



**pennsylvania**  
DEPARTMENT OF ENVIRONMENTAL  
PROTECTION

**Bureau of Environmental Cleanup and Brownfields**

# **COMMENT AND RESPONSE DOCUMENT**

## **ADMINISTRATION OF THE LAND RECYCLING PROGRAM**

25 Pa. Code Chapter 250  
50 Pa.B. 1011 (February 15, 2020)  
Environmental Quality Board Regulation # 7-552  
(Independent Regulatory Review Commission # 3251)

## **INTRODUCTION**

On February 15, 2020, the Environmental Quality Board (Board or EQB) published a notice of public comment period for a proposed rulemaking concerning revisions to 25 Pa. Code Chapter 250 (relating to administration of the Land Recycling Program). This rulemaking is proposed under 25 Pa. Code § 250.11 (relating to the periodic review of MSCs), which requires that the Department of Environmental Protection (DEP or Department) 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, the proposed rulemaking will add MSCs for three new contaminants, namely Perfluorooctanoic Acid (PFOA), Perfluorooctane Sulfonate (PFOS), and Perfluorobutane Sulfonate (PFBS). These contaminants are within the Per- and Poly-fluoroalkyl Acid (PFAS) family of compounds for which EPA has published toxicological data. This rulemaking will also clarify several other regulatory requirements.

The rulemaking will be effective upon publication in the *Pennsylvania Bulletin* as a final-form regulation.

## **PUBLIC COMMENT PERIOD**

Notice of the public comment period on the proposed Chapter 250 rulemaking was published in the *Pennsylvania Bulletin* on February 15, 2020 (50 Pa.B. 1011, 1016). The EQB'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. The following table lists these commentators. No commentator requested additional information on the rulemaking.

In assembling this document, the Board has addressed all pertinent and relative comments associated with this package. For the purposes of this document, comments of similar subject material have been grouped together and responded to accordingly.

All comments received by the Board are posted on the Department's e-Comment website at <https://www.ahs.dep.pa.gov/eComment/>. Additionally, copies of all comments are available on IRRC's website at <http://www.irrc.state.pa.us> by searching for Regulation # 7-552 or IRRC # 3251.

**List of Commentators**

1. Robert W. Rhodes III Mercersburg, PA 17236	16. Paul Barros-Ruof Bethlehem, PA 18015
2. Greg Navarro Philadelphia, PA 19128	17. Sheila Erlbaum Philadelphia, PA 19119
3. Larry Seymour Factoryville, PA 18419	18. Tim Miller Philadelphia, PA 19127
4. Tammy Murphy Philadelphia, PA 19129	19. Jessica Bellwoar Philadelphia, PA 19147
5. Andrea Likovich Aston, PA 19014	20. Catherine Smith Media, PA 19063
6. Margaret Quinn Exton, PA 19341	21. Ross Carmichael Pittsburgh, PA 15221
7. Chelsea Hilty Pittsburgh, PA 15221	22. Jeff Tucker New Hope, PA 18938
8. Brian Resh Pequea, PA 17565	23. Joan Gabrie Perkasie, PA 18944
9. William Montgomery Pottstown, PA 19465	24. John Six Middletown, PA 17057
10. Al Ferrucci Pittsburgh, PA 15206	25. Matt Mehalik Pittsburgh, PA 15219
11. Denise Costello Philadelphia, PA 19148	26. Anne Jackson Morgantown, PA 19543
12. David Spangenberg Lahaska, PA 18931	27. James Castellan Rose Valley, PA 19086
13. Chris Switky Philadelphia, PA 19119	28. Crystal Gornati Kersey, PA 15846
14. Daniel Safer Philadelphia, PA 19104	29. Wesley Merkle Philadelphia, PA 19129
15. Kristinia Marusic Pittsburgh, PA 15521	30. Reverend Sandra Mackie Gettysburg, PA 17325

