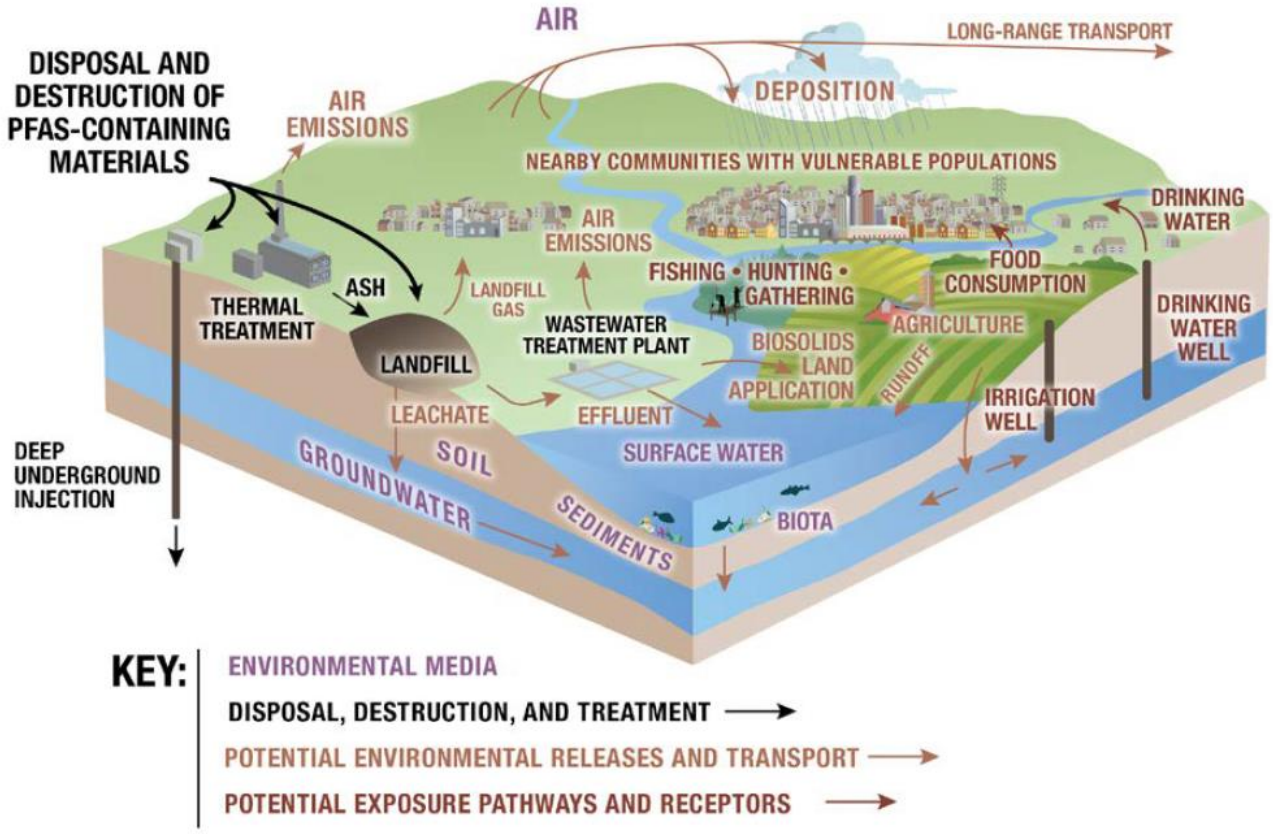
EPA Update- Biosolids and PFAS

New Jersey Clean Water Council Public Meeting
January 19, 2023

Overview of Today's Presentation

- Biosolids- Basics and Regulations
- EPA's Biosolids Program
- EPA's PFAS Roadmap- NPDES and Pretreatment
- EPA's Memorandums- Addressing PFAS Discharges

What are biosolids?



How are biosolids regulated?

