FINAL-FORM RULEMAKING
ENVIRONMENTAL QUALITY BOARD
[25 Pa. Code Chapter 250]

Administration of Land Recycling Program

The Environmental Quality Board (Board) by this order amends 25 Pa. Code, Chapter 250 (relating to administration of Land Recycling Program) to read as set forth in Annex A. This final-form rulemaking is required by 25 Pa. Code § 250.11 (relating to periodic review of MSCs), which directs the Department of Environmental Protection (Department) to review new scientific information that relates to the basis of the Statewide health standard medium-specific concentrations (MSCs) at least 36 months after the effective date of the most recently promulgated MSCs and to propose to the Board any changes to the MSCs as necessary. In addition to updating the existing MSCs, this rulemaking adds MSCs for three new contaminants, namely Perfluorooctanoic Acid (PFOA), Perfluorooctane Sulfonate (PFOS) and Perfluorobutane Sulfonate (PFBS). These contaminants are within the Per-fluoroalkyl and Poly-fluoroalkyl Acid (PFAS) family of compounds for which the United States Environmental Protection Agency (EPA) has published toxicological data. This rulemaking also clarifies several other regulatory requirements.

This final-form rulemaking was adopted by the Board at its meeting of _____.

A. *Effective Date*

This final-form rulemaking will be effective upon publication in the *Pennsylvania Bulletin*.

B. *Contact Persons*

For further information contact Michael Maddigan, Environmental Group Manager, Land Recycling Program, P.O. Box 8471, Rachel Carson State Office Building, Harrisburg, PA 17105-8471, (717) 772-3609; or Nikolina Smith, Assistant Counsel, Bureau of Regulatory Counsel, Rachel Carson State Office Building, P.O. Box 8464, Harrisburg, PA 17105-8464, (717) 783-8501. This final-form rulemaking is available on the Department's web site at www.dep.pa.gov (select "Public Participation," then "Environmental Quality Board (EQB)").

C. *Statutory Authority*

This final-form rulemaking is authorized under sections 104(a) and 303(a) of the Land Recycling and Environmental Remediation Standards Act (Act 2) (35 P.S. §§ 6026.104(a) and 6026.303(a)), which direct the Board to adopt and amend periodically by regulation Statewide health standards for regulated substances for each environmental medium, including any health-based standards adopted by the Federal government by regulation or statute, and health advisory levels (HAL), and which direct the Board to promulgate appropriate mathematically valid statistical tests to define compliance with Act 2, and other regulations as necessary to implement the provisions of Act 2; and section 1920-A of The Administrative Code of 1929 (71 P.S. § 510-

20), which authorizes the Board to formulate, adopt and promulgate rules and regulations that are necessary for the proper work of the Department.

D. *Background and Purpose*

Section 250.11 requires that the Department review new scientific information that is used to calculate MSCs under the Statewide health standard and propose appropriate changes at least every 36 months following the effective date of the most recently promulgated MSCs. The Board's most recently promulgated MSCs became effective upon publication in the *Pennsylvania Bulletin* at 46 Pa.B. 5655 (August 27, 2016). These changes, based on new information, will protect public health and the environment, and will provide the regulated community with clear information regarding the requirements of Act 2 and Chapter 250 related to the remediation of contaminated sites.

In addition to updating Chapter 250 MSCs, this rulemaking includes changes that add groundwater and soil MSCs for three compounds in the PFAS family—PFBS, PFOS and PFOA. The standards for the three PFAS chemicals are based on data in toxicological studies published by the EPA. Under Act 2, the Department has directly incorporated the EPA's 2016 HALs regarding PFOS and PFOA as groundwater MSCs and has used the data developed by the EPA for those HALs to calculate soil MSCs for both compounds. With respect to PFBS, the Department has established soil and groundwater standards based on a 2014 EPA Provisional Peer-Reviewed Toxicity Value (PPRTV).

Finally, this rulemaking clarifies several procedural issues related to the administrative requirements of Act 2. In particular, this rulemaking clarifies requirements for remediators and municipalities regarding public participation and public involvement plans, updates requirements for acceptable "practical quantitation limits" related to the precision of laboratory testing, updates requirements for professional seals from professional geologists or engineers, provides resources to calculate MSCs, and clarifies the proper submission of various reports related to the Act 2 Site-Specific Standard.

