do not result in any expansion as measured by steady state live weight. The addition of digesters provides additional treatment of wastewater prior to secondary treatment in the existing lagoons and land application. The digesters and biogas capture reduces methane emissions that would otherwise be released by the existing lagoons. The proposed modifications are for non-discharge permits that will continue to prohibit the discharge of wastewater to surface waters. The permittees would continue to be required to adhere to their nutrient management plans that require waste to be applied at no greater than agronomic rates and would be required to sample and monitor waste and soils as required by NC General Statute 143-215.10C to prevent impacts to soil and groundwater. Accordingly, the addition of a digester existing lagoons through the proposed permit modifications does not increase the potential for water quality standard violations whether the effects are viewed individually or cumulatively.
- To address concerns regarding the biogas collection pipelines, DWR inquired about proposed stream crossings for any gas lines. The Permittees responded that their design team has communicated with the Corp of Engineers and verified that all proposed stream crossings will be treated as jurisdictional waters; crossings will be achieved using directional boring which will not impact water quality.
- The permits are for waste management systems that are required to be designed, operated and maintained to have no discharge.

#### Monitoring – Additional Requirements

- The monitoring and recordkeeping requirements are addressed in Section III of the draft individual permits and the State General Permit. These permit conditions are based upon statutory and regulatory requirements.
- The permits also specify that DWR can implement additional requirements if DWR determines them to be necessary based on performance.

### Biogas – Not a Climate Solution

- The North Carolina Clean Energy Plan (Plan) speaks to the important role biogas/renewable natural gas (RNG) can play in reducing methane emissions, stating that “reducing methane emissions can have a larger impact on the environment than other carbon reduction initiatives.” The Plan anticipates new RNG projects at swine farms as well as landfills and wastewater treatment plants. The Plan acknowledges the benefits of RNG to reduce overall carbon emissions, improve resiliency, and promote economic development in the most impoverished areas of the state.
- Biogas that cannot be transferred to the Align RNG biogas facility will be flared at the originating digester site to destroy the biogas and associated greenhouse gases.
- EPA’s Climate 21 Project Transition Memo, developed to provide recommendations to the Biden Transition Team, identifies the benefits of anaerobic digesters in treating animal waste. The Memo states “this (use of digesters) would also help with environmental justice objectives specific to hog farming in the southeast...”. The memo further recommends that USDA increase the adoption of methane digesters for livestock.
- DWR is not aware of any applicable statutes and regulations that would prevent the issuance of the requested permit modifications on the basis of greenhouse gas related issues.

### Other Technologies

- The implementation of other/additional technologies is not required for the requested permit modifications. Because the requests do not include any proposed expansion (increase in steady state live weight), the facilities are not subject to the Performance Standards for New/Expanding Swine Operations required by NC General Statute 143-215.10I and 15A NCAC 02T .1307-.1308. DWR does not endorse specific technologies but rather requires that performance of proposed systems satisfy regulatory requirements.

### Non-Compliance

- DWR evaluates the compliance history of permitted facilities when reviewing permit modification requests. The times of high freeboards were self-reported in a timely manner, POAs were properly submitted, and the structures were returned to compliance in a timely manner. The two facilities that experienced sludge non-compliance developed and followed sludge POAs to return the lagoons to compliance as required by their permits.
- 15A NCAC 02T .1302 defines an “expanded animal waste management system” as an increase the Steady State Live Weight (SSLW) associated with the animal waste management system. No expansion occurred for Farm 2037 & 2038. Farm 2037 & 2038 was originally permitted as two separate facilities that were each permitted for 1,000 Farrow-to-Finish Swine operations. The two

facilities were combined under one permit and the other permit was eliminated. In 2005, the facility converted from 2,000 Farrow-to-Finish Swine (total SSLW of 2,834,000 pounds) to 20,992 Feeder-to-Finish Swine (total SSLW of 2,833,920 pounds). While the permitted number of animals appears to have increased, the permitted SSLW has not increased. The difference in the number of permitted animals reflect the differences in the operation types and sizes of the animals. Farrow-to-Finish operations have permit numbers based on the number of farrowing sows; the associated piglets, nursery pigs, and finisher pigs are accounted for in the 1,417-pound average per sow. This is in contrast to the 135-pound average weight per pig for the Feeder-to-Finish operation type.