- Section 405(d) of the Clean Water Act (CWA) requires EPA to
  - Establish numeric limits and management practices that protect public health and the environment from the reasonably anticipated adverse effects of chemical and microbial pollutants during the use or disposal of sewage sludge → 40 CFR Part 503

New Jersey State Regulations

- New Jersey Pollutant Discharge Elimination System (N.J.A.C. 7:14A)
  - NJ follows Federal (503) requirements, with slightly more stringent requirements for land applicators

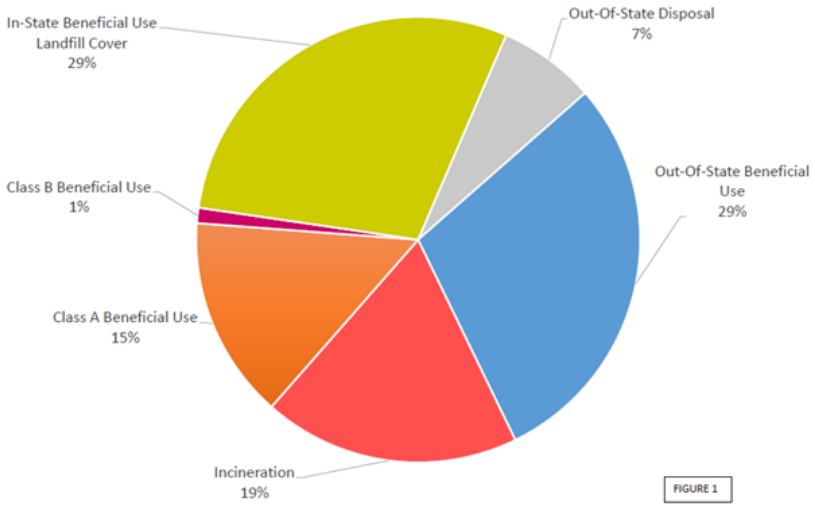
- Sludge Quality Assurance Regulations (N.J.A.C. 7:14C)
  - NJ specific regulations for sludge management
  - Regulations prescribe the method and frequency for reporting on the quantity, quality and management method of sludge generated by treatment works

Sludge Quality Assurance Regulations (SQAR – N.J.A.C. 7:14C)

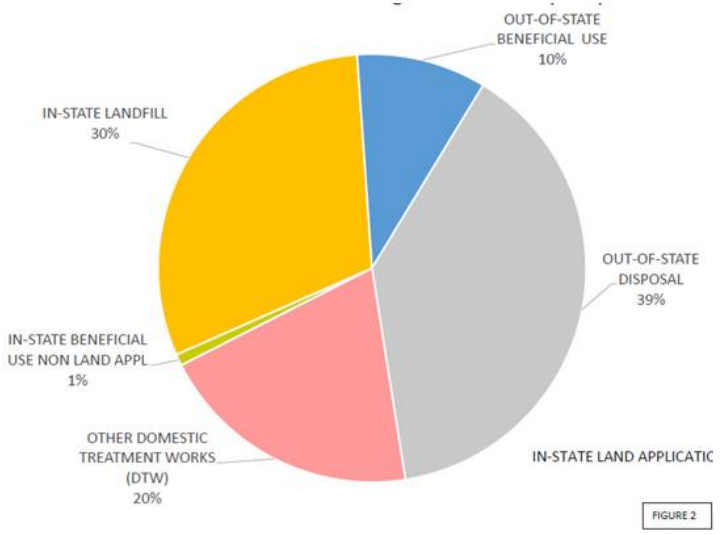
- Specific to NJ
- Applies regardless of management alternative
- Requires NJPDES permitted domestic and industrial sludge generators in the state to monitor quality, report quantity and management alternative
- Industrial facilities permitted by Delegated Local Agencies are required to monitor quality
- Out-of-state generators that transport sludge into state must comply with established monitoring and reporting requirements