This rulemaking impacts any person addressing a release of a regulated substance at a property, whether voluntarily or because of an order by the Department. This rulemaking does not impact one particular category of person with additional or new regulatory obligations. Under Act 2, a remediator may select the standard to which to remediate. To complete a remediation, the remediator must then comply with all relevant remediation and administrative standards.

As noted previously, this rulemaking does not singularly affect one specific industry or person. This rulemaking does impact the owners and operators of storage tank facilities that have had a release of a petroleum or hazardous substance. There are approximately 12,000 storage facilities in this Commonwealth. Some of these facilities are owned or operated, or both, by small businesses. Because of the broad potential reach of this rulemaking, it is not possible to identify specifics on the types and numbers of small businesses that could potentially be affected by property contamination. In addition, Act 2 and Chapter 250 are unique from other statutes and regulations because they do not create permitting or corrective action obligations. Instead, Act 2 and Chapter 250 provide remediators with options to address contamination and any associated

liability that arises under other statutes. For example, adding PFOS to the Chapter 250 Appendix does not create any liability or obligation related to PFOS. Instead, a person's liability arises under The Clean Streams Law (35 P.S. §§ 691.1—691.1001) while Act 2 and Chapter 250 provide that person the means to resolve their Clean Streams Law liability and to address the contamination. In this way, Act 2 and Chapter 250 do not create new obligations that will impact a particular category of person like a new permitting obligation or corrective action regulation would.

The soil numeric values represent a decrease for approximately 83% of the values and an increase for 17% of the values. For groundwater, the changes reflect a decrease for approximately 92% of the values and an increase in approximately 8% of the values. Lowering the values may indicate a more stringent cleanup is required at a site and increasing the values may indicate a less stringent cleanup is required at a site. These changes reflect updated information related to exposure limitations to these substances and recognize that a higher or lower standard is better representative of those substances' exposure thresholds.

The number of completed remediations vary each year. On average, remediators apply the Act 2 remediation standard to approximately 800 contaminated properties across this Commonwealth. Generally, investigation and cleanup costs vary greatly based on the severity of the contamination, the size of the site, the complexity of the remediation strategy, and the cleanup standard selected. Thus, accurate costs and savings cannot be determined at this time because such cost analysis must be based on site-specific considerations evaluated on case-by-case bases.

The Department worked with the Cleanup Standards Scientific Advisory Board (CSSAB) during the development of this rulemaking. The CSSAB, which was established by section 105 of Act 2 (35 P.S. § 6026.105), consists of persons representing a cross-section of experience, including engineering, biology, hydrogeology, statistics, medicine, chemistry, toxicology, and other related fields. The purpose of the CSSAB is to assist the Department and the Board in developing Statewide health standards, determining the appropriate statistically and scientifically valid procedures and risk factors to be used, and providing other technical advice as needed to implement Act 2. During CSSAB meetings on August 1, 2018, February 13, 2019, June 12, 2019, and October 29, 2019, CSSAB members were given the opportunity to review and provide feedback on draft regulatory amendments to Chapter 250. CSSAB members were also given the opportunity to review and provide feedback on the final-form rulemaking at the July 30, 2020, and the December 16, 2020 meetings. The Department worked with the CSSAB to resolve concerns and agreed to evaluate additional suggestions during the next review cycle for this rulemaking. Following the presentations and discussions in 2018 and 2019, the CSSAB issued a letter related to the regulatory amendments included in the rulemaking. Specifically, the CSSAB noted concern related to the MSCs for vanadium.

A listing of CSSAB members and minutes of CSSAB meetings are available on the Department's web site at www.dep.pa.gov (select "Public Participation," then "Advisory Committees," then "Cleanup and Brownfields Advisory Committees," then "Cleanup Standards Scientific Advisory Board").

E. *Summary of Final-Form Rulemaking and Changes from Proposed to Final-Form Rulemaking*

§ 250.1. Definitions

This final-form rulemaking adds a definition for the term "MDL—Method detection limit" because both "method detection limit" and "MDL" are used in Chapter 250 but are not defined. This definition is consistent with the EPA's definition in (U.S. EPA Office of Water Publication EPA 821-R-16-006, 2016).

This final-form rulemaking amends the definition of "volatile compound" to match the description in Section IV, Appendix IV-A.1 of the Department's Land Recycling Program Technical Guidance Manual (TGM) and to match the EPA's definition in their *OSWER* (Office of Solid Waste and Emergency Response) *Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air* (OSWER Publication 9200.2-154, 2015). The previous definition excluded naphthalene as well as several other semi-volatiles that are considered volatiles in the vapor intrusion section of the TGM. The Department's TGM is available at https://www.dep.pa.gov/Business/Land/LandRecycling/Standards-Guidance-Procedures/Guidance-Technical-Tools/Pages/Technical-Guidance-Manual.aspx.

