Pyrolysis/Gasification Units - U.S. Environmental Protection Agency Advance Notice of Proposed Rulemaking: National Association of Clean Water Agencies Comments

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The National Association of Clean Water Agencies ("NACWA") submitted December 20, 2021, comments on the September 8th Advance Notice of Proposed Rulemaking ("ANPRM") titled:

Potential Future Regulation Addressing Pyrolysis and Gasification Units

The ANPRM was published in the Federal Register on September 8th at 86 Fed. Reg. 50296.

The United States Environmental Protection Agency ("EPA") stated it was seeking information to assist in the potential development of regulations for pyrolysis and gasification units used to convert solid or semi-solid feedstocks to useful products such as:

- Energy
- Fuels
- Chemical commodities

The solid or semi-solid feedstocks referenced include:

- Solid waste (e.g., municipal solid waste, commercial and industrial waste, hospital/medical/infectious waste, sewage sludge, other solid waste)
- Biomass
- Plastics
- Tires
- Organic contaminants in soils and oily sludges

EPA states it is soliciting comments and data to assist the agency in considering potential changes to the Section 129 Clean Air Act regulations or in the alternative development of regulations pertaining to pyrolysis and gasification units undertaking the previously referenced activities. The agency states it has received inquiries about Section 129 Clean Air Act regulations for solid waste incineration units and potential applicability to pyrolysis and gasification units for a number of process and feedstock types. Such inquiries apparently led EPA to believe that there is:

. . . considerable confusion in the regulated community regarding the applicability of CAA section 129 to pyrolysis and gasification units.

EPA describes pyrolysis and gasification as:

> . . . heat induced thermal decomposition processes.

Pyrolysis is specifically described as a process where materials are thermally decomposed or rearranged under process conditions where extremely or little to no oxygen is present.

Gasification is described as a process of converting feed materials (primarily carbonaceous) into syngas (carbon monoxide and hydrogen) and carbon dioxide.

NACWA describes itself as representing the interest of more than 340 public clean water utilities of all sizes across the United States. It further notes that the services its members provide include:

. . . managing billions of gallons of the nation's wastewater and the millions of tons of biosolids generated as a byproduct of the wastewater treatment processes in a manner that ensures the continued protection of public health and the environment.

The comments note by way of background:

- That NACWA members only utilize a limited number of highly-regulated biosolids management pathways (primarily land application, land disposal and thermal treatment/incineration)
- Land application is facing bans in some states in light of PFAS related concerns
- Sewage sludge incinerators are struggling to meet stringent Clean Air Act MACT requirements
- Pressure is building to seek new and innovative technologies to manage biosolids such as pyrolysis and gasification

Several municipalities are noted to be invested in gasification and at least one utilizing pyrolysis to manage biosolids.

The points made by NACWA include:

- Gasification and pyrolysis should not be placed in the existing Clean Air Act categories
- EPA has already determined that gasification units processing biosolids are not sewage sludge incinerators
- If EPA regulates gasification and pyrolysis units, it should do so under Clean Air Act Sections 112, not Section 129
- Gasification and pyrolysis show promise in addressing PFAS pollution in biosolids
- EPA's Office of Air and Radiation, Office of Research and Development, and Office of Water must work closely on regulations impacting biosolids management

A copy of the comments can be downloaded here.