FINAL-FORM RULEMAKING

ENVIRONMENTAL QUALITY BOARD

[25 PA. CODE CH. 250]

Administration of the Land Recycling Program

The Environmental Quality Board (Board) amends Chapter 250 (relating to administration of land recycling program). This final-form rulemaking was developed under § 250.11 (relating to periodic review of MSCs), which requires the Department of Environmental Protection (Department) to review new scientific information that relates to the basis of the Statewide health standard medium-specific concentrations (MSC) 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 final-form rulemaking updates the models used to calculate the soil lead MSCs and updates the Department's process for calculating MSCs for carcinogenic polycyclic aromatic hydrocarbons (PAH). This final-form rulemaking also clarifies several other regulatory requirements.

This final-form rulemaking was adopted by the Board at its meeting on DATE.

A. *Effective Date*

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

B. *Contact Persons*

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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)) and section 1920-A of The Administrative Code of 1929 (71 P.S. § 510-20). Section 104(a) of Act 2 authorizes the Board to adopt Statewide health standards as well as appropriate mathematically valid statistical tests to define compliance with Act 2 and other regulations that may be needed to implement the provisions of Act 2. Section 303(a) of Act 2 authorizes the Board to promulgate Statewide health standards for regulated substances for each environmental medium and methods used to calculate the standards. Section 1920-A of The Administrative Code of 1929 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 of the Land Recycling Program's regulations 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 51 Pa.B. 7173 (November 20, 2021). These final changes, based on new information, protect public health and the environment and provide the regulated community with clear information regarding the requirements of Act 2 and Chapter 250 related to the remediation of contaminated sites.

The amendments include changes to soil numeric values for 46 regulated substances; 45% of these changes lower the current values and the other 55% increase those values. Changes to groundwater numeric values are adopted for 34 regulated substances; half of these changes lower the current values, and the other half increase those values. In addition to updating the Chapter 250 MSCs, this final-form rulemaking includes changes that add groundwater and soil MSCs for seven compounds in the per- and polyfluoroalkyl substances (PFAS) family (hexafluoropropylene oxide (HFPO) dimer acid, HFPO dimer acid ammonium salt (Gen-X), perfluorobutanoic acid (PFBA), perfluorohexane sulfonate (PFHxS), perfluorohexanoic acid (PFHxA), perfluorononanoic acid (PFNA), and perfluorobutane sulfonate (PFBS) potassium salt) and update the values for three others (PFBS, perfluorooctane sulfonate (PFOS), and perfluorooctanoic acid (PFOA)). The standards for these PFAS are based on data in toxicological studies published by the United States Environmental Protection Agency (EPA). Under section 303(a) of Act 2, the Department has directly incorporated the EPA's Health Advisory Levels (HAL) regarding the salts of PFBS and HFPO dimer acid as groundwater MSCs and has used the data developed by the EPA for those HALs to calculate soil MSCs for both compounds. The Department has also directly incorporated EPA's published Maximum Contaminant Level (MCL) values from the PFAS National Primary Drinking Water Regulation final rulemaking (Federal PFAS MCL rule) regarding PFBS, PFHxS, PFNA, PFOA and PFOS as groundwater MSCs and has used the toxicological data developed by the EPA for those MCLs to calculate soil MSCs for these compounds. With respect to PFHxA and PFBA, the soil and groundwater standards are based on 2023 EPA Integrated Risk Information System (IRIS) evaluations.

This final-form rulemaking includes changes to the methods for calculating the direct contact soil standards for lead. The previous rulemaking finalized in 2021 that updated the MSCs also proposed changes to the direct contact numeric values. The Board received several comments on the lead standards during that public comment period. Most of the commentators expressed concern with the proposed increase in the nonresidential direct contact numeric value for lead in surface soil in Table 4A (relating to medium-specific concentrations (MSCs) for inorganic regulated substances in soil—direct contact numeric values). The main concern expressed by the public comments on the 2021 proposed rulemaking was the proposed use of 10 micrograms per deciliter (µg/dL) as the target blood lead level (TBLL).

The number and nature of the public comments received on this issue prompted the Department to publish an Advance Notice of Proposed Rulemaking (ANPR) in the *Pennsylvania Bulletin* at 51 Pa.B. 6776 (October 30, 2021) to solicit information necessary to prepare the proposed rulemaking. Specifically, the Department requested information which could be used to evaluate:

(1) the proposed updates to the lead models used to calculate the soil lead MSCs; (2) the potential changes to model input parameters; and (3) the potential changes to the statistical tests used to demonstrate attainment of the Statewide health standard for lead in soil at Act 2 remediation sites. During the submission period for the ANPR, the Department received comments from two individuals and one organization that were considered during the development of the proposed rulemaking.

This final-form rulemaking includes the updated models published by the EPA, which are the Integrated Exposure Uptake Biokinetic (IEUBK) Model for Children that is used to calculate the residential values and the Adult Lead Model (ALM) that is used to calculate the nonresidential values. In addition to updating the models, the TBLL is being reduced from the current values of 10 µg/dL for residential calculations and 20 µg/dL for nonresidential calculations to 5 µg/dL for both residential and nonresidential calculations, which is the default value used in the EPA models.

Additionally, this final-form rulemaking includes a change in the method of determining the toxicity values for six carcinogenic PAH compounds (Benzo[a]anthracene, Benzo[b]fluoranthene, Benzo[k]fluoranthene, Chrysene, Dibenz[a,h]anthracene and Indeno[1,2,3-c,d]pyrene). The EPA's guidance recommends the application of relative potency factors (RPF) to assess the carcinogenic hazard from oral exposure to carcinogenic PAHs. RPFs are comparative risk estimates of the relative potency of each carcinogenic PAH as compared to benzo[a]pyrene (BaP). BaP is a commonly found PAH that has a significantly higher number of documented toxicity studies than the other six PAHs. When the EPA updated the toxicity value for BaP in IRIS in January 2017, the supporting documents specifically referred to the EPA's 1993 guidance document on the use of RPFs for determining the toxicity of six other PAH compounds. The Board uses the EPA's RPFs as toxicity values to more accurately calculate MSCs for these six carcinogenic PAHs.

