Position on Biosolids PFAS

Introduction

For its 2023 public hearing, the NJ Clean Water Council has solicited public input about environmental impacts of the PFAS family of chemicals, also known as "forever chemicals". This year's hearing, scheduled for January 19, 2023, from 1 to 3 PM (virtual), plans to address the management of PFAS in residuals (sludge/biosolids). To further advance the Department's mission to protect our waters from PFAS, the Clean Water Council has solicited public testimony focused on how to address the presence of PFAS in residuals and its potential impact on management alternatives.

The Mid-Atlantic Biosolids Association (MABA) recommends the NJ Clean Water Council work to contain PFAS releases at their source, through use of the industrial pretreatment program, product bans, and other preventive measures, not after their escape into sewers. The US Environmental Protection Agency (EPA) is driving development of PFAS analysis protocols in wastewater and biosolids, which currently are not approved for regulatory use, and will be using new risk assessment tools to establish standards and limits for concentrations. NJ Clean Water Council should await these protocols and federal guidance before obligating biosolids generators to spend public money.

What we now know about PFAS in biosolids

PFAS concentrations in wastewater and biosolids have been going down because of greatly reduced manufacture of PFOA and PFOS, two major types of PFAS, in commercial products since 2011, though their use has not been eliminated globally. The cessation of manufacturing of PFOA and PFOS in the U.S. has resulted in significantly declining levels of PFAS in human blood samples, which demonstrates the health improvement potential of eliminating sources of PFAS compounds.

States of Maine, Michigan and California have conducted comprehensive surveys of wastewater systems for potential PFAS contamination of biosolids that have demonstrated relatively low and consistent background concentrations arising from household and watershed sources and relatively few numbers of wastewater facilities significantly impacted by industrial releases of PFAS.

The "track down" of PFAS at industrial sites, airports and other suspected locations has proved effective at identifying "hot spots" of potential PFAS sources, and subsequent regulatory clean up responses to reduce PFAS releases to public sewers have also been effective.

Protocols for analysis of PFAS in wastewater and biosolids are still being developed by EPA and are not yet ready for regulatory application, and the variability in current sampling, extraction and analytical methods makes the comparison of results from different laboratories unreliable.

Sampling and analysis of biosolids is expensive because of the need for special equipment and trained personnel and challenges of obtaining accurate results at such low levels of measurement, such as errors introduced by cross contamination. Very few laboratory facilities are equipped to analyze PFAS.

At present, EPA is conducting research on the fate and transport of PFAS through land application of biosolids. Additionally, EPA is developing procedures for reproducible analytical methods and guidance for land application, landfill disposal and incineration. Compared to product use exposure, disposal options of landfilling and incineration may pose higher human and environmental risks than land application.

While research is still ongoing, recent findings have not shown adverse impacts of biosolids borne PFAS on human health and the environment, including low risks to groundwater and crops from sites where biosolids were land applied with average, "background" levels of PFAS concentrations.

Human exposures to PFAS compounds come not from biosolids but from ubiquitous sources in the environment, such as in household dust released from furniture, in individual and community water supplies, and in everyday household products.

What we recommend to the NJ Clean Water Council for addressing PFAS in biosolids

NJ Clean Water Council should continue its effort to identify sources of PFAS releases to public water sources and to evaluate the risk of releases to publicly owned sewer systems in New Jersey, including airfields, landfills, manufactures with historical PFAS use, and industrial laundries, drawing on work of officials in other states, such as Michael Person (Michigan EGLE) and Anthony Drouin (New Hampshire DES).

NJ Clean Water Council should participate in national research projects that seek to explore the fate of PFAS compounds in the environment, as are currently underway at Temple University (Dr. Erica McKenzie) and University of Arizona (Dr. Ian Pepper), and by the Water Research Foundation (P.I. Dr. Drew McAvoy) and by the Association of Clean Water Administrators (Jake Adler), participating in such research as resources allow.

NJ Clean Water Council needs to maintain a leading position in the accreditation of laboratories within the state of New Jersey for PFAS testing of wastewater and biosolids, as the EPA works to gain multi lab validation of its newly proposed 1633 test methods. NJ Clean Water Council needs to develop for public review and comment a protocol for use by biosolids generators on how to properly sample wastewater and biosolids to avoid contamination of the samples.

We recommend, too, NJ Clean Water Council subject to cost-benefit evaluation of all proposed PFAS regulations. The current focus by elected officials and media is apt to skew agency decisions in ways that will have negative consequences, such as reduction in biosolids recycling, hardship on farmers, and increased greenhouse gas production, with no meaningful reduction in PFAS exposure.

The "polluter pays" principle that guides many environmental protections in the state of New Jersey should be applied to reducing human and environmental risks from PFAS. This approach relies on the other principle that regulatory decisions be transparent and science based.