§ 250.4. Limits related to PQLs

Amendments to this section update the procedures for determining the practical quantitation limit (PQL), provide for a wider range of sources for PQLs and estimated quantitation limits (EQLs), and remove confusing and outdated language. Improvements in laboratory instrument technology and the removal of PQLs and EQLs from revised laboratory methods resulted in the need to update this section. This change also allows for the use of EPA analytical method manuals that may contain PQLs or EQLs other than the EPA RCRA Manual for SW-846.

§ 250.6. Public participation

The amendments to § 250.6(c) clarify that if a public involvement plan (PIP) has been initiated, the public has a right to be involved in the development and review of the remedial investigation report, risk assessment report, cleanup plan and final report consistent with section 304(o) of Act 2 (35 P.S. § 6026.304(o)), regarding community involvement, and outlines the necessary measures to involve the public.

The amendments to § 250.6(d) help to ensure that the Department and the municipality requesting the PIP are notified of the submission of the PIP and receive copies of the PIP. These amendments necessitate the removal of § 250.6(d)(1) and (2) because it no longer makes sense to include them in subsection (d). These subsections were also removed because they are already discussed in Chapter 250 in the final report requirements section for the site-specific standard in § 250.411(e) (relating to final report) and remediation requirements section for special industrial area (SIA) sites in § 250.503(f) (relating to remediation requirements). Finally, these two subsections were removed because the current Chapter 250 regulations require that the public involvement plan be submitted with the remedial investigation report or baseline environmental

report. The change is necessary because the Department needs notice of PIPs in advance of receipt of those reports.

§ 250.10. Measurement of regulated substances in media

The amendments to § 250.10(d) change the references from the Groundwater Monitoring Guidance Manual to reference the most current version of Appendix A of the TGM or an alternative method that appropriately measures regulated substances in groundwater. Specific alternative methods are not provided in the rulemaking to allow for the use of various acceptable methods that may be developed after the publication of this final-form rulemaking. Laboratories are best suited to determine the appropriate analytical methods for their individual capabilities and to accommodate the variability of the samples submitted by their clients. The language in § 250.10(d) allows the flexibility remediators and laboratories need to determine the best method for a site. If DEP staff question the methods chosen by a laboratory or remediator when reviewing data submitted with Act 2 reports, those questions will be addressed directly with the laboratory or remediator on a case-by-case basis.

§ 250.12. Professional seal

This new section mirrors language from § 245.314 (relating to professional seals) of the storage tank regulations, requiring that reports submitted to the Department which include professional geologic or engineering work be sealed by a professional geologist or engineer.

§ 250.304. MSCs for groundwater

Under subsection (c), the EPA publication number has been revised.

Under subsection (g), this final-form rulemaking lists additional sources of aqueous solubility information to support the new compounds to be added to the MSC tables in this rulemaking. The following aqueous solubility sources were added to subsection (g):

19. ATSDR (Agency for Toxic Substances and Disease Registry). 2015. *Toxicological Profile for Perfluoroalkyls. Draft for Public Comment*. Agency for Toxic Substances and Disease Registry, Public Health Service, U.S. Department of Health and Human Services, Atlanta, GA. Accessed May 2016. http://www.atsdr.cdc.gov/ToxProfiles/tp200.pdf.

20. Hekster, F.M., R.W. Laane, and P. de Voogt. 2003. *Environmental and toxicity effects of perfluoroalkylated substances. Reviews of Environmental Contamination and Toxicology* 179:99—121.

21. HSDB (Hazardous Substances Data Bank). 2012. U.S. National Library of Medicine, Bethesda, MD. Accessed May 2016. http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB.

22. Kauck, E.A., and A.R. Diesslin. 1951. *Some properties of perfluorocarboxylic acids. Industrial & Engineering Chemistry Research* 43(10):2332—2334.

23. SRC (Syracuse Research Corporation). 2016. PHYSPROP Database. Accessed May 2016. http://www.srcinc.com/what-we-do/environmental/scientific-data bases.html.

24. OECD (Organisation for Economic Co-operation and Development). 2002. *Hazard Assessment of Per- fluorooctane Sulfonate (PFOS) and its Salts*. ENV/JM/RD (2002) 17/FINAL. Report of the Environment Directorate, Joint Meeting of the Chemicals Committee and the Working Party on Chemicals, Pesticides and Biotechnology, Co-operation on Existing Chemicals, Paris, November 21, 2002.

