

Hyco Lake Gas Plants – Air Permit

The Division of Air Quality (DAQ) is part of a state agency and is tasked with protecting and improving air quality in North Carolina. The DAQ is reviewing an air pollution permit Duke Energy wants approval of for two methane gas plants at Hyco Lake. Without the air permit, Duke cannot build these gas plants. Now, the DAQ is seeking input from the public on the permit, which could influence whether they approve or deny the permit.

The Division of Air Quality should deny the air permit because:

Air pollution

Duke Energy presents its plan for methane gas power plants as a cleaner alternative to coal but fails to fully acknowledge the environmental impacts of methane gas.

- Duke's own plan says that the plants will release more dangerous volatile organic compounds and carbon monoxide than the existing coal plant.
- Other pollutants the gas plants would release: nitrogen oxides, particulate matter, and sulfur dioxide.
- Duke is planning to run the gas plant and the coal plant at the same time - it's unclear for how long and what the combined impacts would be.
 - In one of their plans, they say this could be for five years.
- Because of accidental and intentional leaks at pipelines and power plants, methane gas contributes to climate change just as much as coal.
- While methane gas plants emit less carbon dioxide (CO₂) than coal plants, the amount would still be substantial, at 12.8 million tons of CO₂ per year.
- Duke's plan doesn't have effective ways to monitor certain harmful pollutants, including sulfur dioxide, sulfuric acid, and arsenic.
 - Failure to monitor and control these pollutants can lead to a higher risk of skin, lung, and bladder cancer, breathing problems, and respiratory tract irritation.

Community health concerns

- Duke is ignoring the fact that the surrounding community has already endured decades of polluted air and deals with high rates of troubling health effects.
 - The area near the proposed site of the gas plants has significantly higher rates of infant and child mortality and babies born with a low birthweight, compared to the national average (97th percentile, 95th, and 90th, respectively).
 - The area has higher rates of stroke, cancer, chronic heart disease, and COPD than 70% of adults in the U.S.
 - Person County's cancer incidence rate is ranked 17 out of 100 NC counties
 - On average, someone born in the area where they're proposing the gas project has a life expectancy that is 6 years shorter than someone born in certain parts of Durham.
- Duke's own analysis shows that the gas plants may increase the area's already high risk of cancer due to certain harmful air pollutants.

Failure to comply with federal law

- Duke doesn't explain how it will follow federal law (Clean Air Act 111 rules), which could lead to worse pollution than what Duke is saying in its plan.
- This law would require them to run the plant less than 40% of the time, which will require more startups and shutdowns. Not burning the gas efficiently will create more pollution, and their emissions control technology won't work when the plant is running this way.
- Ask: This permit cannot be approved unless Duke provides specific details on how it will comply with the Clean Air Act 111 rules.

Economic impacts

- The DAQ's mission statement says they work to protect and improve the "economic well-being of all."
- Duke's plan to build this gas plant (along with more across NC) would lead to higher bills for customers
 - Duke Energy Progress customers: 39% rate increase, Duke Energy Carolinas: 73% rate increase
- Piedmont Electric customers' rates would also likely increase because Piedmont buys power from Duke.

Pollutants from the gas plants and their associated health effects

Pollutant	Main Body Systems Impacted	Known Health Effects
Particulate Matter (PM)	Heart and cardiovascular, lungs, respiratory system	<ul style="list-style-type: none"> + Irritation of the eyes, nose and throat + Coughing and wheezing + Difficulty breathing + Worsening of asthma and other chronic lung diseases + Heart disease + Stroke + Lung cancer
Oxides of Nitrogen (NOx) / Nitrogen Dioxide (NO2)	Lungs, respiratory system	<p>Nitrogen dioxide causes a range of harmful effects on the lungs, including:</p> <ul style="list-style-type: none"> + Increased inflammation of the airways; + Worsened cough and wheezing; + Reduced lung function; + Increased asthma attacks; and + Higher chance of emergency department and hospital admissions + Potentially higher chance of asthma in children <p>A 2022 review of multiple studies found that elevated levels of NO2, as well as elevated particulate matter and sulfur dioxide, were strongly associated with <u>heart and lung harm, affected pregnancy and birth outcomes, and were likely associated with increased risk of kidney and neurological harm, autoimmune disorders and cancer.</u></p>
Sulfur Dioxide (SO2)	Lungs	<p>Sulfur dioxide causes a range of harmful effects on the lungs:</p> <ul style="list-style-type: none"> + Wheezing, shortness of breath, chest tightness and other problems, especially during exercise or physical activity. Rapid breathing during exercise helps SO2 reach the lower respiratory tract, as does breathing through the mouth. + Long-term exposure at high levels increases respiratory symptoms and reduces the ability of the lungs to function. + Short exposures to peak levels of SO2 in the air can make it difficult for people with asthma to breathe when they are active outdoors. + Increased risk of hospital admissions or emergency room visits, especially among children, older adults and people with asthma.
Volatile Organic Compounds (VOCs)	Lungs, respiratory system, gastrointestinal system, central nervous system	<ul style="list-style-type: none"> + Breathing VOCs can irritate the eyes, nose and throat, can cause difficulty breathing and nausea, and can damage the central nervous system and other organs. Some VOCs can cause cancer. + Outdoors, VOCs can cause similar health effects, but also can react with nitrogen oxides to produce ozone pollution, the nation's most widespread outdoor air pollutant. + VOCs can trigger asthma attacks or COPD exacerbations.
Carbon monoxide		Carbon monoxide is mainly an issue in indoor air quality. At low levels of exposure, it can cause headache, nausea, dizziness, weakness, confusion or disorientation.

How to share your thoughts on the air permit

Public Hearing

Tuesday, November 12 at 6-9 p.m. (doors open at 5:30 pm - you don't have to stay for the full time)
Piedmont Community College, Room D-101
1715 College Drive, Roxboro

You can also submit comments via email, voicemail, or postal mail. **The deadline is Nov. 22 at 5 p.m.**

- Email DAQ.publiccomments@deq.nc.gov with "DukeRoxboro.24A" in the subject line
- Voicemail by calling (919) 707-8714
- Mail comments to:
 - NCDEQ Division of Air Quality
1628 Mail Service Center
Raleigh, North Carolina 27699-1628

Speaking at the public hearing:

- You'll have a time limit of 3 minutes – you can submit a longer written comment after you speak
- You'll sign up on a sheet in order to speak. People will be called on to give their comment in the order they signed up
- If relevant, speak to your personal experience and how the gas plants would affect you or your community

If you have any questions, want more information about the permit, or want support writing your comment, contact Juhi at juhi@appvoices.org or (919) 307-7925.