

**AGENCY OF NATURAL RESOURCES
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
PROPOSED REVISIONS TO THE
VERMONT GROUNDWATER PROTECTION RULE AND STRATEGY
AND
VERMONT HAZARDOUS WASTE MANAGEMENT REGULATIONS
RESPONSE TO PRE-RULEMAKING COMMENT
July 13, 2016**

- Comment 1: The ANR should identify and provide the specific health endpoint the proposed standards are based upon.
- Response: See June 22, 2016 Revised Health Advisory (attached).
- Comment 2: The ANR should identify and provide all of the calculations performed by the VDH to develop the proposed standards.
- Response: See June 22, 2016 Revised Health Advisory (attached).
- Comment 3: The ANR should identify and provide a description of the assumptions made to determine the inputs used in those calculations.
- Response: See June 22, 2016 Revised Health Advisory (attached).
- Comment 4: The ANR should identify and provide an explanation as to how the VDH determined the appropriateness of those assumptions
- Response: See June 22, 2016 Revised Health Advisory (attached).
- Comment 5a: We recommend that the action levels for both PFOS & PFOA be consistent with the current EPA Drinking Water standards. In the EPA document, Provisional Health Advisories for Perfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonate (PFOS) dated January 8th, 2009, the EPA sets a PFOA limit at 400 parts per trillion (ppt) and a PFOS limit at 200 ppt.
- Comment 5b: We request a clear explanation of why the enforcement standards set in the emergency rule revision differed from analogous thresholds in other state and federal jurisdictions, and request a thorough review and discussion with stakeholders of scientific data and analyses, as well as relevant determinations in other state and federal jurisdictions, that would help inform further revisions to these standards in the next proposed rule revisions. In particular, we request that the upcoming rule revisions take into account the pending conclusion of the EPA's efforts to update its analyses and recommendations regarding PFOA and PFOS.
- Comment 5c: ANR should not rush to adopt permanent groundwater standards for PFOA and PFOS before USEPA has completed its analysis of the potential health effects of exposure to those chemicals.
- Response: In May 2016, EPA issued revised Health Advisories and Health Effects Support documents for PFOA and PFOS. Those documents served as the basis for the

VDH's revised Health Advisory. See June 22, 2016 Revised Health Advisory (attached).

Comment 7: the ANR did not consider the energy that might be consumed, and resulting greenhouse gas impacts that might occur, if standards that low necessitated extensive remediation efforts throughout the State.

Comment 7b. ANR did not consider the energy that might be consumed, and resulting greenhouse gas impacts that might occur, if standards that low necessitated extensive remediation efforts throughout the State.

Response: The Agency believes that one of the most effective means of preventing energy usage is the proper management, handling, and disposal of waste products that are suspected carcinogens. For that reason, the Agency believes that it is appropriate to list PFOA and PFOS as State listed Hazardous Wastes.

With respect to the establishment of a health based cleanup standard, the Agency does not believe that it is appropriate to allow additional exposure to suspected carcinogens or contaminants that cause adverse developmental health outcomes because of the energy cost associated with remediation.

The Agency does consider energy usage in the context of individual site remediation plans submitted under 10 V.S.A. 6615b.

The Agency encourages the consideration of "Green and Sustainable Remediation" concepts when determining appropriate responses to environmental contamination. The Division's 5 April 2012 "Investigation and Remediation of Contaminated Properties (IROCP)" procedures includes the following in regards green remediation:

"The Agency encourages all stakeholders involved in the investigation and remediation of any hazardous site in Vermont to become familiar with the concepts of green and sustainable remediation. The benefits of considering green remediation alternatives during early stages of an investigation can substantially decrease the overall carbon footprint of a project. Incorporating simple concepts of green and sustainable remediation into existing remedial systems has also proven in some cases to provide measurable improvements to system performance while simultaneously decreasing a systems carbon footprint. The broad categories that have been identified by the United States Environmental Protection Agency (USEPA) as the core elements of a green cleanup are

- 1) Reducing total energy use and increasing renewable energy use,
- 2) Reducing air pollutants and greenhouse gas (GHG) emissions,
- 3) Reducing water use and negative impacts on water resources,
- 4) Improving materials management and waste reduction efforts, and
- 5) Enhancing land management and ecosystems protection."

The Agency has also developed draft guidance for determining whether or not it is technically practical to remediate environmental contamination. One of the elements used to determine if a specific remedial technique is practical, is to assess if the environmental impact of the technology is significant (such as a large carbon footprint). The guidance also encourages the Agency to consider the available financial resources when developing remedial strategies.

Comment 8: EPA Drinking Water Research Method 537 Rev1.1 (Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry) is the appropriate analytical method for the determination of PFOS (1763-23-1) and PFOA (335-67-1) and should be referenced in the propose Rules applicable to groundwater.