2021 Management Modes by Residual Type

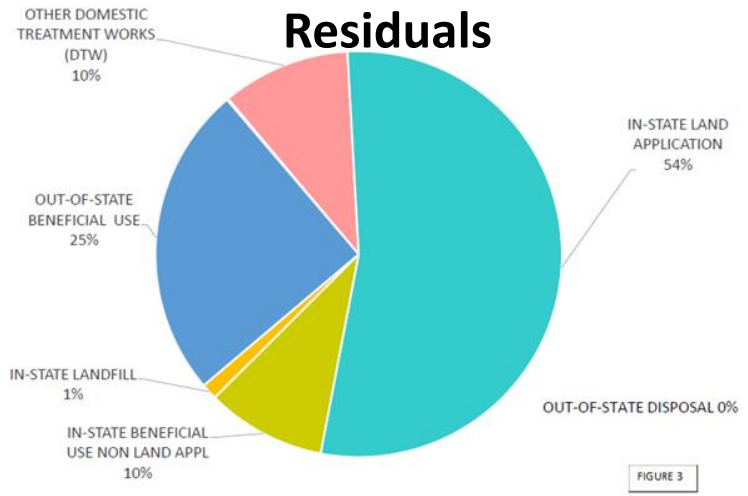
Domestic Residuals



Industrial Residuals



Food Processing and Water Treatment Residuals



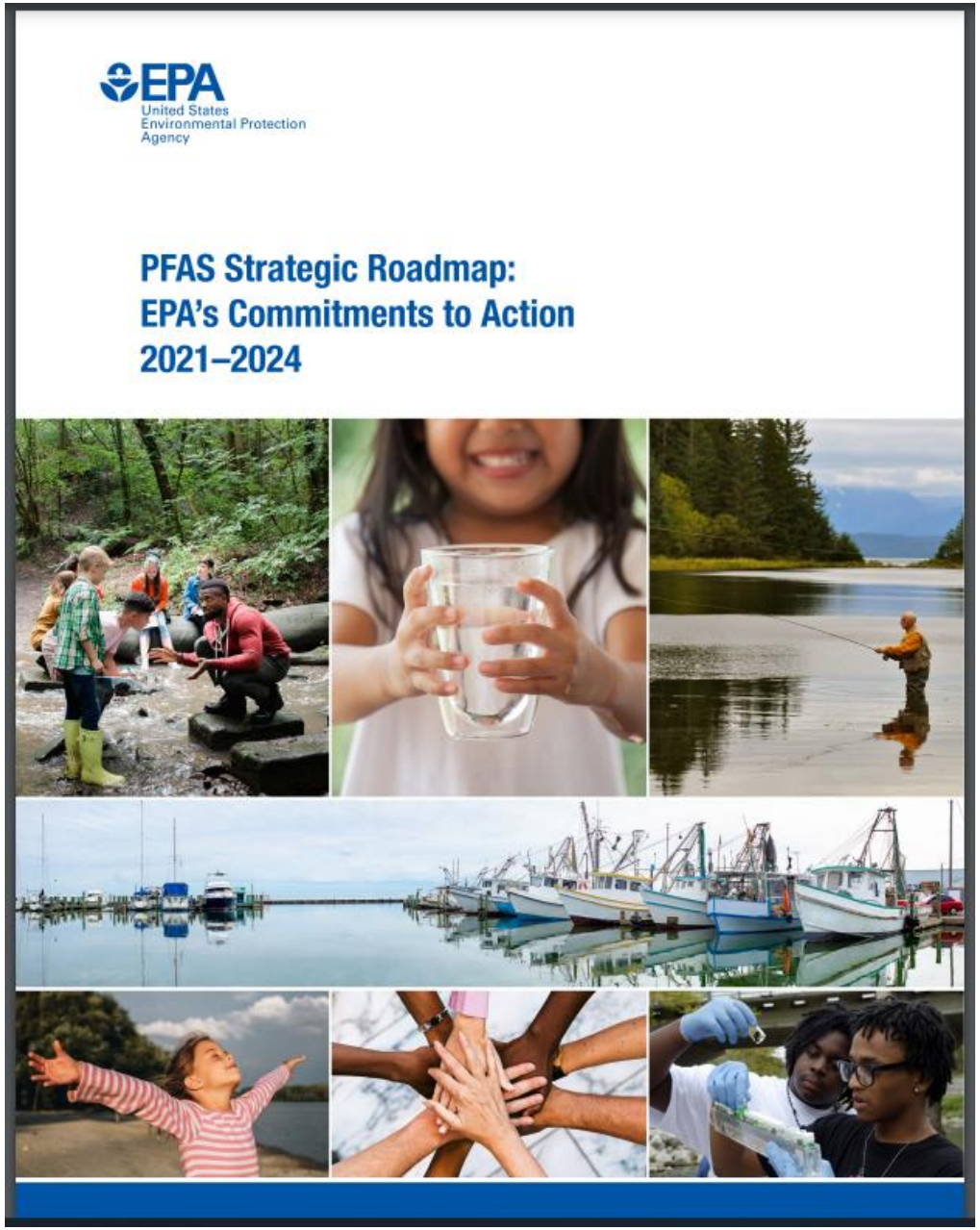
PFAS Strategic Roadmap

1. **Research –** effects of exposure on human health and ecology, effective interventions using the best science

2. **Restrict** - ***NPDES and Pretreatment Programs***

Pursue a comprehensive approach to proactively prevent PFAS from entering air, land, and water at levels that can adversely impact human health and the environment.