Furthermore, this final-form rulemaking updates the method for determining MSCs for 19 compounds by choosing subchronic (short-term exposure) toxicity values over chronic (long-term exposure) toxicity values. The EPA's Office of Land and Emergency Management (OLEM) issued a memo in May 2021 (Recommendations on the Use of Chronic or Subchronic Noncancer Values for Superfund Human Health Risk Assessments, https://semspub.epa.gov/src/document/HQ/100002839) regarding the use of certain toxicity values based on recommendations from OLEM's Human Health Regional Risk Assessment Forum's Toxicity Workgroup. The OLEM's memo recommends using subchronic toxicity values in place of chronic toxicity values to more accurately represent the risk of exposure to certain compounds. The Department typically selects chronic toxicity values for calculating numeric values used to determine the MSCs. Using the process recommended in the OLEM's memo changes the Department's toxicity value selection procedure for 19 compounds.

The EPA also provided guidance to the Department regarding the use of certain values from the EPA's Health Effects Assessment Summary Tables (HEAST) database. The HEAST database has not been updated since 1997 and as IRIS and Provisional Peer-Reviewed Toxicity Values (PPRTV) published values, any HEAST values for those same compounds were rescinded by the EPA. It has been clarified through direct communication with the EPA that any compounds evaluated within IRIS and PPRTV that specifically state that a value could not be calculated are

also considered to be rescinded. Therefore, several HEAST toxicity values have been removed from Tables 5A and 5B (relating to physical and toxicological properties—organic regulated substances; and physical and toxicological properties—inorganic regulated substances) in this final-form rulemaking.

Finally, this final-form rulemaking clarifies a procedural issue by specifying that MCLs and HALs become effective as MSCs upon publication of the final MCL or HAL by the EPA or the Department.

This final-form rulemaking impacts any person addressing a release of a regulated substance at a property, whether voluntarily or as a result of an order by the Department. This final-form rulemaking will not impact any particular category of person with additional or new regulatory obligations. Under Act 2, a remediator may select the standard to which to remediate. These standards include: background, Statewide health or site-specific standard. To complete a remediation, the remediator shall then comply with all relevant remediation and administrative requirements of that standard.

As noted previously, this final-form rulemaking will not singularly affect one specific industry or person. This final-form rulemaking will impact the owners and operators of storage tank facilities that have had a release of petroleum or a hazardous substance. There are approximately 12,000 storage tank facilities in this Commonwealth. Some of these facilities are owned or operated by small businesses. Because of the broad potential reach of this final-form rulemaking, it is not possible to identify specific 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 PFBA to Chapter 250 does not create any liability or obligation related to PFBA. 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 address the contamination.

This final-form rulemaking adjusts the cleanup thresholds for demonstration of the Statewide health standard. 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 soil numeric values represent a decrease in approximately 45% of the values and an increase in 55% of the values. For groundwater, the changes reflect a decrease in approximately 50% of the values and an increase in approximately 50% of the values. 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 varies each year. On average, remediators apply the Act 2 remediation standard to just under 300 contaminated properties across this Commonwealth per year. Generally, the cost related to a given site remediation depends in large part on which regulated substances are being remediated and what the specific soil and groundwater conditions are at the site.

The Department worked with the Cleanup Standards Scientific Advisory Board (CSSAB) during the development of this final-form rulemaking. The CSSAB was established by section 105 of Act 2 (35 P.S. § 6026.105) and 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 October 20, 2022, January 23, 2023, and May 31, 2023, CSSAB members had the opportunity to review and provide feedback on draft proposed regulatory amendments to Chapter 250.

The Department worked with the CSSAB to resolve their concerns. Following these presentations and discussions, the CSSAB voted on January 23, 2023, in support of the Department's recommendation to move the proposed regulation forward to the Board for consideration. After making additional updates to the draft proposed regulation to address the HEAST values changes and add the PFAS compound PFHxA, the CSSAB reviewed and affirmed their decision to support the Department on May 31, 2023.

Land Recycling Program staff presented the comments and responses on the proposed rulemaking, as well as the draft final-form regulation, during CSSAB meetings on April 23, 2025, July 16, 2025, and March 31, 2026. CSSAB members reviewed and provided feedback on the changes between proposed and final, as well as responses to the comments on Chapter 250. There was no opposition to this final-form rulemaking expressed by the members of the CSSAB.

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

The following is a detailed description of amendments to Chapter 250. Changes were made to § 250.304(c), § 250.704(e), § 250.707(b)(2)(iii), § 250.707(d), and Appendix A Tables 1, 3A, 3B, and 5A from the proposed rulemaking to this final-form rulemaking, explained as follows.

§ 250.304. MSCs for groundwater.

In subsection (c), this final-form rulemaking updates the language to make it clear that MCLs and HALs are effective immediately upon publication in either the *Federal Register* or the *Pennsylvania Bulletin*. Subsection (c) is changed from the proposed rulemaking by adding paragraph (3) to this final-form rulemaking to identify that a Hazard Index (HI) calculation is required for PFAS included in the EPA MCL HI as explained in § 250.707(b)(2)(iii) (relating to statistical tests).

In subsection (g), this final-form rulemaking adds a source of aqueous solubility information for PFAS to support the new compounds added to the MSC tables in this final-form rulemaking.

§ 250.305. MSCs for soil.

In subsection (b), the amendments clarify the mathematical operation taking place by including multiplication symbols in the equations, updating the associated variable definitions and adding a missing definition.

§ 250.306. Ingestion numeric values.

In subsection (d), this final-form rulemaking corrects a typographical error for the groundwater ingestion factor.