§ 250.305. MSCs for soil

Under subsection (c), a minor correction was made to a cross-reference.

The amendments to § 250.305(g) alleviate confusion as to the need to evaluate the soil-to-groundwater pathway for compounds that have secondary maximum contaminant levels (SMCL) and either a primary Maximum Containment Level (MCL) or a HAL. These changes also allow for the determination of soil MSC values for substances with SMCLs but no toxicological information in Appendix A, Table 5B, of Chapter 250. This determination is based on the physical capacity of the soil to contain a regulated substance as described in § 250.305(b). This change, along with other changes to subsection (g), result in the ability of remediators to determine soil MSCs for chloride and sulfate that also incorporate impacts to ecological receptors as described in § 250.311(a)—(f) (relating to evaluation of ecological receptors).

§ 250.306. Ingestion numeric values

Due to new information published by the EPA in Exposure Factors Handbook 2011 Edition, EPA/600/R-090/052F, the residential groundwater ingestion rate has increased from 2 liters a day (L/day) to 2.4 L/day. This amendment results in additional changes to other exposure factors listed in the table and footnotes in § 250.306(d). Formatting errors in the table footnotes in this section have also been corrected. Some equations in the footnotes contained brackets that should not be confused with brackets used to delineate changes in the rulemaking. Bolded text within bolded brackets represents text that was deleted while unbolded brackets encompass existing text not removed.

Proposed amendments to § 250.306(e) would have updated the models used to calculate blood lead levels that are applied to the corresponding lead numeric value calculations. The new model references would also have been updated in this subsection. As discussed further in Section F of this preamble, this final-form rulemaking rescinds the proposed changes to the lead models and will leave the existing regulation in place. The Department intends to propose a separate rulemaking addressing the calculation of the ingestion numeric values for lead in soil to ensure the Department is using the most current science regarding lead toxicity. This will allow the public the opportunity to comment on these changes.

§ 250.307. Inhalation numeric values

An amendment to the equation in § 250.307(g)(1) adds a "× 24 hr/day" multiplier to the numerator. This component was inadvertently omitted from this equation in the previous rulemaking.

§ 250.308. Soil to groundwater pathway numeric values

In section § 250.308(a)(2)(ii), the word "standard" was replaced with "generic numeric value" to avoid the implication that the 1/10th value is always the soil MSC for saturated soil and to avoid the implication that the comparison process should be bypassed.

§ 250.311. Evaluation of ecological receptors

Amendments to § 250.311(b) directly reference the changes to § 250.305(g) and reference the physical capacity of the soil to contain a regulated substance as described in § 250.305(b).

§ 250.402. Human health and environmental protection goals

Amendments to § 250.402(d) resolve confusion and ensure the correct application of § 250.311(e) to protect ecological receptors under the site-specific standard. An amendment to § 250.402(d)(3) corrects and replaces the reference to § 230.311(f) with § 250.311(f).

§ 250.404. Pathway identification and elimination

Under subsection (a), added the words "Department or" to allow for the use of Department guidance in identifying exposure pathways.

§ 250.409. Risk assessment report

An amendment to § 250.409(1) clarifies that an approved remedial investigation report is needed in advance of submitting an approvable risk assessment report when the reports are submitted separately. This amendment is part of a clarification regarding the appropriate sequence of reports submitted under Subchapter D (relating to the site-specific standard), including a new section for "combined reports," in § 250.412 (relating to combined reports), described as follows.

§ 250.410. Cleanup plan

The new subsection (d) removes any ambiguity regarding the need for a cleanup plan in situations in which a remedy is already present. The previous language in subsection (d) was moved into a newly created subsection (e).

§ 250.412. Combined reports

This new section explains that prior approval of a remedial investigation report is not necessary when combined with either a risk assessment report or a cleanup plan. This section is necessary because of the changes made to § 250.410 (relating to cleanup plan).

§ 250.503. Remediation requirements

The amendments to § 250.503(e) clarify that a revised baseline environmental report, not just a new remediation plan, may need to be submitted when land use changes from nonresidential to residential at a SIA site.

§ 250.603. Exposure factors for site-specific standards

The amendment to § 250.603(a) updates the citation of the 1992 version of the EPA's Final Guidelines for Exposure Assessment to EPA's 2011 Exposure Factors Handbook.