31. Michael Lombardi Levittown, PA 19054	46. Nancy Ballard Philadelphia, PA 19128
32. Jean Plough Philadelphia, PA 19119	47. Sandra Foehl Philadelphia, PA 19129
33. Patricia Greiss Carlisle, PA 17013	48. Lila Cornell Cranberry Twp., PA 16066
34. Ryan Dodson Lancaster, PA 17601	49. Duane Burtner Butler, PA 16002
35. Kay Reinfried Lititz, PA 17543	50. Russ and Linda Allen Jenkintown, PA 19046
36. Linda Hilf Cheswick, PA 15024	51. Alex Bomstein Philadelphia, PA 19147
37. Fayten El-Dehaibi Pittsburgh, PA 15217	52. Susan Gottfried State College, PA 16803
38. Cecelia Hard Pittsburgh, PA 15215	53. Elizabeth Cates Leesport, PA 19533
39. William Hendricks Pittsburgh, PA 15215	54. Katie Briggs Upper Black Eddy, PA 18972
40. Diana Hulboy Philadelphia, PA 19128	55. Sharon Furlong Bucks Environmental Action 133 East Bristol Road Feasterville, PA 19053
41. Andy Kahan Philadelphia, PA 19146	56. Thom Fistner Bethlehem, PA 18015
42. Kris Soffa Philadelphia, PA 19128	57. Frank Innes Philadelphia, PA 19143
43. Bill Ferullo Warren Center, PA 18851	58. Vera Neumann-Sachs Berwyn, PA 19312
44. Bonnie Hallam Drexel Hill, PA 19026	59. Marielle Lerner Philadelphia, PA 19128
45. Donald Rosenberger Three Springs, PA 17264	60. Janis Kinslow Aston, PA 19014

61. Curtis Holgate Lancaster, PA 17601	76. Logan Welde Philadelphia, PA 19123
62. Barbara Brock Cranberry Twp., PA 16066	77. Theodore Burger Bethlehem, PA 18017
63. Meenal Raval Philadelphia, PA 19119	78. Judy Scriptunas Chambersburg, PA 17202
64. Frank Evelhoch II Mechanicsburg, PA 17050	79. Joe Sayre Downingtown, PA 19335
65. Ingrid Waldron Merion Station, PA 19066	80. Emanuel Demaris Pen Argyl, PA 18072
66. Joanne Darken Philadelphia, PA 19104	81. Karen Gdula Aliquippa, PA 15001
67. James Ross Mechanicsburg, PA 17050	82. Lori Altenderfer Pittsburgh, PA 15202
68. Susan Hardin West Chester, PA 19380	83. Suzanne E. Webster Roberson Downingtown, PA 19335
69. Ann Kuter Warrington, PA 18976	84. Stupp Stupp Eagleville, PA 19401
70. Arlyne Goldberg Glen Mills, PA 19342	85. Ellen Reese Bala Cynwyd, PA 19004
71. Joseph Smith Langhorne, PA 19047	86. Karen Guarino Spanton Philadelphia, PA 19127
72. Jessica Krow Philadelphia, PA 19129	87. Greta Aul Lancaster, PA 17603
73. Mary McKenna Philadelphia, PA 19119	88. Katherine Boas Lancaster, PA 17603
74. Martina Jacobs, retired Carnegie Mellon University Pittsburgh, PA 15208	89. Ina Asher Merion Station, PA 19066
75. Peter Wolanin Philadelphia, PA 19125	90. Mark Harris Horsham, PA 19066