Response: The Agency requires persons to follow EPA approved methods or an alternate method approved by the Agency when testing wastes under the Groundwater Protection Rule and Strategy and Hazardous Waste Management Rule. We agree that this is the appropriate testing method, however, we decline to include a specific reference to this method for PFOA and PFOS in the proposed rules.

Comment 9a: ANR and VDH should carefully consider the ... potential economic and collateral impacts of the rule, before it files the rule.

Comment 9b: We are concerned that the economic impact statements accompanying the emergency rules were not sufficiently substantiated and might not be accurate or complete. As part of the next rule revisions, we request a thorough explanation of expected economic impacts and review with stakeholders, particularly potentially impacted parties.

Response: Management of PFOA and PFOS as a Vermont listed hazardous waste is necessary to ensure proper management of waste material and prevent improper disposal of wastes. Any release of hazardous materials is legally prohibited. The Agency does not have the legal authority to allow adverse health outcomes, such as cancer or adverse childhood developmental outcomes, based on the economic impact associated with adopting a standard. Economic impacts of specific cleanup options are considered when selecting a final corrective action to remediate any release as discussed above.

Comment 10: Harmonization of Vermont's hazardous waste regulations with other states' hazardous waste regulations is important to the regulated community, particularly for businesses that operate in more than one state. It does not appear that the economic impact to businesses complying with multiple states' hazardous waste regulations has been considered. It is important that this aspect of the proposed rule amendment be examined to ensure that the amended rule requirements are not unduly burdensome.

Response: States frequently have differing standards and management requirements with respect to hazardous waste management regulations. In light of the national phase out in production of PFOA in 2015, the Agency is unaware of any person currently using PFOA or PFOS in manufacturing processes within the State. If a person

provides the Agency with that information in the comment period, the Agency will consider that information in a subsequent response to comment.

Comment 11: the ANR proceeds to a final rulemaking, it should take steps to ensure that there is adequate time for interested parties to prepare and submit comments and testimony ... Accordingly, Saint-Gobain urges the ANR to allow for a minimum of six months for public comment and hearings.

Response: The Agency has scheduled a 30-day public comment period and two public meetings on the proposed rule. The Agency is willing to consider extensions to the public comment period if warranted. The Agency does not believe that a six-month comment period is warranted.

Comment 12a: Given the requirements of Vermont Administrative Code §7-216 (c), listing PFOA and PFOS appears to be administratively premature. IBM requests Vermont provide the regulated community the results of the 10 individual assessments.

Comment 12b: Under Vermont Hazardous Waste Management Regulation 7-216(c), there are 10 criteria that the Secretary must consider before determining that a material qualifies as a listed Vermont Hazardous Waste. It is not readily apparent that the State of Vermont considered each of the 10 criteria before declaring PFOS and PFOA to be hazardous waste.

Response: The Agency does not agree that all the criteria must be reviewed as a part of listing a broader waste stream as a hazardous waste. There are numerous criteria that focus on waste streams from a specific generator and therefore are inapplicable when listing a broader waste stream.

In order to clarify these provisions, the Agency revised the criteria for listing classes of wastes to ensure consistency with statutory requirements contained in 10 V.S.A. § 6602(4), while also allowing the Agency to manage specific waste streams if a hazard is discovered.

Comment 13: The proposed Rules do not identify the PFOS and PFOA CAS numbers. The following CAS numbers are recognized by the EPA for PFOS (1763-23-1) and PFOA (335-67-1) and should be identified in the rules as the chemicals to which the Rules would apply.

Response: Vermont listed hazardous wastes currently do not contain CAS numbers and we do not believe that it is necessary as a part of the rule for the PFOA and PFOS listings.

Comment 14a: The amended rule provides no action levels for materials that contain PFOS or PFOA. Without a specified action level, the mere presence of the chemical constitutes hazardous waste. Considering the pervasiveness of background concentrations of PFOS and PFOA in the environment, this could result in significant compliance costs to the regulated community and a significant burden on regulators to enforce and manage these chemicals in Vermont.

Comment 14b: We request an explanation of why thresholds were not set in the emergency rule revision, and request a thorough review and discussion with stakeholders of scientific data and analyses, as well as relevant determinations in other state and federal jurisdictions, that would help inform any determination in the next proposed rule

revisions as to whether waste containing PFOA or PFOS should be designated as hazardous waste and at what concentration.

Comment 14c: Without a source description or concentration guideline the current rulemaking is overly broad, inconsistent with previous regulations and leaves the regulated community with uncertainty when identifying the waste and quantifying whether the waste is hazardous.

Response: The Vermont listings have been revised to clarify that they are for liquid wastes PFOA, PFOS, or a combination of PFOA and PFOS in concentrations greater than 20 parts per trillion.