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March 6, 2020

Submitted electronically via GHGMRR@dep.nj.gov

**RE: NJPACT - Written Comments on Periodic monitoring and reporting of New Jersey's greenhouse gas emissions; C:26:2C-41(c)(4) from any additional entities that are significant emitters of greenhouse gases, as determined by the department to monitor compliance with progress toward the 2020 limit and the 2050 limit.**

Per the New Jersey Department of Environmental Protection (Department) request on stakeholder feedback on Greenhouse Gases (GHG) Monitoring and Reporting from specific sources and those determined to be significant by the Department per C:26:2C-41(c)(4), the following comments are being provided for your consideration.

**Significance Threshold**

We understand that as part of the rulemaking the Department will establish a level of GHG emissions that is considered significant and subject to reporting under this rule. Consistent with other existing federal and state greenhouse gas programs, we recommend that the significant level should be in units of metric tons equivalent of carbon dioxide (CO2) or mtCO2e per year. Based on this threshold an entity may or may not be subject to the GHG monitoring and reporting rule based on the mtCO2e emissions and established significance level. We also understand that certain entities may be exempted based on not being a significant source and therefore an insignificant source of greenhouse gas emissions.

**Reporting from Significant Emitters of Greenhouse Gases**

Where these regulations may require certain entities to collect data and calculate greenhouse gas emissions and where these entities have not previously been subject to other air emission permitting and reporting programs, we would encourage the Department to provide an Excel spreadsheet for collection of this data.

The purpose of the Excel spreadsheet for each different type of entity would be to provide consistent emission factors and calculation methods from all entities subject to the reporting. An example of where this was applied and was effective in collecting consistent data across operators was the Pennsylvania Department of Environmental Protection (PADEP) program in collecting methane emission from midstream and pigging operations. The spreadsheets are provided on the PADEP website. [1]

A structured reporting mechanism will also ease the burden of reporting on the entities new to this type of GHG reporting, reduce errors in reporting, reduce inconsistencies in data, and reduce

the need for correcting data. The was an issue in the first few years of the EPA Greenhouse Gas Reporting Program (GHGRP) and it took considerable time and effort to get consistent data from similar sources of GHG emissions.

**Support for Biomass exemption based on Differences in Aerobic vs Anaerobic Composting**
We understand that the Department is considering a biomass exemption from GHG monitoring and reporting rules. We request the Department define biomass specifically for the purposes of the GHG monitoring and reporting rules to clearly define what sources of biomass would meet the exemption. Biomass is currently defined as part of the Renewable Portfolio Standard in N.J.A.C 14:8-2.2 and biomass from municipal solid waste is often defined as follows: Biomass, or biogenic (plant or animal products), materials such as paper, cardboard, food waste, grass clippings, leaves, wood, and leather products.

With regards to a biomass exemption in the GHG monitoring and reporting rulemaking by the Department, the following information is provided in support of the biomass exemption for composting operations. The following definitions from the Global Composting website explain the difference between aerobic ( with oxygen) and anaerobic (without oxygen) composting.

"Aerobic composting is decomposition of organic matter using microorganisms that require oxygen. The microbes responsible for composting are naturally occurring and live in the moisture surrounding organic matter. Oxygen from the air diffuses into the moisture and is taken up by the microbes. As aerobic digestion takes place the by-products are heat, water and carbon dioxide (CO2). While CO2 can be classified as a greenhouse gas it's evolution from the composting process is not counted in emissions. Additionally, CO2 is only 1/20th as harmful to the environment as methane (the main by-product of anaerobic degradation)."

"Anaerobic composting is decomposition that occurs using microorganisms that no not require oxygen to survive. In an anaerobic system the majority of the chemical energy contained within the starting material is released as methane. The process is characterized by very strong odors and only a small amount of heat is generated meaning decomposition takes much longer and doesn't reach sufficient temperatures to safely kill plant pathogens, weed and seeds. To overcome these limitations external (artificial) heat is normally added." [2]

Food waste composting is an aerobic process and releases carbon dioxide (CO2). Landfilling of food waste is an anerobic process and releases methane (CH4). Carbon Dioxide (CO2) is a greenhouse gas but it has a lower global warming potential then methane (CH4). Per 40 CFR Part 98 Table A-1 the global warming potential (GWP) of CO2 is one (1) and the GWP of CH4 is twenty-five (25). [3]. Additional studies have estimated that composting contributes very little to national GHG inventories generating only 0.01–0.06% of global emissions.[4].

**Significance for Methane Emissions – Slide 25**

Based on the New Jersey PACT stakeholder meeting slide No. 25, the major emitters of methane that emit 100 tons/yr (2268 mtCO2e/yr) or more will report as part of their annual emission statements. We request clarification from the Department on how 100 tons/yr was determined to be significant. It appears this value is being used in the context of a major facility definition per 7:27-8.1, although methane is not currently included in the definition.

We would encourage that sources of methane emissions be subject to a GHG significance threshold that is being developed by the Department and that these emissions also be calculated and reported in units of mtCO2e. Based on EPA eGGRT data from 2018, fifteen waste facility's in New Jersey reported greenhouse gas emissions to the EPA in units of mtCO2e on annual basis. These sources could use their existing reported GHG data and provide the amount of mtCO2e that is from methane only, if that information is required by the Department for GHG reporting.

As the Department develops its GHG reporting program we would recommend that all sources submit the information to the same reporting mechanism if that will be the annual emission statement or a separate GHG report. It is unclear why methane would be segregated to the annual emission statement and how 100 tons/yr (2268 mtCO2e/yr) was determined to be a major emitter and established as the significant threshold. For example, methane from landfill operations will vary based on many factors such as the number of flares, if the methane from the landfill is sent to a landfill gas to energy plant or other landfill gas capture project. We anticipate that the Department will also want to collect GHG monitoring and reporting data from minor (< 100 tons/yr) methane sources.

Thank you for consideration of the above comments on the NJPACT periodic monitoring and reporting of New Jersey's greenhouse gas emissions.

Best Regards,

Laura Miner, QEP, LEED GA
President
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References:

1. Emission. (n.d.). Retrieved from https://www.dep.pa.gov/Business/Air/BAQ/BusinessTopics/Emission/Pages/default.aspx
2. Aerobic Composting vs Anaerobic: Global Composting Solutions. (n.d.). Retrieved from https://www.globalcomposting.solutions/aerobic-vs-anearobic-composting
3. ECFR.io. (n.d.). e-CFR Title 40 Part 98. Retrieved from https://ecfr.io/Title-40/pt40.23.98
4. Amlinger, F., Peyr, S., & Cuhls, C. (2008). Greenhouse gas emissions from composting and mechanical biological treatment. *Waste Management & Research*, *26*(1), 47–60. doi: 10.1177/0734242x07088432
5. Data Extracted from EPA's FLIGHT Tool (http://ghgdata.epa.gov/ghgp), 08/04/2019