91. Sister Kari Pohl Pohl Aliquippa, PA 15001	104. Denyse Corelli Doylestown, PA 18901
92. Linda Granato Philadelphia, PA 19136	105. Leslie Patrick Mifflinburg, PA 17844
93. Richard Metz Erdenheim, PA 19038	106. Chuck Oatman Drumore, PA 17518
94. Jill Turco Philadelphia, PA 19146	107. Nora Nash Aston, PA 19014
95. Dan Behl Glen Mills, PA 19342	108. Vincent Evangelisti Philadelphia, PA 19104
96. Charles Leiden Altoona, PA 16602	109. Lawrence Nader Canonsburg, PA 15317
97. Elizabeth Baldoni Philadelphia, PA 19122	110. Mike DellaPenna Malvern, PA 19355
98. Christine Brubaker Lancaster, PA 17603	111. Jonathan Sprout Southampton, PA 18966
99. Jean Holveck Glen Mills, PA 19342	112. Deborah Lyons West Chester, PA 19382
100. Merian Soto Philadelphia, PA 19119	113. Rachel Schottenfeld Abington, PA 19001
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<p>117. Barbara McNutt Levittown, PA 19055</p>	<p>126. Ashley E. Parr The PFAS Regulatory Coalition Barnes &amp; Thornburg, LLP One North Wacker Drive, Suite 4400 Chicago, IL 60606</p>
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<p>119. Steven D. Levin Philadelphia, PA 19115</p>	<p>128. David Sumner Independent Regulatory Review Commission 333 Market Street, 14<sup>th</sup> Floor Harrisburg, PA 17101</p>
<p>120. Christopher D. Ahlers Clean Air Council 135 South 19<sup>th</sup> Street Suite 300 Philadelphia, PA 19103</p>	
<p>121. Suzanne Seppi, Project Manager Group Against Smog and Pollution, Inc. 1133 South Braddock Avenue Pittsburgh, PA 15218</p>	
<p>122. Sarah Hexem Hubbard, Esq. Executive Director National Nurse-Led Care Consortium 1500 Market Street Lower Mezzanine Philadelphia, PA 19102</p>	
<p>123. Steve Perzan Philadelphia, PA 19120</p>	
<p>124. Rachel Kaminski Philadelphia, PA 19125</p>	
<p>125. Patrick O’Neill, Esq. Divisional Deputy City Solicitor City of Philadelphia Law Department 1515 Arch Street, 16<sup>th</sup> Floor Philadelphia, PA 19146</p>	

<b>Acronyms used in this Comment and Response Document</b>	
ALM	USEPA's Adult Lead Model
ATSDR	Agency for Toxic Substances and Disease Registry
CalEPA	California Environmental Protection Agency
CDC	Centers for Disease Control and Prevention
CSSAB	Cleanup Standards Scientific Advisory Board
DEP or PA DEP	Pennsylvania Department of Environmental Protection
EPA or USEPA	U.S. Environmental Protection Agency
EQB	Environmental Quality Board
GAC	Granular Activated Carbon
HAL	Health Advisory Level
HFPO	Hexafluoropropylene Oxide
IDW	Investigation Derived Waste
IRIS	EPA's Integrated Risk Information System
IRRC	Independent Regulatory Review Commission
ITRC	Interstate Technology and Regulatory Council
LRP	Land Recycling Program
MCL	Maximum Contaminant Level
MCLGs	Maximum Contaminant Level Goals
MSC	Medium-Specific Concentration
NDAA	National Defense Authorization Act
NIR	Notice of Intent to Remediate
OSRTI	EPA's Office of Superfund Remediation and Technology Innovation
PAH	Polycyclic Aromatic Hydrocarbon
PCB	Polychlorinated Biphenyl
PFAS	Per- and Poly-fluoroalkyl Acid substances
PFBS	Perfluorobutane Sulfonate
PFOA	Perfluorooctanoic Acid
PFOS	Perfluorooctane Sulfonate
PIP	Public Involvement Plan
PPM	Parts Per Million
PPRTV	EPA's Provisional Peer-Reviewed Toxicity Values
PQL	Practical Quantitation Limit
ROL	Relief of Liability



RRA	Regulatory Review Act
RSL	EPA Regional Screening Level
SDWA	Safe Drinking Water Act
SEGH	Society for Environmental Geochemistry and Health
SHS	Statewide health standard
SPLP	Synthetic Precipitation Leaching Procedure
SWMA	Solid Waste Management Act
TBD	To Be Determined
TF	Transport Factor
USDA	United States Department of Agriculture
USFDA	United States Food and Drug Administration
USGS	United States Geological Survey

**Appendix A, Tables 4A and 7 – Non-Residential Numeric Value for Lead in Surface Soil and Associated Model Default Input Parameters**

Many 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 would update the models used to calculate blood lead levels that are applied to the corresponding lead numeric value calculations. For the non-residential numeric value calculation, the Society for Environmental Geochemistry and Health (SEGH) Task Force Approach to the Assessment of Lead in Soil was proposed to be replaced with USEPA’s Adult Lead Model (ALM). Updates to the model input parameters Table 7 were also proposed.