§ 250.605. Sources of toxicity information

The updates to § 250.605(a)(3) add the EPA's Office of Pesticide Programs Human Health Benchmarks for Pesticides and the EPA's PPRTV Appendix databases to the toxicity value source hierarchy.

§ 250.707. Statistical tests

The term "Statewide health standard" was changed to "MSC" in the amendment to § 250.707(b)(1)(ii) for clarification.

A new clause (D) was added to § 250.707(b)(1)(iii) clarifying when or whether a vapor intrusion analysis is necessary for sites with small petroleum releases where full site characterization is not performed.

Appendix A, Tables 1—7

Amendments to the "Medium-Specific Concentrations" tables update the MSCs for certain regulated substances. Updates to footnotes were necessary to help explain some of the changes to the MSCs. Numeric values were calculated for several new substances, including PFOS, PFOA and PFBS in groundwater and soil, and total polychlorinated biphenyls in soil. Ingestion-based numeric values all decreased slightly due to the increase in water ingestion rate under § 250.306(d) from 2 L/day to 2.4 L/day. Other numeric value changes were mostly be attributed to updates in toxicity values in Tables 5A and 5B. However, corrections to the numeric value calculation process also caused some numeric values to change.

The update to the definition of a "volatile compound" caused some of the values to change because the new definition includes the consideration of Henry's law constant and molecular weight. Additionally, some of the numeric values changes were due to rounding adjustments.

When the Department calculates the numeric MSC values for inclusion in Chapter 250, some values are rounded during one of the early calculation steps instead of at the end of the calculation. To be consistent, the rounding procedure was updated so that all rounding occurs at the final value calculation step. Elimination of the rounding of transfer factors has also cause changes to the numeric values. Transfer factors used for the calculation of inhalation numeric values from soil are calculated and listed in Table 5A. The transfer factors previously in Table 5A were rounded inconsistently. To be consistent with the other rounding corrections, these values are no longer rounded because they are calculated and used in the early stages of the numeric value calculation process.

In the amendments, information was updated on the "Threshold of Regulation Compounds" table (Table 6) by the removal of compounds that now have numeric values calculated on other tables.

In the proposed rulemaking, amendments to the "Default Values for Calculating MSCs for Lead" table (Table 7) would have updated the input parameters for use in the Integrated Exposure Uptake Biokinetic (IEUBK) Model for Lead in Children for residential exposure. Amendments for nonresidential exposure updated the model input parameters for the Adult Lead Model. References for both models were also updated. These amendments resulted in proposed updates to the lead residential and nonresidential direct contact values provided in Table 4A. However, as discussed in the summary for § 250.306 and further in Section F of this preamble, this final-form rulemaking is rescinding the proposed changes to the lead models and will leave the existing regulation in place. Accordingly, this final-form rulemaking is rescinding the proposed changes to Table 7 and the proposed updates to the lead residential and nonresidential direct contact values in Table 4A and will leave the existing values in place. The Department intends to propose a separate rulemaking addressing the calculation of the ingestion numeric values for lead in soil to ensure the Department is using the most current science regarding lead toxicity. This will allow the public the opportunity to comment on these changes.

For the final-form rulemaking, an error was identified in Table 3B regarding use of the footnote “NA” for the generic values for PFAS chemicals. This footnote refers to the soil buffer distance option which is not related to the PFAS values. To correct this, the footnote symbol for the PFOS, PFOA and PFBS generic values was changed from “NA” to “N/A” and described it as “SOIL TO GROUNDWATER VALUES CANNOT BE CALCULATED FOR THESE COMPOUNDS.”

Several changes were made to Table 5A for the final-form rulemaking. First, five Aroclors were inadvertently proposed to be removed from Table 5A. This error has been corrected. Secondly, it was noted that although surrogate toxicity values are noted in Table 5A, the chemical used as the surrogate was not identified. The names of the surrogates used in Table 5A have been added as footnotes. Additionally, after the publication of the proposed rulemaking, the Department noted that EPA removed the MERPHOS OXIDE oral reference dose (RfD_O) from its IRIS toxicity value database. Consequentially, the Department replaced the MERPHOS OXIDE IRIS value in Table 5A with the toxicity value from ATSDR. This resulted in changes to the MERPHOS OXIDE numeric values in Tables 1, 3A, and 3B. Lastly, EPA announced the publication of a new toxicity assessment for PFBS on April 8, 2021, which included an updated toxicity value that differed from what was used in the proposed rulemaking. Consequently, the

PFBS toxicity value has been amended in the final rulemaking to use the most current and accurate science to calculate the newly proposed MSC values, as required by § 250.11. This change substantially lowered the proposed MSCs for PFBS between the proposed and final rulemakings. This change in toxicity values in Table 5A follows the established hierarchy and process the Department uses for selecting toxicity values described in § 250.605. This change in Table 5A resulted in the MSCs for PFBS in Tables 1, 3A, and 3B to decrease between the proposed and final rulemakings.