The amendments to subsection (e) update the models used to calculate the residential and nonresidential ingestion numeric values for lead in soil. This includes changes to the TBLLs that are applied to the corresponding lead numeric value calculations. The models currently used by the Department are the Uptake Biokinetic (UBK) and Society for Environmental Geochemistry and Health (SEGH) models, which are outdated and need to be replaced with more current science. The Board is replacing these models with the EPA's most up-to-date IEUBK model and the EPA's ALM. These model updates also include reducing the current TBLLs from 10 µg/dL in children (UBK model) and 20 µg/dL in adults (SEGH model) to 5 µg/dL for both models because 5 µg/dL is the default TBLL used in the IEUBK and ALM models. The receptor in both models is children; the IEUBK model receptor is children from zero to 84 months of age and the ALM receptor is a fetus in the womb of an exposed adult. The IEUBK and ALM models were developed by the EPA's Superfund Program and their use, including their default values, ensures that the Commonwealth's environmental cleanup program incorporates the most up-to-date science associated with the EPA's Superfund Program. The Department's Land Recycling Program needs to be closely aligned with the EPA's Superfund Program regarding the use of toxicity information, cleanup processes and risk-based analyses.

The Board is adding averaging of attainment sample data as a statistical test in § 250.707 to demonstrate attainment of the lead direct contact values under the Statewide health standard. This use of averages will be limited to sample data being used to demonstrate attainment of the Statewide health standard for lead in soil. The use of averages conforms to the methods utilized by both the IEUBK and ALM. The new model references are also updated in this subsection.

§ 250.404. Pathway identification and elimination.

The amendment to subsection (a) changes the word "environmental" to "ecological" to clarify appropriate receptors.

§ 250.605. Sources of toxicity information.

The amendment to subsection (a)(1) adds the EPA's July 1993 *Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons* to the toxicity value source hierarchy.

§ 250.606. Development of site-specific standards.

The amendment to subsection (d)(3)(iii) deletes the words "below grade" to clarify that slab-on-grade buildings also must be evaluated for vapor intrusion.

§ 250.703. General attainment requirements for soil.

The amendment to subsection (b) clarifies that attainment samples shall be taken from both the base and sidewalls of the excavation to ensure there is no remaining contamination.

In subsection (d), the amendment adds a cross-reference to § 250.707(b)(1)(iv) to include the statistical method for using the arithmetic average for lead to the section that defines the number of samples that are required for attainment.

§ 250.704. General attainment requirements for groundwater.

To incorporate the new Federal PFAS MCL Rule requirements in this final-form rulemaking, subsection (e) is amended to add a cross reference to the new HI calculation in § 250.707(b)(2)(iii) identifying that the minimum number of samples required is specified by the attainment method (HI calculation).

§ 250.707. Statistical tests.

Subsection (b)(1)(iv) allows for averaging of attainment soil sample results for lead when demonstrating attainment of the Statewide health standard using the direct contact soil numeric values. The addition of averaging as a statistical test to demonstrate attainment of the Statewide health standard is only applicable for attainment data being compared to the soil direct contact lead values. This is because the soil direct contact lead values were calculated using the IEUBK and ALM models, which use averages in their methodology. The ability to use the average for attainment of the lead direct contact values does not eliminate the ability to use other statistical methods, as all are protective of human health. The amendment to subsection (b)(1) adds a reference to subparagraph (iv).

To incorporate the new Federal PFAS MCL Rule requirements in this final-form rulemaking, subsection (b)(2) is amended to add subparagraph (iii), which defines the PFAS HI calculation and includes the equation and the sources of the information to use in the equation.

The amendments to subsection (d) add references to subsection (b)(1)(iv) and to the new subsection (b)(2)(iii) in this final-form rulemaking.

Appendix A, Tables 1, 3A, 3B, 4A, 5A, 5B and 7

The amendments to the "Medium-Specific Concentrations" tables update the MSCs for certain regulated substances. Updates to footnotes are necessary to help explain several changes to the MSCs.

Changes in this final-form rulemaking from what was in the proposed rulemaking include updates to the PFAS family of compounds based on the data provided in the Federal PFAS MCL Rule, as follows. In Table 1, a footnote is added to identify the four compounds that must be included in the HI calculation when more than one of these compounds is detected, defined in § 250.707(b)(2)(iii). Table 1 is also updated to add the PFHxS and PFNA MSC values based on the Federal PFAS MCL Rule, to change the basis of the MSC for HFPO dimer acid (Gen-X) from the EPA HAL to the Federal PFAS MCL Rule and to update the proposed MSC values for PFOA and PFOS from the Commonwealth's MCL values to the values from the Federal PFAS MCL Rule. Updating the values for PFOS and PFOA and adding the PFHxS and PFNA values in Table 1 results in changes to the corresponding residential and nonresidential one hundred times groundwater MSC values in Table 3B. Updates to Table 3B include the addition of values for PFHxS and PFNA and updates to the PFOA and PFOS values calculated using the toxicity

information from the Federal PFAS MCL Rule. Table 3A is updated to add all values for PFHxS and PFNA and to recalculate values for PFOA and PFOS based on updated toxicity information from the Federal PFAS MCL Rule. Table 5A is updated to add all values for PFHxS and PFNA and to update the toxicity values for PFOA and PFOS based on information from the Federal PFAS MCL Rule.

The following describes the amendments to Appendix A Tables 1, 3A, 3B, 4A, 5A, 5B and 7 included in the proposed rulemaking and adopted in this final-form rulemaking unchanged.

The updates include a correction to the groundwater numeric values for bromobenzene in Tables 1 and 3B (relating to medium-specific concentrations (MSCs) for organic regulated substances in groundwater; and medium-specific concentrations (MSCs) for organic regulated substances in soil—soil to groundwater numeric values), which were added to the regulations as part of the last Chapter 250 rulemaking. The bromobenzene value in Table 1 is based on the EPA's HAL, but was not converted from mg/L to the correct units of µg/L. Correcting this value in Table 1 also requires the corresponding bromobenzene value in Table 3B to be corrected.

Other changes to Tables 1, 3A, 3B and 4A are based on updates to toxicity values in the sources that are referenced in § 250.605(a) (relating to sources of toxicity information) or other sources as described as follows.