Commentators provided various reasons for their concerns but there was also a significant amount of overlap in the reasoning for opposition to this proposed increase. The comments and associated responses below represent summaries of each the reasonings for opposition to the proposed increase.

**1) Comment:** As noted by IRRC, most commentators expressed concern with the proposed 150% increase in the in the non-residential numeric value for lead in surface soil in Table 4A. Lead is prevalent in many areas throughout Pennsylvania, due in part to the historical legacy of industrial facilities, the burning of leaded gasoline, and the use of lead paint. The “nonresidential” designation applies not only to industrial properties, but also to commercial and business properties that could be used by at-risk populations. The EQB’s newly proposed cleanup standard of 2,500 ppm for lead in non-residential surface soil is two-and-a-half times the current standard of 1,000 ppm. The commentators believe the proposal is flawed scientifically because it does not include updated information on the target blood concentration for lead from the Centers for Disease Control and Prevention (CDC). The proposed cleanup standard is based on a target blood concentration of 10 µg/dL for lead, even though the CDC has been using 5 µg/dL for case management since 2012.

**Response:** The commentators assert that the "non-residential" designation in Act 2 is broad and can include a wide variety of potential receptors. While this may be true, the ALM uses widely accepted exposure assumptions and its abundant use throughout the environmental assessment community helps to promote consistency in assessments of adult lead exposure risk. The commentators also state that the proposed increase in the non-residential direct contact numeric value is scientifically flawed because it does not include updated information on the target blood concentration for lead from the CDC pointing out that the CDC's target blood lead level is 5 µg/dL. The Land Recycling Program (LRP) typically relies on information from EPA's Superfund Program, specifically the Office of Superfund Remediation and Technology Innovation (OSRTI), for guidance due to the similarity of the two environmental cleanup programs. EPA acknowledges that OSRTI is developing a new soil lead policy to address this new information but has not yet definitively stated that a target blood lead level of 5 µg/dL should be used in blood lead level modeling including the ALM. Therefore, the LRP decided to use the current default blood lead level of 10 µg/dL in the proposed rulemaking lead numeric value calculations.

However, EPA also acknowledges that recent scientific evidence has demonstrated adverse health effects at blood lead concentrations below 10 µg/dL down to 5 µg/dL. These acknowledgements from EPA indicate that they may change the default blood lead level in the ALM from 10 µg/dL to 5 µg/dL at some point in the future. In addition to the CDC, other national public health organizations such as the National Capital Poison Center, American Academy of Pediatrics, The American College of Obstetricians and Gynecologists, and the U.S. Department of Housing and Urban Development acknowledge adverse health effects at blood lead levels below 10 µg/dL. Also, other Pennsylvania public health organizations such as Allegheny Department of Health and the City of Philadelphia use 5 µg/dL as a threshold value. Additionally, Pennsylvania's Department of Health currently use 5 µg/dL in their Childhood Lead Poisoning Prevention Program as a threshold of "elevated blood lead level." Although most of these health organizations and agencies focus on blood lead levels in children, the ALM is designed to predict the impacts of exposure of a pregnant female worker to lead in soil while working so the target receptor is not necessarily the adult but the fetus which is a more sensitive receptor. By predicting the impact to the expectant mother, the model also predicts impacts to the fetus. This would suggest that the thresholds developed for children by the above-mentioned public health agencies would also be applicable to adults (with a pregnant female worker being the most sensitive; and therefore, the default adult receptor) in a non-residential exposure scenario.

While the Department agrees that a target blood lead level 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 Department 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 consistent with the current lead toxicity science and with other public health agencies in Pennsylvania. Providing this change in a new proposed rulemaking will allow for the necessary

public comment process required by the Commonwealth Documents Law (45 P.S. §§ 1102—1208).