3. **Remediate** – broaden and accelerate cleanups



EPA Issued 2 Memorandums

- April 28, 2022

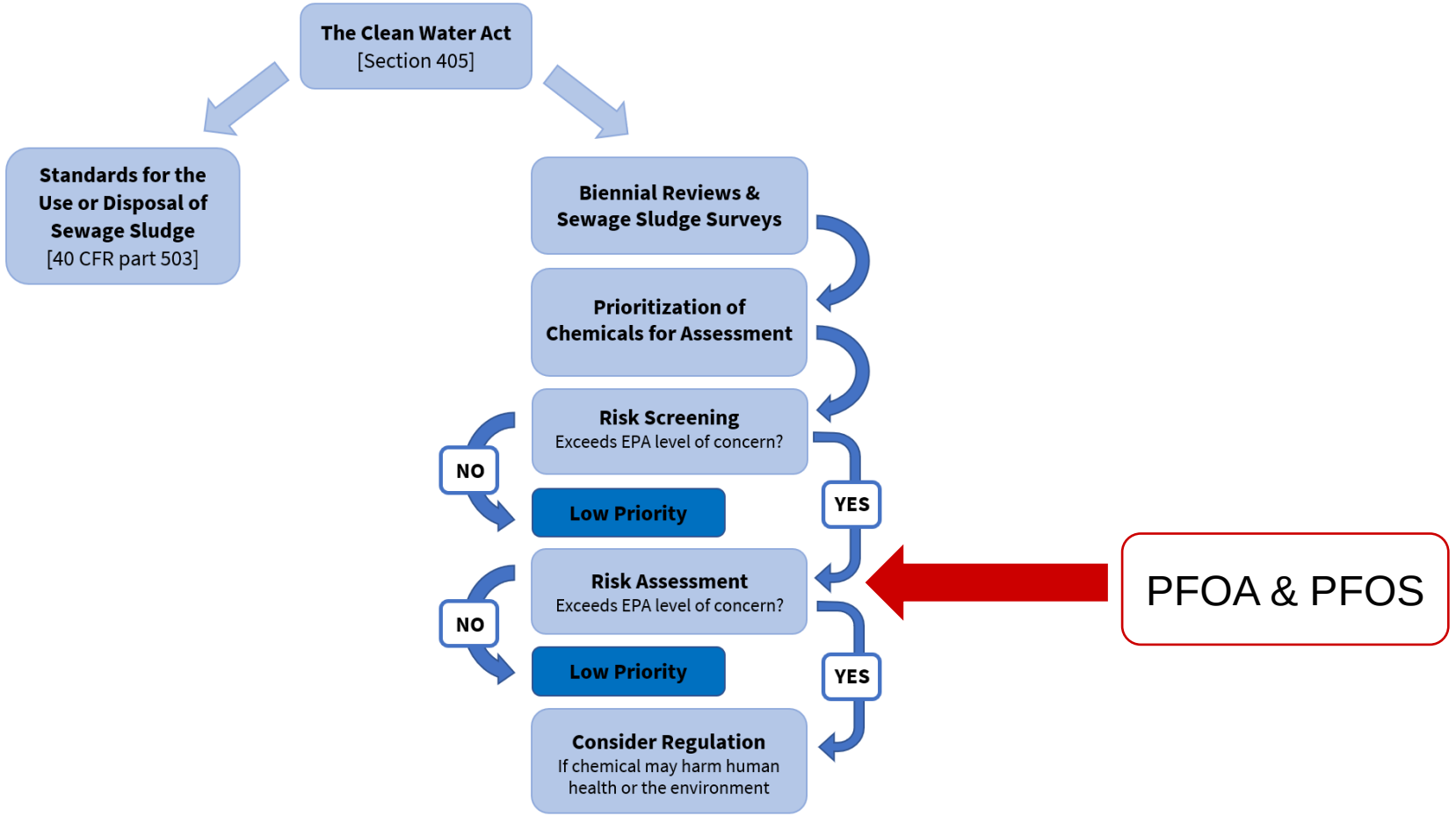
Addressing PFAS Discharges in EPA-Issued NPDES Permits and Expectations Where EPA is the Pretreatment Control Authority