For Tables 5A and 5B, a new footnote refers to the memorandum from the EPA's OLEM from May 2021, which recommends the use of certain subchronic toxicity values instead of a chronic toxicity value, as described previously in Section D. Chronic values would typically be the default toxicity values listed in Tables 5A and 5B. However, as described previously in Section D, guidance from the EPA's OLEM recommends using subchronic toxicity values in place of chronic toxicity values for 19 compounds. This final-form rulemaking adopts the EPA's recommendations for those compounds.

As also described in Section D, the EPA provided guidance to the Department regarding the use of certain values from the EPA's HEAST database. The HEAST database has not been updated since 1997 and as values are published in IRIS and the PPRTV database, any HEAST values for those same compounds were rescinded by the EPA. It has been clarified through direct communication with the EPA that any compounds evaluated within IRIS and the PPRTV database that specifically state that a value could not be calculated are considered to be rescinded. This resulted in the removal of several HEAST toxicity values from Tables 5A and 5B in this final-form rulemaking.

The amendments updating the calculated toxicity values in Table 5A for six PAH compounds relative to Benzo[a]pyrene (BaP) result in increases in the MSCs for those compounds. As outlined in the whitepaper provided by the CSSAB PAH Workgroup that is included with this final-form rulemaking, when the EPA updated the toxicity value for BaP in IRIS in January 2017, the supporting documents specifically referred to the EPA's 1993 guidance document on use of RPFs for determining the toxicity of six other PAH compounds. These compounds include Benzo[a]anthracene, Benzo[b]fluoranthene, Benzo[k]fluoranthene, Chrysene, Dibenz[a,h]anthracene, and Indeno[1,2,3-c,d]pyrene. The whitepaper and the guidance document indicate that the toxicity of these six PAHs should be calculated as a factor of the toxicity of

BaP. The whitepaper notes that the current toxicity values for PAHs in Chapter 250 are values calculated by California and others using these RPFs in relation to the BaP toxicity value published before the IRIS update in January 2017. Using the RPFs in relation to the current BaP toxicity value brings the most current science to Chapter 250. This amendment also adds a footnote to reference the EPA's 1993 Relative Potency Factors document.

Numeric values are calculated for several new substances, including HFPO dimer acid and its ammonium salt, PFBA, PFHxS, PFHxA, PFNA, and the potassium salt of PFBS in groundwater and soil. The numeric value changes are attributed to changes in the PAH toxicity values, publication of new EPA MCL and HAL values for PFAS compounds, and updates in toxicity values in Tables 5A and 5B.

The amendments to Table 7 (relating to default values for calculating medium-specific concentrations for lead) update the input parameters for use in the IEUBK Model for Lead in Children for residential exposure. Amendments for nonresidential exposure update the model input parameters for the ALM. These models represent the EPA's most current science and are being used by the Department to replace the outdated and obsolete UBK and SEGH models currently in use by the Department. In addition to model updates, as discussed previously, this final-form rulemaking includes updating the TBLL. The Department currently uses TBLLs of 10 µg/dL and 20 µg/dL with the UBK and SEGH models, respectively. This final-form rulemaking uses 5 µg/dL as the TBLL because it is the default value used in both the IEUBK and ALM models that were developed by the EPA's Superfund Program. This final-form rulemaking's use of the default values associated with the EPA Superfund Program's most current soil lead models, including the TBLL, ensures that the most up-to-date science is being applied to environmental cleanup sites in this Commonwealth. The Department's Land Recycling Program is closely aligned with the EPA's Superfund Program regarding the use of toxicity information, cleanup processes and risk-based analyses. The receptor in both models is children; with the IEUBK model receptor being children from zero to 84 months of age while the ALM receptor is a fetus in the womb of an exposed adult. References for both models are also updated. These amendments result in updates to the lead residential and nonresidential direct contact values provided in Table 4A.

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

The Board adopted the proposed rulemaking on March 12, 2024, which was published in the *Pennsylvania Bulletin* at 54 Pa.B. 3937 (July 13, 2024) for a 60-day public comment period that closed on September 11, 2024. The Board held three public hearings during the public comment period to accept comments on the proposed rulemaking. The hearings were held as follows: August 19, 2024, at 1 p.m. at the Department's Southwest Regional Office; August 27, 2024, at 1 p.m. at the Department's Southeast Regional Office; and a virtual hearing on September 4, 2024, at 6 p.m. During the public comment period, the Board received comments from 18 individuals and organizations. The Independent Regulatory Review Commission (IRRC) submitted comments on October 11, 2024.

The comments received on the proposed rulemaking are summarized as follows and are addressed in more detail in a comment and response document that accompanies this final-form rulemaking.

Federal PFAS MCL Rule

IRRC and commentators noted that the EPA published a National primary drinking water regulation establishing MCLs and health-based maximum contaminant level goals for six PFAS in drinking water. The Federal PFAS MCL standards, which went into effect on June 25, 2024, differed from the proposed standards adopted by the Board at its March 12, 2024, meeting. All parties commented that the Federal standards should be added to the final regulation. IRRC also noted two commentators' concerns that the Federal MCLs automatically became the MSCs for those PFAS in groundwater 60 days after the final rule's publication, on June 25, 2024. IRRC and these two commentators suggested that the Department amend the proposed regulation to include the Federal MCLs in the MSC tables and republish the proposed regulation for public comment and provide compliance and enforcement clarifications.

IRRC also noted that two commentators recommended the Department clarify the HI approach for PFAS groundwater and future soil MSCs. The two commentators also recommended that the Department use the CSSAB to create a PFAS workgroup to establish clarity and uniformity related to the proposed changes related to MSCs and PFAS.

Additionally, IRRC noted several commentators' suggestion that the "Department should add perfluorohexanesulfonic acid (PFHxS) and perfluorononanoic acid (PFNA) to the regulated substances and add soil to groundwater and direct contact soil MSCs for PFHxS and PFNA." The commentators also suggested updating the proposed soil and groundwater contamination standards for PFOS and PFOA to reflect the latest toxicity values used by the EPA. Two commentators suggested that the Department should delay implementation of the EPA MCL values as effective MSCs until the public drinking water enforcement date of April 26, 2029, and use the Commonwealth's MCLs for PFOA and PFOS in the meantime. One commentator requested that the Department confirm that the site-specific standard can be used for any PFAS with toxicity data listed in § 250.605 to provide a standardized approach for assessing PFAS contamination in soil and determining remediation needed.