**2) Comment:** As noted by IRRC, several commentators emphasized that the non-residential lead soil cleanup level is intended to be protective of the fetus of a pregnant worker at the site. The commentators feel that DEP made a flawed assumption about the acceptable blood lead concentration in a fetus and that this proposal would not be protective of public health. They think the state should be using more current science to set cleanup levels. The commentators believe that PADEP considers this proposed cleanup level to be irrelevant because a soil-to-groundwater numeric value will apply instead. The commentators point out that the regulations only make the soil-to-groundwater numeric value applicable if specific requirements are met. However, the commentators feel that PADEP’s claim is flawed because the soil-to-groundwater numeric value would only apply if the lead concentration in the soil is less than that soil-to-groundwater numeric value. If the lead concentration is higher, a property owner would have an incentive to develop a site-specific standard, which it would be allowed to select under the law. They point out that this happened at the Philadelphia oil refinery in 2015, when the PADEP approved a standard of 2,240 ppm. The commentators explain that lead is a highly toxic chemical that causes harm to the central nervous system and request that PADEP does not increase this threat to public health for Pennsylvania residents. One commentator also is concerned that the new proposal is not protective to the reproductive rights of women and will result in discriminatory hiring practices against them, especially for those pregnant or seeking to become pregnant. Moreover, there is increased potential for life-long birth defects for the developing child that will certainly be open to liability suits for any company engaged in lead surface cleanup. IRRC also questioned why Appendix A, Table 7 includes two instances of “TBD” in the value columns.

**Response:** DEP agrees that the proposed increase in the non-residential direct contact value for lead in soil can impact sites being remediated under the Statewide health standard and use the Synthetic Precipitation Leaching Procedure (SPLP), soil buffer distance, or the equivalency demonstration to address the soil-to-groundwater pathway. However, many remediators evaluating sites under the Statewide health standard only consider the values in the Chapter 250 Appendix A tables to determine the soil MSC. In these cases, the soil-to-groundwater value will be the soil MSC and the proposed increase in the non-residential direct contact value for lead would have no impact. Regardless, DEP agrees that various national and state public health agencies have concerns about serious adverse health effects of blood lead levels of 10 µg/dL and below. As such, DEP will recalculate the residential and non-residential direct contact numeric values for lead using a target blood lead level of 5 µg/dL in a separate proposed rulemaking to allow for public comment. The instances of “TBD” listed in Table 7 were the result of a typographic error and will be corrected by rescinding the proposed changes to Table 7 in the final-form rulemaking.

**3) Comment:** IRRC and other commentators expressed concern about the proposed increase in the non-residential direct contact numeric value for lead as it relates to Act 2’s definition of a non-residential property. While this proposal changes the standard cleanup for non-residential soil, there is no guarantee that a site will remain non-residential. In Philadelphia, developers build wherever there’s space and will file for variances in order to do so. While this amendment may be for non-residential now, there is no telling what that land will be used for in the future. The “non-residential” designation applies not only to industrial properties, but also to

commercial and business properties that could be used by at-risk populations such as children 6 years of age and younger. The commentators point out that the CDC has stated there is no safe amount of lead and even small amounts can be harmful to childhood development. They are concerned that the proposed amendment does not include updated information on the target blood concentration for lead from the CDC (target blood lead level of 5 µg/dL for case management) especially considering the CDC may be lowering it even further to 3.5 µg/dL. One commentator questioned if the potential for non-residential soil contaminated with lead to migrate to residential areas aligns with Section 102(6) of Act 2 (35 P.S. § 6026.102(6)) which requires that cleanup plans shall take “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”.

**Response:** “Nonresidential property” has a broad definition in Act 2. It includes all commercial, industrial, and manufacturing properties. Remediators must show that properties impacted by a release are truly nonresidential in use and any potential impacts to residential properties must be evaluated using residential values. Any potential off-site migration of contaminated media must be evaluated and appropriately addressed prior to final report approval. DEP agrees that various national and state public health agencies have shown significant adverse health effects of blood lead levels of 10 µg/dL and below. As such, DEP plans to recalculate the residential and non-residential direct contact numeric values for lead using a target blood lead level of 5 µg/dL in a separate proposed rulemaking to allow for public comment.

**4) Comment:** The commentator states that lead contamination in human beings is unsafe regardless of the amount. They request that PADEP does not relax lead contamination standards. Businesses profited from lead, so businesses need to be held accountable for its clean-up and proper disposal regardless of the cost.