- December 5, 2022

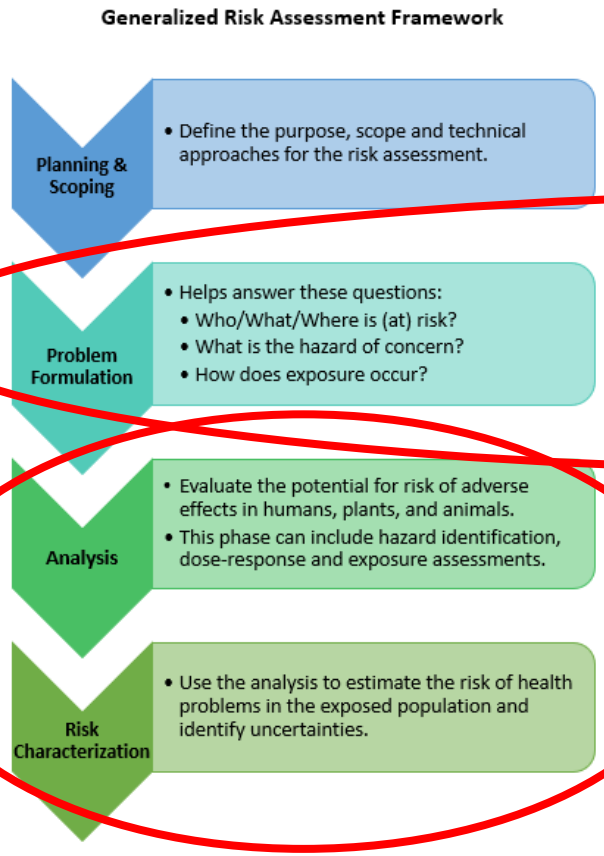
Addressing PFAS Discharges in NPDES Permits and Through the Pretreatment Program and monitoring Programs

  - Recommendations for Publicly Owned Treatment Works (POTWs)
  - Recommended Biosolids Assessment

How will PFOA and PFOS be evaluated?