IRRC requested, "If the standards in the final regulation differ from the EPA final rulemaking, we ask the Board to explain how implementation of the final regulation is clear and protects the public health, safety, and welfare."

The Board adopted the proposed regulation at the March 12, 2024, meeting. This predated the publication of the Federal PFAS MCL rule at 89 FR 32532 (April 26, 2024), establishing MCLs for several PFAS that went into effect on June 25, 2024. However, the Department's regulations incorporate the Federal MCLs by reference in § 250.304(c) (relating to MSCs for groundwater). The adoption of the Federal PFAS MCL rule requires the use of the HI calculation method. Therefore, the Federal PFAS MCLs were adopted by the Department on the effective date of June 25, 2024, and are now the groundwater MSCs. The EPA enforcement date is different from the effective date to delay the issuing of fines and required notifications to allow public water systems to take the necessary steps to install treatment systems to comply with these new PFAS MCLs.

To notify the public and assist remediators with this change, the Department has posted the new Statewide health standard MSC values for groundwater on the Department's Statewide Health

Standards webpage, https://www.pa.gov/agencies/dep/programs-and-services/land/land-recycling-program/standards-guidance-and-procedures/statewide-health-standards. The Department also notified the public of this change on June 28, 2024, by sending a "Brownfields Bulletin" update to the subscribers of the Land Recycling Program's "Pennsylvania Brownfields Mailing List." In addition to meeting the individual MSC, the Federal PFAS MCL Rule states that if more than one of the four PFAS compounds (Gen-X, PFBS, PFHxS, PFNA) are detected, an HI must be calculated. The HI MSC is met by maintaining a rolling average HI of less than one for the most recent four consecutive quarters of samples using the equation provided in the Federal PFAS MCL rule.

The Federal PFAS MCL rule applies to drinking water and is adopted as the groundwater MSC. The Department has determined that because the rule applies to drinking water, the HI calculation only applies to groundwater MSCs and does not impact the soil MSCs. This includes both the direct contact and soil-to-groundwater MSCs. The Department posted a technical notice to the Land Recycling Program's "Statewide Health Standards" webpage on January 12, 2026, at https://files.dep.state.pa.us/EnvironmentalCleanupBrownfields/LandRecyclingProgram/LandRecyclingProgramPortalFiles/GuidanceTechTools/Tech%20Notice%20JAN2026%20EPA%20PFAS%20MCL%20HI%20for%20Soil%20Determination.pdf, explaining the rationale behind the determination that the HI rule does not apply to soil MSCs.

The Department has worked with the CSSAB PFAS workgroup, as recommended by the commentators. The specific issues being explored by this workgroup were discussed at the CSSAB meeting on October 22, 2025, including best practices for fate and transport modeling and the development of soil-to-groundwater generic values for PFAS in soil.

In response to comments received on the proposed rulemaking, the Board is adding or updating PFAS standards in this final-form rulemaking. The Board has changed the PFOA and PFOS standards in the proposed rulemaking to the Federal PFAS standards and added the Federal PFAS standards for PFHxS and PFNA to this final-form rulemaking. Soil numeric values for PFHxS, PFNA, PFOA and PFOS have been calculated and the additional detailed explanation required to include the HI methodology for groundwater has been added.

PFAS – reopening remediated sites

IRRC noted a commentator's concern that the PFAS limits could lead to the reopening of closed Act 2 or Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 U.S.C. §§ 9601—9675) sites. A commentator recommended adding language to protect against reopening Act 2 and CERCLA sites that were previously closed.

Every three years, the MSCs in Chapter 250 must be reviewed and updated, if necessary, which often results in lower MSCs. Instead of reopening sites when MSCs decrease, the Department encourages responsible parties to re-enter the Land Recycling Program to address contamination that remains on site if there is concern. This approach is consistent with the voluntary nature of Act 2. Section 505 of Act 2 (35 P.S. § 6026.505) already protects remediators by providing that "[a]ny person who completes remediation in compliance with this act shall not be required to undertake additional remediation actions unless the department demonstrates" limited, specific

circumstances exist that require the site to be reopened. Since Act 2 is a voluntary program, the Department encourages responsible parties to re-enter the program rather than reopening sites.

CERCLA is a Federal statute that is implemented and enforced by the EPA. In contrast to the Land Recycling Program, CERCLA is not a voluntary program. The Department is unable to dictate the actions of the EPA in relation to CERCLA sites. Because CERCLA is a Federal statute, the Department is unable to add any language to the statute, including legal protections.

PFAS – general interaction with "Management of Fill Policy"

IRRC noted two commentators' concerns that other programs, such as the "fill management program," rely on the MSCs adopted under Act 2 and, therefore, the PFAS MSCs could affect projects in this Commonwealth where fill materials are being imported or exported. The commentators asserted the regulatory analysis of the proposed regulation did not account for these impacts on the regulated community, or address possible confusion created through the incorporation of the PFAS MCLs as MSCs and the use of the HI approach for a combination of PFAS. IRRC also noted two commentators' concern that the Department has not established generic soil-to-groundwater MSCs for PFAS, which impacts other regulatory programs of the Department, such as the technical guidance document titled "Management of Fill Policy" (MoFP), Document No. 258-2182-773, which the Department's Bureau of Waste Management uses to implement the Solid Waste Management Act (35 P.S. §§ 6018.101—6018.1003).

The MoFP provides procedures for determining whether fill is "clean fill," as defined in the municipal and residual waste regulations at § 271.1 (relating to definitions) and § 287.1 (relating to definitions), respectively, or "regulated fill" as defined in the MoFP. Fill may qualify for use as clean fill by determining that it has not been subject to a release of a regulated substance.