**Response:** DEP agrees that lead is toxic in humans and will recalculate the residential and non-residential direct contact numeric values for lead using a more scientifically accurate target blood lead level of 5 µg/dL in a separate proposed rulemaking to allow for public comment.

**5) Comment:** The commentator takes no position at this time on whether the increased MSC for lead in nonresidential soil is in fact scientifically justified. However, they believe that PADEP should more fully and clearly justify the change and should do so in a plain language fashion that the public will understand. They also questioned whether the higher lead in soil standard aligns with 35 P.S. § 6026.102 regarding the potential for offsite migration of lead in soil. The commentator also states that Annex A Sec. 250.306(e) refers to EPA documents in a de facto fashion and is too dense for general public understanding. The commentator adds that it appears in line 9 of that subsection that either a bracket is missing, was replaced with a parenthesis, or some other typographical error is present further confusing the matter.

**Response:** The Preamble explains that the Department 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. Any potential off-site migration of contaminated media must be addressed prior to final report approval. Line 9 of § 250.306(e) is an equation that is being removed. The two brackets in the numerator of the equation are part of the equation and do not indicate text being removed. The lone bracket below the equations represents the end of the section of text, including the equation, that is proposed to be removed.

**6) Comment:** The commentator does not believe any relaxation of the lead benchmarks is appropriate because people will still work in these plants once they get re-sold and re-developed, and additional people will still live nearby. These people will continue to be exposed to lead that will present significant harm to them if it remains in elevated concentrations due to standards that do not comply with the most recent scientific understanding. The commentator questions why this is being done and for whose purposes as this document does not seem to suggest that the needs of PA's citizens are being considered at all. If they were, no relaxation of standards based on science research would ever be allowed. Further, the commentator believes this proposed change would benefit corporations and businesses who wish to clean up decades of contamination to a substandard level in order to sell or repurpose this contaminated land and thus fill their own coffers.

**Response:** 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 Department 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.

**7) Comment:** The commentator supports legislation and regulations that provide for lead testing and recognition of the health issues for especially young children. Industrial and residential sites must adhere to the highest standards the federal and state governments provide. However, the commentator requests that PADEP does not reduce residential standards due to family health issues that begin with children playing on and eating dirt.

**Response:** DEP recognizes that young children are especially susceptible to lead poisoning due to their sensitivity to lead and their propensity for higher amounts of incidental soil ingestion. Thus, 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 Department 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.

**8) Comment:** The commentator has great concern regarding the increase in the acceptable non-residential lead standard in soil from 1000 PPM to 2500 PPM. The commentator believes many non-residential sites do not have restricted access and children may find them particularly attractive playgrounds. The commentator also points out that the recommendation to increase lead soil levels in non-residential sites is also an environmental justice issue. Act 2 sites are often found in low income minority communities that are already over-burdened by lead and other toxicants. Increasing the potential exposure to residents in these communities to additional toxicants is unfair and not in keeping with the Commonwealth's law requiring that all Pennsylvanians have access to a healthy environment.

**Response:** DEP agrees that many Act 2 sites are located in environmental justice communities and these communities may bear a disproportionate amount of health risk due to adverse environmental conditions. Protecting human health and the environment, especially in disadvantaged areas, is a priority of the Act 2 and the Land Recycling Program. Thus, 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 Department 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.

### **Appendix A, Tables 1 through 7 – Various Concerns Regarding MSC Table Values**

**9) Comment:** IRRC observed that PCB-1221 (Aroclor), PCB-1232 (Aroclor), PCB-1242 (Aroclor), PCB-1248 (Aroclor) and PCB-1260 (Aroclor) are not listed in Appendix A, Table 5A. However, these five regulated substances are contained in Appendix A, Tables 1, 3A and 3B. As described in § 250.301(a) (relating to scope), Appendix A, Table 5 contains “the toxicological and physical parameters used to calculate the medium-specific concentrations (MSC) in Appendix A, Tables 1 – 4.” IRRC asks why the Board deleted these regulated substances from Appendix A, Table 5A. IRRC requests that the Board revise the final-form regulation so that Appendix A, Tables 1, 3A and 3B do not conflict with the regulations of the Department.