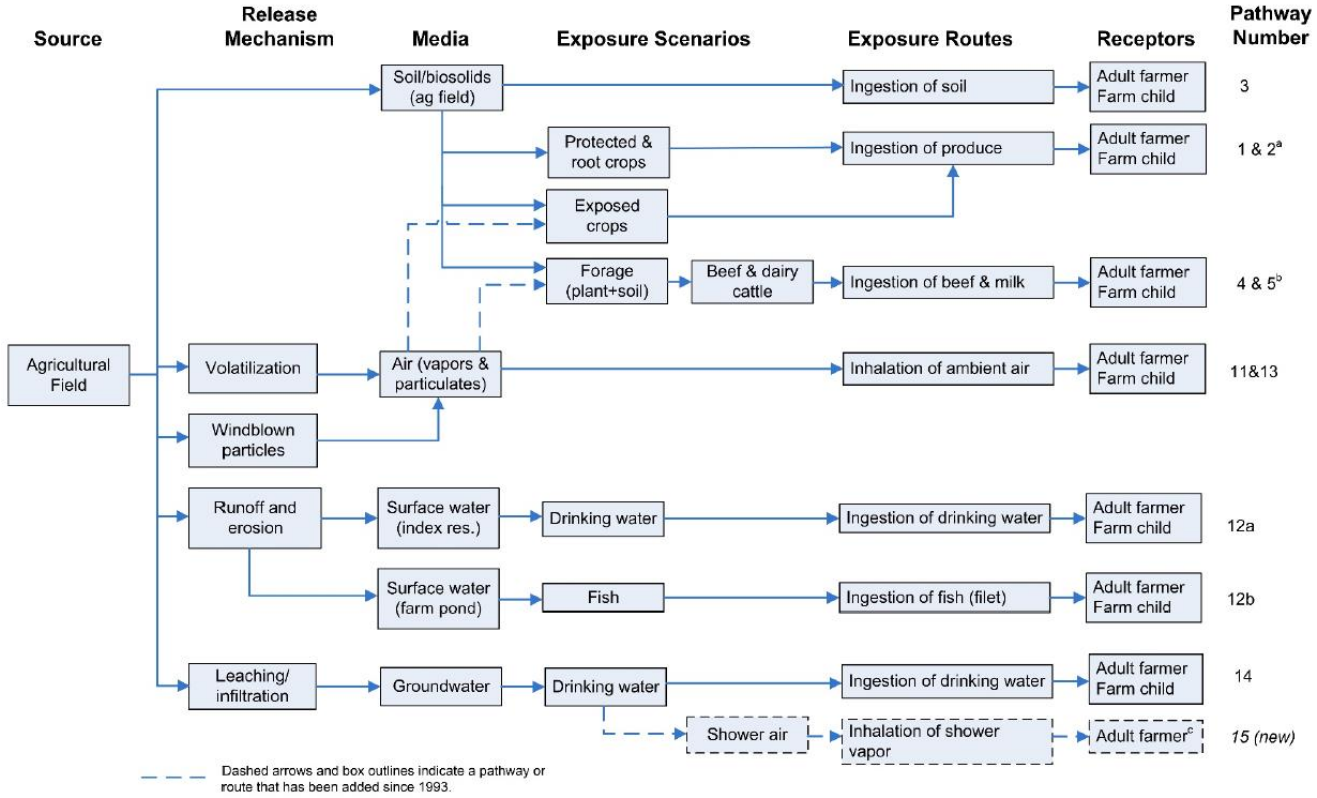


PFOA and PFOS Risk Assessment



→ Link: EPA Biosolids PFOA & PFOS Problem Formulation Meeting Summary

Refined Risk Assessment: Probabilistic Modeling



[a] Originally, Pathways 1 and 2 differed only in that they were modeled for two different scenarios (1, general population and 2, home gardener). In the Biosolids Screening Tool, this pathway is modeled for only one scenario, a farm family (adult farmer and farm child).

[b] Originally, Pathways 4 (cattle eat contaminated plants) and 5 (cattle eat contaminated soil) were modeled separately. In the Biosolids Screening Tool, these pathways are combined to reflect that when cattle eat forage, they ingest soil as well. The overall cattle diet is assumed to be 95% forage and 5% soil.

[c] The farm child is omitted because inhalation risks for children are always equal to or lower than those for adults, and young children are less likely to shower.

Figure A-1. Conceptual model for human exposures.

“What happens after the PFOA/PFOS risk assessment is complete in 2024?”

Risk Management

Risk Management is a distinctly different process from risk assessment. Risk assessment establishes whether a risk is present and, if so, the range or magnitude of that risk. In the risk management process, the results of the risk assessment are integrated with other considerations, such as economic or legal concerns, to reach decisions regarding the need for and practicability of implementing various risk reduction activities. Risk managers also use risk assessment results as a basis for communicating risks to interested parties and the general public.

Source: EPA Website – Risk Management

Memo: 'Addressing PFAS Discharges in NPDES Permits and Through the Pretreatment Program and Monitoring Programs'

December 5, 2022

MEMORANDUM

SUBJECT: Addressing PFAS Discharges in NPDES Permits and Through the Pretreatment Program and Monitoring Programs

C. Recommended Biosolids Assessment

1. **Where appropriate, states may work with their POTWs to reduce the amount of PFAS chemicals in biosolids, in addition to the NPDES recommendations in Section B above, following these general steps:**[7]
   a. EPA recommends using draft method 1633 to analyze biosolids at POTWs for the presence of 40 PFAS chemicals.[8]
   b. Where monitoring and IU inventory per section B.2 and B.3.a above indicate the presence of PFAS in biosolids from industrial sources, EPA recommends actions in B.3.b to reduce PFAS discharges from IUs.
   c. EPA recommends validating PFAS reductions with regular monitoring of biosolids. States may also use their available authorities to conduct quarterly monitoring of the POTWs (*see* 40 CFR 403.10(f)(2)).

Questions?