While Chapter 250 rulemakings involving MSC changes will impact the MoFP, the current PFAS standards have been listed in the Chapter 250 regulations since 2021. Therefore, the addition of new PFAS MSCs to the Chapter 250 tables does not alter the way PFAS are evaluated under the MoFP nor will it increase the effort or cost needed to evaluate PFAS. Additionally, the MoFP is used for clean fill determinations on fill that is known or suspected to have been impacted by a release. If PFAS are not known or suspected to have been part of a release at the site, then PFAS do not need to be evaluated as part of the clean fill demonstration under the MoFP. The change in the number and concentration of PFAS standards is not anticipated to impact the process or the ability to attain the clean fill concentration limits or regulated fill concentration limits.

The calculation of generic soil-to-groundwater values for PFAS has been proven to be scientifically insupportable at this time. The generic value calculations rely on the ability to accurately predict how a compound will behave in the subsurface. Because PFAS compounds have novel characteristics, it is currently unknown if those generic assumptions apply. Studies of PFAS subsurface behavior are underway by other organizations and will be considered during the development of future Chapter 250 rulemakings.

Under the MoFP, Appendix A, Section F provides guidance on using the EPA's SW-846 Method 1312: Synthetic Precipitation Leaching Procedure, to establish an alternative soil-to-groundwater

value. The EPA's procedure is designed to determine the mobility of both organic and inorganic substances present in soils and waste. This information is included in Appendix A, Section F of the MoFP, as well as described in more detail in Section II.B.2.c.ii.a of the "Land Recycling Program Technical Guidance Manual," Document No. 261-0300-101.

As explained previously, the HI portion of the Federal PFAS MCL rule was never intended to be used for soil and, therefore, the Department has determined that it does not apply to fill determinations under the MoFP.

PFAS – fill determination under the MoFP

IRRC noted some commentators' suggestions to improve the clean fill determination process by clarifying that contaminants like PFAS do not need to be included in the suite of analytical parameters where they are not known or suspected to be present, and by establishing a Statewide background value for PFAS based on atmospheric deposition to provide a consistent baseline for assessing PFAS contamination in clean-fill materials. One commentator noted that Act 2 allows for the use of a background standard in accordance with § 250.201 (relating to scope), including reliance on regional background conditions, the MoFP allows for the use of a background demonstration, and the Department has previously published background reference values.

The MoFP is administered by the Department's Bureau of Waste Management to evaluate whether a person is required to obtain a permit under the Solid Waste Management Act for the use of fill in accordance with the municipal and residual waste regulations, §§ 271.101(b)(3) and 287.101(b)(6) (relating to permit requirement; general requirements for permit). The MoFP describes the type of fill that qualifies as clean fill or regulated fill and how to perform an evaluation to determine whether a permit is required for the placement of fill. Generally, the MoFP is not applicable to activities on a site undergoing Act 2 remediation, so it is not part of the Chapter 250 rulemaking. However, the MoFP incorporates by reference the numeric values in the Chapter 250 MSC tables, so the values are applicable to a person performing a fill determination in accordance with the policy.

The MoFP defines environmental due diligence as "[i]nvestigative techniques used to determine whether fill from a donor site has been affected by a release of a regulated substance." Therefore, analytical testing is not always part of environmental due diligence. Neither the MoFP nor Chapter 250 require users of fill or remediators to analyze for all the regulated substances for which a clean fill concentration limit, regulated fill concentration limit or MSC exists. The definition of "uncontaminated" in the MoFP states "analysis should be carried out for only those regulated substances that are suspected to be present in the fill," meaning that only those regulated substances that are suspected to be present in the fill due to the type of release indicated by the environmental due diligence should be analyzed.

Under Section B.2 of the MoFP, except for historic fill, analytical testing is not necessary unless environmental due diligence indicates that the fill has been subject to a release of a regulated substance. However, a person performing a fill determination may choose to perform analytical testing instead of conducting a review of ownership and historic property use to satisfy the minimum condition for performing environmental due diligence. For fill to qualify for use as clean fill, the user or remediator determines whether it is uncontaminated as the term is defined

in the policy. Fill can meet the definition of "uncontaminated" by either determining through environmental due diligence that it has not been subject to a release or demonstrating through sampling and analysis that although the fill has been subject to a release, the regulated substance is not present at a concentration exceeding the clean fill concentration limits.

Act 2 does not authorize the Board to establish Statewide background values. Rather, § 250.201 states that Subchapter B (relating to background standard) of the Land Recycling Program's regulations specify the requirements and procedures for attaining the background standard. The provisions in Subchapter B state that background conditions used in attainment of the standard are based on the characterization and information specific to the subject property. As explained in § 250.202(b) (relating to establishing background concentrations), the background concentration for attainment is established by analyzing samples from the property that are not impacted by a release or, if all areas of the property are impacted, soil samples from off property may be used. It would be difficult to generate background soil concentrations for the entire State or even specific regions of this Commonwealth as conditions vary significantly by location, influenced by factors like proximity to industrial sites or historical use of certain products. Therefore, a background standard must be based on characterization and data collected from each individual property.

Appendix A, Section G in the MoFP provides guidance on "Performing a Background Demonstration and Equivalent Site Evaluation." Generally, only naturally occurring metals, lead and some ubiquitous organics, from widespread atmospheric deposition, are eligible for a background demonstration. The Department has published background reference values only once, for naturally occurring vanadium in 2022. In that case, it was widely documented that the concentration of naturally occurring vanadium in this Commonwealth's surface soils exceeded the direct contact residential soil MSC (15 mg/Kg) in effect at the time, by a factor of two to ten in most cases. Notice of this interim final technical guidance document titled "Utilizing Published Data in Performing a Background Demonstration and Equivalent Site Evaluation for Naturally Occurring Vanadium" (vanadium TGD), Document No. 258-2182-774, was published in the *Pennsylvania Bulletin* at 52 Pa.B. 1321 (February 26, 2022). The vanadium TGD served as a temporary measure while the Land Recycling Program updated the vanadium value in the Chapter 250 regulations. The vanadium TGD was rescinded after publication of the updated vanadium MSCs in the *Pennsylvania Bulletin* at 53 Pa.B. 6998 (November 11, 2023). The vanadium TGD clearly stated that the guidance applied only to naturally occurring vanadium, not to soils impacted by a release of vanadium or to historic fill. The person performing the clean fill determination was required to prove, through due diligence, that the vanadium was naturally occurring and not a result of a release, application of historic fill, or arial deposition.