- The 2019 overflow of waste to a secondary containment structure at Farm 2037 & 2038 did not result in a discharge of waste to surface waters. Many facilities have installed secondary containment structures designed to capture waste in the event of a malfunction or leak in and around the animal barns. The secondary containment structure acted as designed to prevent discharge of waste to surface waters.
- The 2019 discharge at the Waters Farm-M&M Rivenbark Farm occurred due to a broken pipe in a lift station. The discharge was self-reported and waste was recovered from the stream. To prevent possible future discharges, a secondary containment was built around the lift station. Secondary containment is also being provided for all lift stations associated with these proposed permit modifications.
- DWR staff conducted onsite inspection of each of the four farms after the public meeting to evaluate compliance of each operation. The operations were found to be in compliance with their current permit requirements.

#### F. Overview of Site Visit subsequent to Public Comment

In consideration of comments received, DWR conducted site visits to all four swine farms requesting biogas permit modifications. Christine Lawson, DWR Animal Feeding Operations Central Office, and Trent Allen, Fayetteville Regional Office Supervisor, met with representatives from Smithfield Hog Production and Cavanaugh Solutions on February 11, 2021. A site inspection was conducted to observe all existing waste structures, proposed digester locations, existing and proposed lift station sites, proposed flare locations, proposed gas conditioning locations, land application fields, and proposed gas line locations. Sites were evaluated to verify information submitted in the application process, identify any potential areas of concern, and areas for potential additional best management practices. The four facilities utilized a variety of land application methods including traveling guns/reels, center pivots, and hose-drag systems. Fields appeared to be well maintained although saturated by recent rain.

All four swine operations were found to be in general compliance. No issues were identified that would suggest the proposed anaerobic digesters would present compliance challenges.

Two lagoons at Farm 2037 & 2038 had high freeboard levels; waste levels were at 18.5 at Farm 2037 and at 17 inches for the Primary lagoon at the Farm 2038 site. The high freeboard levels were reported, a POA submitted, and the lagoon levels were returned to compliance.

Sludge bags were still onsite at the Waters Site 3-4-5, permit AWS310035. At least one sludge bag was ruptured, but all the sludge bags were in a containment area that captured stormwater and diverted it back into the lagoon. Owner representatives were informed that the sludge bags must be covered immediately, and the sludge be removed for proper disposal as quickly as possible.

During the site visit, DWR staff specifically evaluated treatment, storage, and land application sites for potential improvements with respect to nearest neighbors and the community. All four farms comply with siting and setback requirements. Many of the barn sites, lagoons, and proposed digester sites were not visible from public roads or neighboring properties. The Waters Site 1-2 had planted vegetated buffers along the public road for most of the farm and land application fields.

## V. Conclusions and Recommendations

After considering all the public comments addressing the four subject animal feeding operation permit modifications to construct anaerobic digester systems for the capture of biogas, no additional statutory or regulatory requirements are necessary for the issuance of the four animal feeding operation permits. The following recommendations are made to validate anticipated pollutant reduction and treatment effectiveness.

- Animal Feeding Operations Individual Permits AWI310035 (Waters Farm–M&M Rivenbark Farm) and AWI820466 (Farm 2037 & 2038) should be issued with the following modifications:
  - Add a requirement for quarterly nutrient and pathogen sampling of the digester effluent that is being transferred to secondary storage. This sampling should be conducted for the first two years that the digesters are in operation.
- Animal Feeding Operations Individual Permit AWI310039 (Benson Farm) should be issued with the following modifications:
  - Add a requirement for quarterly nutrient and pathogen sampling of the digester effluent that is being transferred to secondary storage. This sampling should be conducted for the first two years that the digesters are in operation.
  - Recommend the implementation of additional best management practices (BMPs) for pulls 17, 18, and 19 to further reduce risk to neighboring property owners and the community. The BMPs may include one or more of the following:

- Use of hose-drag land application method.
  - Increase land application setbacks.
  - Planting of vegetative buffers along roadways and residential property lines.
  - Reduce or eliminate use of these specific pulls for irrigation using traveling gun/reels.
- Certificate of Coverage No. AWS820005 should be issued to the Kilpatrick Farm 1, 2, 4, & 5, & Merritt Farm for coverage under the Swine State General Permit.
  - Recommend the implementation of additional BMPs for pulls 32 and 33 as well as other pulls facing public roads to further reduce risk to neighboring property owners and the community. The BMPs may include one or more of the following:
    - Use of hose-drag land application method.
    - Increase land application setbacks.
    - Planting of vegetative buffers along roadways and residential property lines.
    - Reduce or eliminate use of these specific pulls for irrigation using traveling gun/reels.