**Response:** The five Aroclors listed in IRRC’s comment were inadvertently proposed to be removed from Table 5A. This error has been corrected in the final-form rulemaking.

**10) Comment:** The commentator believes there is a lack of consistency between prior environmental regulations and the current recycling program. Act 2 mandates that rules be promulgated to protect all the interests listed in the statute. They feel the spirit and purpose behind this regulation was to increase environmental protections for human safety but lessening some of the soil and water-based regulations goes directly against this purpose. Narrowly focused regulations fail to address this mandate in that they protect certain aspects of human health while ignoring other factors. The new soil and water toxicity levels are one such regulation.

**Response:** As described in the Preamble to this proposed rulemaking, § 250.11 requires DEP to periodically review new scientific information that relates to the basis of the MSCs as it becomes available and to propose appropriate changes for the consideration of the EQB. While the implementation of new scientific information often results in the lowering of the MSCs, sometimes the application of new scientific information results in an increase in the MSCs. Increases and decreases in MSC values can be due to a host of reasons including updates to toxicity information, exposure parameters, definitions of terms, and changes in calculation processes.

**11) Comment:** The commentator states that a specific shortcoming with the new decreased toxicity levels is that the study used to determine these toxicity levels seems to focus narrowly on the ways in which soil contamination and groundwater contamination affect humans only

through either direct physical exposure or ingestion, but fails to consider how the toxicity levels to plants or wildlife may ultimately have undesired health consequences on humans.

**Response:** Act 2 explains that remediation standards developed by DEP must provide for the protection of public health and the environment. While Act 2 does not specify what encompasses "the environment," Chapter 250 specifies that this includes habitats and species of concern as defined in § 250.1. Part of demonstrating attainment of the Statewide health standard, as required by § 250.311, is an evaluation of ecological receptors, specifically habitats and species of concern. Act 2 does not provide a mechanism for incorporating the consideration of ecological impact into the calculation of the MSCs; however, an evaluation of ecological receptors is required when demonstrating attainment of the Statewide health standard.

**12) Comment:** The commentator contends that the minimum threshold MSCs, which may be used only when no toxicological data is available, is insufficient to protect human health and safety, especially with new and developmental stage chemicals that have not undergone rigorous testing to be included in the guidelines. Given the challenge of human interaction with hazardous chemicals, higher safeguards must be put into place. If anything, chemicals and substances that have questionable potential of being carcinogenic should have increased levels of precautions rather than waivers of liability.

**Response:** The Department is not proposing to alter the current Threshold of Regulation Compounds other than to remove two compounds from the list in Table 6. These contaminants are being removed from Table 6 because toxicity data is now available for these compounds resulting in the ability for MSCs to be calculated. The minimum threshold values are not arbitrarily determined, rather, they are calculated using conservative exposure assumptions and risk thresholds as established by USFDA's Threshold of Regulation Final Rule from July 17, 1995.

**13) Comment:** The commenter supports the approach in the regulations for addressing sulfate and chloride under the statewide health standard of Act 2. This will enable the regulated community to use the SHS and will conserve PADEP administrative resources by not requiring alternative complex and time-consuming site-specific standards to administer.

**Response:** The Department acknowledges this comment.

**14) Comment:** The commentator states that in the Regulatory Analysis Form presented to EQB, the DEP states that the proposed amendments to Chap. 250 are not expected to increase costs or provide any significant savings for the regulated community. According to the DEP, the proposed amendments to the soil numeric values represent a reduction in the cleanup thresholds for approximately 83% of the values. For groundwater, the proposed changes reflect a reduction in the cleanup thresholds for approximately 92% of the values. Lowering the threshold values will necessarily result in more stringent cleanup activities being required at sites in order to attain the SHS under Act 2. Moreover, sites that formerly could have been readily addressed under the SHS may now need to utilize alternative cleanup standards due to the lower thresholds. The commentator questions how the DEP concluded that these dynamics would not result in significant additional costs of compliance, given that reductions of cleanup standards will require the regulated community to perform additional sampling, analysis, earth-moving and remedial cleanup work to achieve these newly proposed standards. The Regulatory Review Act (RRA)

clearly requires the promulgating agency to include "estimates of the direct and indirect costs...to the private sector." The commentator recommends that the DEP provide an analysis regarding the anticipated increase in the costs of compliance with Act 2 due to the proposed amendments to understand the impact on small businesses in the private sector, which is required under the RRA.