MSC values for carcinogenic PAHs – Appendix A, Table 3A

IRRC noted several commentators' assertions that the Board's proposed contamination standards for six carcinogenic PAHs create a cumulative cancer risk that is greater than the maximum cancer risk allowable for statewide health standards (1 in 10,000), the direct contact soil MSCs for these six carcinogenic PAHs are unlawfully high, and the method the Department used to calculate the direct contact soil MSCs for PAHs results in unlawfully high cancer risks from PAH mixtures from direct contact with soil.

Section 303 of Act 2 enumerates the requirements for setting Statewide health standards to implement the Land Recycling Program. The requirements in section 303 do not include consideration of cumulative risk in setting Statewide health standards. However, the MSCs for the six carcinogenic PAHs have been calculated to protect public health, safety and welfare and is described as follows.

Section 303(c)(1) of Act 2 sets the maximum cancer risk threshold for each chemical under the Statewide health standard between 1 in 10,000 and 1 in 1,000,000. In the 1997 rulemaking adopting Chapter 250, the risk threshold for individual compounds under the Statewide health standard was set at 1 in 100,000 in § 250.306(d) (relating to ingestion numeric values). As explained in the final-form rulemaking published at 27 Pa.B. 4181, 4187 (August 16, 1997):

> This risk factor [of 1 in 100,000] was chosen because it falls within the risk range identified in Act 2, and it has been adopted by several other states, including California, Indiana, Massachusetts and Michigan, for use in the development of cleanup standards. Although the Statewide health standard does not take into account cumulative effects, one could have up to 10 regulated substances at a given site and, if the Statewide health standards are used, the cumulative excess cancer risk level would still not exceed the 1 in 10,000 limit of the acceptable risk range in Act 2.
>
> The Board has not included soil and groundwater standards based on the dermal absorption route of exposure. Soils contaminated by regulated substances that meet ingestion and inhalation based standards would not pose a substantive dermal risk because of low bioavailability, low moisture content of surface soils, and short exposure periods for actual adherence of soil to the skin. For sediments, exposure is less frequent and of shorter duration than soils. For groundwater, the ingestion and inhalation standards provide adequate protection from the dermal contact route of exposure.

While the Statewide health standard does not include the calculation or consideration of cumulative risk in the calculation of the soil direct contact MSC values, the target risk threshold is set to 1 in 100,000 to account for the probability of having more than one carcinogenic compound at a site. This threshold is ten times lower than the maximum acceptable risk level considered under the Statewide health standard (acceptable risk range of 1 in 10,000 to 1 in 1,000,000). In setting a Statewide standard, the Board is unable to account for cumulative risks across carcinogens, outside of the ten-fold decrease in the threshold, because there is no way to accurately predict the combination of contaminants on a specific site.

Direct contact soil values are the lower of either the ingestion numeric values calculated under § 250.306 or the particulate inhalation numeric values calculated under § 250.307 (relating to inhalation numeric values). The lower of the individual carcinogenic PAH direct contact soil values were calculated using the ingestion equation in § 250.306(b)(1), the default values listed in § 250.306(d), and the toxicity values that were updated based on the CSSAB whitepaper and included in Table 5A of the proposed rulemaking.

The risk values calculated by the commentators used a comparison of the MSC values to the EPA "Regional Screening Level" (RSL) values. The RSL values are used by the EPA to help identify areas, contaminants and conditions that require further Federal evaluation at a particular site. The EPA's website states "[t]he RSLs are not cleanup standards and should not be used as cleanup levels." See https://www.epa.gov/risk/regional-screening-levels-rsls. These RSL values are calculated using inhalation, ingestion and dermal exposure routes, while the direct contact MSC values are calculated in accordance with Act 2 and Chapter 250 using only one exposure route as explained previously. The RSL values are screening values, not cleanup values, and cannot be compared directly to the MSC values because they include all exposure pathways and therefore will provide risk results that are intentionally biased to be high.

Lead Direct Contact Soil Value

IRRC noted several commentators' concern that the Board proposed to adopt a TBLL of 5 micrograms per deciliter (µg/dL) and their suggestion that the Board should instead adopt the Centers for Disease Control and Prevention's (CDC) blood lead reference value of 3.5 µg/dL. The commentators also opposed the proposal to amend § 250.707 to allow averaging of attainment soil sample results for lead. The commentators were concerned that the new provision would contradict the specific soil sampling procedures in § 250.703 (relating to general attainment requirements for soil) and could allow a remediator to skew the average with additional samples to reflect a lead concentration equal to or less than the applicable MSC. IRRC asked the Board to explain how the statistical testing for lead or lead compounds in the final regulation protects the public health, safety and welfare.

The EPA's latest IEUBK model and ALM, along with their user guides, use a default TBLL of 5 µg/dL. The Department follows the EPA's Superfund Program closely and relies on its technical guidance when setting remediation standards for the Land Recycling Program. The CDC's blood lead reference value is not intended to be used as a health-based protection standard but is used by the CDC as a screening value for policy implementation purposes. The CDC uses the blood lead reference value to identify children in the higher range of the population's blood lead distribution for targeted prevention efforts. For these reasons, the EPA Superfund Program's TBLL of 5 µg/dL is the appropriate value to use in calculating the lead direct contact soil numeric value, not the CDC's blood lead reference value of 3.5 µg/dL.

The Department determined that a TBLL of 5 µg/dL remains protective of public health and safety using the analysis in the whitepaper included with the proposed rulemaking, titled "Report of the Lead Workgroup to the Cleanup Standards Scientific Advisory Board." On page 14 of that whitepaper, the CSSAB stated that the "models used to calculate lead [direct contact soil numeric values] are multimedia models that include inputs of lead not just from contaminated soil, but also from air, drinking water, house dust, food and maternal blood. This is not the case with other regulated substances for which only inputs from soil are considered. The use of this multimedia pathway approach instead of focusing only on lead in soil unquestionably shifts the resultant [direct contact soil numeric values] in a more conservative direction."