It was noted that in Table 5B, a surrogate footnote was provided even though no surrogates are used in this table. Therefore, the surrogate footnote was removed from Table 5B for the final-form rulemaking.

F. *Summary of Comments and Responses on the Proposed Rulemaking*

Notice of the Chapter 250 proposed rulemaking, and the accompanying public comment period, was published in the *Pennsylvania Bulletin* on February 15, 2020 (50 Pa.B. 1011, 1016). The Board's public comment period opened on February 15, 2020 and closed on April 30, 2020.

During the public comment period, the Board received 140 comment documents from 128 individuals/organizations including the Independent Regulatory Review Commission (IRRC) which submitted comments on June 1, 2020. Ninety-seven percent of the commentators expressed concern with the proposed increase in the non-residential numeric value for lead in surface soil in Table 4A. This increase was a result of the proposed amendments to § 250.306(e) which updated the models used to calculate blood lead levels that are applied to the corresponding lead numeric value calculations and updates to the model input parameters in Table 7. Commentators provided various reasons for their concerns, but the main theme of their concerns was that the Department was using outdated science to calculate the soil lead numeric values, specifically the use of a target blood lead level (TBLL) of 10 µg/dL. Many of the commentators recommended changing the TBLL from 10 µg/dL to 5 µg/dL.

While the Department agrees that a TBLL of 5 µg/dL represents the most current science regarding lead toxicity, changing the value from 10 µg/dL to 5 µg/dL in the final-form rulemaking without having presented this change in the proposed rulemaking denies the public the necessary opportunity to provide comment on this change. However, in recognition of the recent scientific research indicating the potential for significant adverse health effects of a blood lead level of 10 µg/dL, the Board has rescinded the proposed changes to the lead models and the resulting changes in the residential and non-residential direct contact numeric values for lead and plans to recalculate these numeric values using a target blood lead level of 5 µg/dL in a separate proposed rulemaking. This recalculation will bring the direct contact numeric values more in line with the current lead toxicity science and with other state and federal public health agencies. Providing this change in a separate proposed rulemaking will allow for the necessary public comment process required by the Commonwealth Documents Law (45 P.S. §§ 1102—1208).

Other comments regarding the MSC table values were provided to the Department including concerns with increasing numeric values, concerns with decreasing numeric values, potential impacts to plants and wildlife, concerns with the minimum threshold MSCs, potential increases

in the cost of cleanups, concerns with the current vanadium soil numeric values, and concerns with transparency in the MSC calculation process. The Department's responses to these comments explain the various reasons why MSC values can increase or decrease during rulemakings and how the Department makes a concerted effort to make the MSC calculation process as clear and transparent as possible. Other concerns from commentators are discussed in detail in the Comment and Response Document that accompanies this rulemaking.

Several commentators expressed concerns with the addition of the PFAS numeric values for groundwater and soil. The general consensus was that it will be difficult for remediators to address PFAS contamination when there is so much uncertainty with the current science of these contaminants and a lack of consensus among states and the Federal agencies as to the appropriate accurate cleanup standard or standards. Although the science is still evolving, the Department believes these new MSCs will provide remediators a means of addressing PFOS, PFOA and PFBS groundwater and soil contamination in this Commonwealth. This change benefits the public by reducing exposure to these harmful contaminants. This change also benefits remediators because it provides flexible options for them to navigate through the Act 2 cleanup process.

Detailed responses to all the public comments are provided in the Comment and Response Document that accompanies this final-form rulemaking.

H. *Benefits, Costs and Compliance*

Benefits

In enacting Act 2, the General Assembly found and declared among its policy goals that "[p]ublic health and environmental hazards cannot be eliminated without clear, predictable environmental remediation standards and a process for developing those standards," that "[a]ny remediation standards adopted by this Commonwealth must provide for the protection of public health and the environment," and that "[c]leanup plans should be based on actual risk that contamination on the site may pose to public health and the environment, taking into account its current and future use and the degree to which contamination can spread offsite and expose the public or the environment to risk." See 35 P.S. § 6026.102 regarding declaration of policy.

