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# MEMORANDUM

To: Phoebe Stapleton, Chair, DWQI

From: Jessie Gleason, Chair, DWQI Health Effects Subcommittee

Re: Health Effects Subcommittee review of internal assessment report for regulating PFAS as an entire class or subclass/mixture

Date: July 1, 2025

The Health Effects Subcommittee has reviewed the New Jersey Department of Environmental Protection's document "Information Relevant to Regulation of PFAS in Drinking Water as the Entire Class or as Certain Subclasses of Mixtures." We acknowledge the document is comprehensive, well-reasoned, and reflects the current state of the science. Worth noting is there is no explicit recommendation regarding feasibility of regulating PFAS as a class or subclass and therefore we are not able to support any final recommendation.

We have included some points that the Health Effects Subcommittee suggest as worth emphasizing regarding the feasibility of regulating PFAS as a class or subclass.

- Regulating PFAS as an entire class based on health effects requires an assumption of shared toxicity. However, toxicological potencies and sensitive health endpoints differ among PFAS. Further, limited health information exists for most PFAS. Other state's efforts to address PFAS as an entire class are not based on risk assumption but focus on restricting PFAS intentionally added in products. Two states (Vermont and Hawaii) have evaluated regulating PFAS as an entire class in drinking water and have decided to not move forward with the approach. Additional analytical and treatment considerations for PFAS as a class in drinking water continue to evolve including efforts by California.

- It is feasible to regulate PFAS as a subclass or a mixture based on health effects if toxicity data are available. Multiple PFAS can be combined into a single standard using dose additivity. Dose additivity assumes that the chemicals in the mixture cause the same effect, usually in a specific organ, and accounts for differences in potency among the individual PFAS.

- USEPA's Hazard Index approach for mixtures of PFNA, PFHxS, PFBS, GenX uses toxicity factors for effects in different target organs. This approach is recommended for

screening only because of scientific uncertainty with use of different target organs. USEPA is no longer intends to move forward with regulating these contaminants as a mixture.

- PFAS as a subclass or mixture can be characterized by occurrence, chemical structure, physical-chemical properties, and health effects.
- Co-occurring PFAS would very likely also be removed by any treatment designed for PFOA, PFOS or PFNA MCL exceedances.
- Practical issues with risk assessment methods for subclasses and mixtures:
    - Any PFAS with an MCL less than the laboratory practical quantitation level (PQL) is not appropriate to include in a standard for PFAS as a class or subclass because any detection of an individual PFAS above the PQL would result in an exceedance of the MCL. Currently, long-chain PFAS including PFOA, PFOS and PFNA have an USEPA MCL set at the PQL.
    - Mixtures approaches only consider non-carcinogenic effects, since carcinogenic effects are based on a specific increase in cancer risk and evaluated on individual chemical basis.
    - Some PFAS identified to date in drinking water do not have a reference dose available.