

Cleanup Standards Scientific Advisory Board
To the Pennsylvania Department of Environmental Protection

November 4, 2019

VIA ELECTRONIC MAIL

The Honorable Patrick McDonnell
Secretary
Pennsylvania Department of Environmental Protection
Rachel Carson State Office Building
401 Market Street
Harrisburg, PA 17105-2063

Re: Proposed Amendments to 25 Pa. Code Chapter 250

Dear Secretary McDonnell:

The Cleanup Standards Scientific Advisory Board (“CSSAB”) has been working for more than a year with the Pennsylvania Department of Environmental Protection (the “Department”) regarding proposed changes to the regulations implementing the Pennsylvania Land Recycling and Environmental Remediation Standards Act (“Act 2”) as set forth in 25 Pa. Code Chapter 250. The Department has expended significant time and energy in developing the proposed regulations and should be commended for this effort.

At the meeting with the CSSAB on October 29, 2019, the Department reviewed the version of the proposed regulations that the Department intends to submit to the Environmental Quality Board (“EQB”) for consideration by the EQB at its meeting on November 19, 2019. While the Department shared with the CSSAB proposed changes to the regulations in 25 Pa. Code Chapter 250 and the tables contained in Appendix A of 25 Pa. Code Chapter 250, other documents such as the preamble to the proposed regulations and the regulatory cost analysis were not provided to the CSSAB. During discussions at the meeting, the Department represented that it had not made any additional proposed changes to the tables in Appendix A of 25 Pa. Code Chapter 250 beyond those reviewed during the CSSAB meeting on June 12, 2019. The Department also clarified that the medium specific concentrations (“MSCs”) in the proposed tables in Appendix A of 25 Pa. Code Chapter 250 for total concentrations of polychlorinated biphenyls (“PCBs”) versus Aroclor-specific concentrations of PCBs are to be used on an “either or” basis. In other words, a remediator may choose either to use the MSCs for total PCBs or the MSCs for PCBs that are Aroclor-specific.

The Department has requested that the CSSAB endorse the proposed regulations. While the CSSAB can endorse many elements of the proposed regulations, it cannot provide a full endorsement of the regulations. Specifically, the CSSAB has concerns that the underlying science on which the MSCs for vanadium are based has low confidence as described in further detail below. Further, the residential soil MSC for vanadium is below background levels and will have a significant detrimental impact on the clean fill program. The CSSAB recommends revision or removal of the MSCs for vanadium that are included in the proposed regulations. We look forward to working with the Department with the

objective of making needed changes to the MSCs for vanadium before the proposed regulations are finalized.

As the CSSAB has explained in discussions with the Department and various submittals that it has made to the Department, the MSC for vanadium in soils at residential properties that was included in the most recent set of amendments to the regulations under Act 2 is well below naturally occurring background levels of vanadium and is significantly out of step with screening values and cleanup standards for vanadium developed by the United States Environmental Protection Agency ("EPA") and other state regulatory agencies. In fact, it appears to be substantially lower than any published federal or state value. The Department has based the MSCs for vanadium on a Provisional Peer-Reviewed Toxicity Value ("PPRTV") published by EPA's National Center for Environmental Assessment in 2009. The PPRTV database was developed by EPA to quantitatively evaluate the risk of chemicals that have not been evaluated in EPA's Integrated Risk Information System ("IRIS"), the database of toxicological information that is generally given the greatest weight in risk evaluations. The PPRTVs are developed specifically for use in site-specific risk assessments for EPA's Superfund Program. That process does not include interagency review or the external peer review with a public notice and comment period required for toxicity values to be placed in IRIS.

The PPRTV for vanadium is based on studies using sodium metavanadate. EPA has applied an uncertainty factor of 3,000 to the PPRTV for vanadium and has assigned a "low confidence" rating to the PPRTV for vanadium. Notwithstanding these limitations, the Department is using the PPRTV for vanadium even though information for another vanadium compound (vanadium pentoxide) is available in IRIS. The current oral toxicity value in the IRIS database is assigned a "low confidence" rating. It was developed in 1987 using an uncertainty factor of 100. We note that both vanadium pentoxide and sodium metavanadate are vanadium compounds containing vanadium in a +5 oxidation state. Although the toxicological information regarding vanadium pentoxide (and other vanadium compounds) is under review by EPA and a draft external peer review evaluation from 2011 suggests that the uncertainty factor should potentially be higher, that information continues to be included in the IRIS database (i.e., EPA has not removed that information).

We also note that regional screening levels ("RSLs") have been developed for use in remediation activities at Superfund sites being addressed pursuant to the Comprehensive Environmental Response, Compensation and Liability Act and corrective action sites pursuant to the Resource Conservation and Recovery Act. The RSLs are used to screen on a threshold basis whether the presence of particular substances requires further investigation or cleanup at such sites. Screening values based on the RSLs serve a similar purpose in the context of sites being addressed under the site-specific standard of Act 2. The information for vanadium pentoxide rather than for sodium metavanadate was used for the RSLs for vanadium.

Due to uncertainties in the science underlying the toxicity for vanadium and its compounds, EPA has indicated that it plans to conduct a further evaluation of the toxicity of various vanadium compounds as part of the IRIS program driven in part by concerns over the level of confidence in the toxicological information that is available. However, there is no completion date scheduled for that evaluation and

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the first step of the evaluation is only targeted to take place during the second quarter of fiscal year 2020.

The MSCs for vanadium have already created significant implementation problems at sites being remediated in Pennsylvania under Act 2 and those issues will continue if no changes are made. Moreover, the Department is incorporating by reference the MSC for vanadium in soils at residential properties as the clean fill standard in the revised version of the Management of Fill Policy that was published in the Pennsylvania Bulletin on November 2, 2019, and is mandating that historic fill be analyzed for vanadium in order to qualify as clean fill. The impact of reducing the clean fill standard to a level well below background concentrations should not be underestimated.

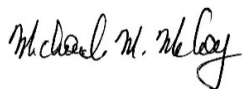
Given the forgoing considerations and current circumstances, there are multiple options available to the Department to develop updated MSCs for vanadium rather than leaving the MSCs where they are. Among these options is eliminating the MSCs for vanadium until EPA completes its additional evaluation of the toxicity of various vanadium compounds.

The CSSAB remains committed to working with the Department to develop MSCs for vanadium that are protective of human health and the environment, while taking into account the toxicological information that exists, the level of confidence in that information and the need to avoid needlessly complicating cleanup activities under Act 2 and clean fill determinations under the Management of Fill Policy. We look forward to this continuing process with the objective of making needed changes to the MSCs for vanadium before the proposed regulations are finalized.

Respectfully submitted,



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Chair/CSSAB



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cc: Troy Conrad, Program Manager (tconrad@pa.gov)
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