To effectuate this, the General Assembly authorized the Board and the Department to develop standards and methods to effectuate those goals. 35 P.S. §§ 6026.104 and 6026.303. The Department's regulatory structure, as authorized under Act 2 and as implemented by Chapter 250, provides those important benefits articulated in the General Assembly's declaration of policy.

The amendments to the MSCs in this final-form rulemaking serve both the public and the regulated community because they provide MSCs based on the most up-to-date health and scientific information for substances that cause cancer or have other toxic effects on human health. The Board first published Chapter 250 regulations in 1997 at 27 Pa.B. 4181 (August 16, 1997). The General Assembly recognized, in section 104(a) of Act 2 (35 P.S. § 6026.104(a)),

that these standards must be updated over time as better science becomes available and as the need for clarification or enhancement of the program becomes apparent.

Potential contamination of soil and groundwater from accidental spills and unlawful disposal can impact almost any resident of this Commonwealth. Many of the chemical substances addressed in this rulemaking are systemic toxicants or carcinogens as defined under Act 2 and, in some cases, are widespread in use. Examples of substances that contain toxic or carcinogenic properties include gasoline and other petroleum products, solvents, elements used in the manufacture of metals and alloys, pesticides, and some dielectric fluids previously contained in transformers and capacitors. Releases of regulated substances not only pose a threat to the environment, but also could affect the health of the general public if inhaled or ingested. New research on many of these substances is ongoing and provides the basis for protection of the residents of this Commonwealth through site cleanup requirements.

Although most of the changes to soil numeric values in this final-form rulemaking decrease the numeric values, 17% of the values have increased. Increases in values reflect updated information related to exposure limitations to the substances and acknowledge that a higher standard is better representative of those substances' exposure threshold.

An additional benefit of this rulemaking is the promulgation of soil and groundwater MSCs for PFOS, PFOA and PFBS. Establishing these MSCs allows remediators to address groundwater and soil contamination and thereby lessen public exposure to the contaminants. This also benefits remediators wishing to remediate contaminated sites, who tend to be owners, operators or purchasers—or their contractors—of properties and facilities including, or at or near, military bases, municipalities and other locations that used or stored fire-fighting foam. The EPA reports that contamination from these chemicals has also been associated with manufacturing textiles, food packaging, personal care products, and other materials such as cookware that are resistant to water, grease and stains. See Fact Sheet, EPA, PFOA & PFOS Drinking Water Health Advisories (November 2016) (available at https://www.epa.gov/sites/production/files/2016-06/documents/drinkingwaterhealthadvisories_pfoa_pfos_updated_5.31.16.pdf).

Finally, remediators will benefit from the amendments that clarify many of the administrative elements of Act 2, making for a more efficient and streamlined Act 2 remediation process.

The benefits of this rulemaking are difficult to quantify because, unlike other statutory or permitting schemes, Act 2 does not prevent contamination but instead provides remediators with a variety of options to address sites that have already been contaminated. In that sense, this rulemaking, consistent with Act 2, benefits the public because it can lead to more efficient and more expedient remediation and reuse of contaminated areas.

Compliance costs

Financially and economically, the Department believes that any potential impact to the regulated community would be insignificant. Under this final-form rulemaking, the MSC values for many regulated substances were amended for a variety of reasons. The two most common reasons for amendments are Federal agency (including the EPA and United States Department of Health

Agency for Toxic Substances and Disease Registry) changes in toxicity values that are used in calculating MSC and a change in the EPA's underlying assumption of a person's average daily consumption of water from 2 L/day to 2.4 L/day. The soil numeric values represent a decrease for approximately 83% of the values and an increase for 17% of the values. For groundwater, the changes reflect a decrease for approximately 92% of the values and an increase in approximately 8% of the values. Lowering the values may indicate a more stringent cleanup is required at a site and increasing the values may indicate a less stringent cleanup is required at a site. The number of completed remediations vary each year. On average, remediators apply the Act 2 remediation standard to approximately 800 contaminated properties across this Commonwealth. The Department does not expect that these amendments will impact the number of remediations voluntarily completed or the number that must be completed as a result of Department enforcement actions.

The amendments to Statewide health standard MSCs will not affect the cleanup options available to remediators under other cleanup standards. Persons conducting remediation under Act 2 may choose from three different cleanup standards: background, Statewide health or site-specific.