The Board proposed to add averaging as a statistical test for attainment because the EPA lead exposure models use averages in their methodology and their user guides state that average soil concentrations are the most appropriate data to use in the models. Averaging would be one

option, but other statistical tests available under the Statewide health standard could also be used for lead in soil. The use of averaging as an attainment test would be limited to only attaining the Statewide health standard for lead using the direct contact soil numeric value. The averaging test has the same limitations as the other statistical methods.

Under § 250.703(b), samples used for attainment demonstration must be taken within an area where concentrations detected during characterization exceeded the selected standard or within the excavation. In addition, § 250.703(c) requires the samples used for attainment demonstration to be taken in a systematic random fashion. Section 250.703(c) explains that the Department may require additional characterization and remediation if three or more adjacent samples exceed the standard by more than 10 times. These provisions restrict the use of averaging to systematic random samples collected only from the area of remediation or the area of contamination, while not using samples from other areas of the site. In addition, if hot spots greater than ten times the standard are detected during the attainment sampling, then the characterization, remediation and attainment process would begin again. The requirement that all attainment samples must be taken during one sampling event was added to prevent additional samples from being collected later to change the average. Collecting a statistically sufficient number of samples from the remediated area to calculate a representative average would also be required under § 250.703(d). The existing regulatory provisions in § 250.703(b) and (c), in conjunction with the statistical averaging test and inclusion of additional exposure routes, ensure that public health, safety and welfare are protected.

Miscellaneous

One commentator asked why the proposed rulemaking did not include Tables 2 and 4B, which were provided with the meeting materials for the CSSAB meeting on May 31, 2023. These tables were mistakenly included with the meeting materials and were not intended to be amended, which is why they were not discussed with the CSSAB. The EQB adopted the correct and complete version of the proposed regulation at its March 12, 2024, meeting and the correct version of the proposed regulation was published in the *Pennsylvania Bulletin*.

G. *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 the 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 section 102 of Act 2 (35 P.S. § 6026.102).

To implement this policy, the General Assembly authorized the Board and the Department to develop standards and methods to effectuate those goals. (See sections 104 and 303 of Act 2.) 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. In section 104(a) of Act 2, the General Assembly recognized that these standards must be updated over time as better science becomes available and as the need for clarification or enhancement of the Land Recycling 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 final-form 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 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 some of the changes to soil numeric values in this final-form rulemaking will decrease the numeric values, approximately 55% of the values will increase. 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 final-form rulemaking is the promulgation of soil and groundwater MSCs for seven additional PFAS compounds. 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, at, or near, military bases, municipalities and other locations that used or stored firefighting 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 the EPA's Per- and Polyfluoroalkyl Substances website (available at https://www.epa.gov/pfas).

The benefits of this final-form 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 final-form 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 will be insignificant. The MSC values for many regulated substances are amended for a variety of reasons. The most common reason for the amendments is due to changes in toxicity values that are used in calculating MSCs made by a Federal agency (including the EPA and the United States Department of Health and Human Services, Agency for Toxic Substances and Disease Registry). The soil numeric values represent a decrease in approximately 45% of the values and an increase in 55% of the values. For groundwater, the changes reflect a decrease in approximately 50% of the values and an increase in approximately 50% 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 varies each year. On average, remediators apply the Act 2 remediation standard to approximately 300 contaminated properties across this Commonwealth. The Department does not expect that the amendments will impact the number of remediations voluntarily completed or the number that must be completed as a result of Department enforcement actions under other statutes.

The updates to Statewide health standard MSCs do 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 this final-form rulemaking to 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 and the Solid Waste Management Act. Act 2 provides remediators with options to remediate contamination. This benefits the public by decreasing public exposure to these contaminants.

Compliance assistance plan

The Land Recycling Program will disseminate information concerning these updates using the Department website and emails to environmental consultants involved in the program.

Paperwork requirements

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

H. *Pollution Prevention*

The Pollution Prevention Act of 1990 (42 U.S.C. §§ 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 final-form rulemaking provides the necessary Statewide health standard MSCs for remediators to remove contamination or eliminate exposure, where appropriate. This final-form 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, thus eliminating or minimizing the potential for continued migration of the sources of pollution to other areas.

I. *Sunset Review*

The Board is not establishing a sunset date for these regulations since they are needed for the Department to carry out its statutory authority. The Department will continue to closely monitor these regulations for their effectiveness and recommend updates to the Board as necessary.

J. *Regulatory Review*

Under section 5(a) of the Regulatory Review Act (71 P.S. § 745.5(a)), on July 2, 2024, the Department submitted a copy of the notice of proposed rulemaking, published at 54 Pa.B. 3937, and a copy of a Regulatory Analysis Form to the Independent Regulatory Review Commission (IRRC) and the chairpersons of the Senate Environmental Resources and Energy Committee and the House Environmental and Natural Resource Protection Committee (Senate and House Committees) for review and comment.

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

Under section 5.1(j.2) of the Regulatory Review Act, on ___(DATE)___, this 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 this final-form rulemaking.

K. *Findings of the Board*

The Board finds that:

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

(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 54 Pa.B. 3937.

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

L. *Order of the Board*

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

(a) The regulations of the Department, 25 Pa. Code Chapter 250, are amended by amending §§ 250.304, 250.305, 250.306, 250.404, 250.605, 250.606, 250.703, 250.704, 250.707, and Appendix A, Tables 1, 3A, 3B, 4A, 5A, 5B and 7 as set forth in Annex A, with ellipses referring to the existing text of the regulations.

(b) The Chairperson of the Board shall submit this final-form rulemaking 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 rulemaking to IRRC and the Senate and House Committees as required by the RRA (71 P.S. §§ 745.1—745.14).

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

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

JESSICA SHIRLEY,
Chairperson