The Department does not expect that this rulemaking, as it relates to new MSCs for PFOA, PFOS and PFBS, will create any additional costs. Act 2 does not create liability for, or the obligation to, address contamination for these and other chemicals. Instead, that obligation comes from other environmental statutes, including The Clean Streams Law (35 P.S. §§ 691.1—691.1001) and the Solid Waste Management Act (35 P.S. §§ 6018.101—6018.1003). Act 2 provides remediators with options to remediate contamination. Having these new MSCs will allow remediators to address PFOS, PFOA and PFBS groundwater and soil contamination. This will benefit the public by lessening their exposure to these contaminants.

Compliance assistance plan

The Land Recycling Program will disseminate information concerning these updates using the Department web site and e-mails to environmental consultants involved in the program.

Paperwork requirements

This rulemaking will not result in any additional forms or reports, beyond those that are already required by Act 2 and Chapter 250.

I. *Pollution Prevention*

The Federal Pollution Prevention Act of 1990 (42 U.S.C.A. §§ 13101—13109) established a National policy that promotes pollution prevention as the preferred means for achieving state environmental protection goals. The Department encourages pollution prevention, which is the reduction or elimination of pollution at its source, through the substitution of environmentally friendly materials, more efficient use of raw materials and the incorporation of energy efficiency strategies. Pollution prevention practices can provide greater environmental protection with greater efficiency because they can result in significant cost savings to facilities that permanently achieve or move beyond compliance.

Act 2 encourages cleanup plans that have as a goal remedies which treat, destroy or remove regulated substances whenever technically and economically feasible. This rulemaking will provide the necessary Statewide health standard MSCs for remediators to remove contamination or eliminate exposure, where appropriate. This rulemaking reflects the most up-to-date science, especially as it relates to the characterization and removal of contamination that exceeds Act 2 MSCs. During the remediation of a contaminated site, potential sources of pollution are often removed to attain the Act 2 standards, eliminating or minimizing the potential for continued migration of the sources of pollution to other areas.

J. *Sunset Review*

The Board is not establishing a sunset date for this rulemaking because it is needed for the Department to carry out its statutory authority.

K. *Regulatory Review*

Under Section 5(a) of the Regulatory Review Act (71 P.S. § 745.5(a)), on January 27, 2020, the Department submitted a copy of the notice of proposed rulemaking, published at 50 Pa.B. 1011, to the Independent Regulatory Review Commission (IRRC) and the Chairpersons of the House and Senate Environmental Resources and Energy Committees for review and comment.

Under section 5(c) of the Regulatory Review Act, IRRC and the Committees were provided with copies of the comments received during the public comment period, as well as other documents when requested. In preparing the final-form rulemaking, the Department has considered all comments from IRRC, the House and Senate Committees and the public.

Under section 5.1(j.2) of the Regulatory Review Act, on ___(DATE)___, the final-form rulemaking was deemed approved by the House and Senate Committees. Under section 5.1(e) of the Regulatory Review Act, IRRC met on ____(DATE)____ and approved the final-form rulemaking.

L. *Findings of the Board*

The Board finds that:

(1) Public notice of the proposed rulemaking was given under sections 201and 202 of the act of July 31, 1968 (P.L. 769, No. 240) (45 P.S. §§ 1201 and 1202) and regulations promulgated thereunder at 1 Pa. Code §§ 7.1 and 7.2.

(2) A public comment period was provided as required by law, and all comments were considered.

(3) This final-form rulemaking does not enlarge the purpose of the proposed rulemaking published at 50 *Pennsylvania Bulletin* 1011 (February 15, 2020).

(4) These regulations are necessary and appropriate for the administration and enforcement of the authorizing acts identified in Section C of this order.

M. *Order of the Board*

The Board, acting under the authorizing statutes, orders that:

(a) The regulations of the Department of Environmental Protection, 25 Pa. Code Chapter 250, are amended to read as set forth in Annex A.

(b) The Chairperson of the Board shall submit this final-form regulation to the Office of General Counsel and the Office of Attorney General for review and approval as to legality and form, as required by law.

(c) The Chairperson of the Board shall submit this final-form regulation to the Independent Regulatory Review Commission and the Senate and House Environmental Resources, and Energy Committees as required by the Regulatory Review Act.

(d) The Chairperson of the Board shall certify this final-form regulation and deposit it with the Legislative Reference Bureau, as required by law.

(e) This final-form regulation shall take effect immediately upon publication in the *Pennsylvania Bulletin*.

PATRICK McDONNELL,
Chairperson