**Response:** Act 2 and the Chapter 250 regulations provide remediators with the flexibility of allowing remediators to choose the standard in which they would like to attain. The background standard and the site-specific standard are not inherently more costly to attain than the Statewide health standard. For example, attaining the site-specific standard can result in significant savings in cleanup costs by focusing limited resources on remediating the contaminants that are driving the risk at that specific site as opposed to needing to meet a generic statewide standard. Therefore, decreases in MSC values do not automatically translate to higher remediation costs. In response to the comment regarding cost compliance, 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.

**15) Comment:** The commentator states that a study was recently presented at the 28th International Neurotoxicology Conference on Manganese. The study investigation was to answer the question, "Does Manganese affect cognitive development of children?" The conclusion was that "both low and high manganese concentrations in blood and hair were negatively associated with child IQ scores and deficits in behavior-based parental assessment of children's cognitive functions." Most of the cleanup at the industrial sites were around dust suppression which was ultimately achieved through an Environmental Protection Agency legal action. Manganese contaminated soil and dust can be dangerous in residential and nonresidential areas. Additionally, nonresidential sites can affect residential properties. These significant allowable increases do not lead to better health. The commentator urges these increased manganese MSCs to be deleted.

**Response:** The current manganese oral reference dose in Table 5B of 0.047 mg/kg-d is proposed to be changed to 0.14 mg/kg-d because the original value is out of date. The current manganese oral reference dose listed in IRIS is 0.14 mg/kg-d. The Department does not have a record for the origin or date of the 0.047 mg/kg-d value. The Department is proposing this change in an effort to use the most up to date and scientifically valid toxicity values from the sources listed in § 250.605(a).

**16) Comment:** The commentator suggests that in recent discussions with the CSSAB, DEP has expressed its desire to follow a transparent and objective process for developing the MSCs to justify its assumptions and methods to the public. However, in developing the MSCs now proposed for adoption, the commentator believes that DEP has not followed a transparent and objective process. DEP has advanced the position that in the absence of toxicity values for a particular regulated substance, it is inappropriate to use toxicity values from a surrogate regulated substance. The regulations implementing Act 2 place great emphasis on using toxicity values as inputs to the equations utilized to calculate MSCs that are chemical-specific. Surrogate values do not meet this test. Nevertheless, it is clear from a review of the toxicity values listed in both the current and proposed versions of 25 Pa. Code Chapter 250, Appendix, Table 5a that



DEP is relying widely on toxicity information from surrogate regulated substances. Instead of the transparent and objective process that DEP desires, the use of surrogate values is an ambiguous process that requires DEP to assume the toxicity of a chemical in the absence of valid scientific data. DEP's use of surrogate values in these situations, sourced from unidentified chemicals and used for unspecified reasons, is not scientifically valid, predictable, or understandable to the regulated community, as Section 303(c) of Act 2 requires. The process that DEP is using to develop MSCs is not a mechanical exercise. DEP is picking and choosing sources of toxicity information and other physical and chemical-specific information without being transparent as to basis for its decisions. Where DEP is selecting toxicity information that result in MSCs that are overly conservative or are not based on sound science, the underpinnings of the Land Recycling Program are eroded. There are very real consequences to the decisions DEP is making that are detrimental to the ability to transact business in Pennsylvania and return environmentally-impacted properties to productive use.

The commentator also states that while there is no prescribed hierarchy of sources of toxicity information presented in the regulations, DEP has indicated that it follows a hierarchy with the Integrated Risk Information System ("IRIS") serving as the "gold standard" followed by EPA's Provisional Peer-Reviewed Toxicity Values ("PPRTVs") followed by a collection of "other sources" listed in 25 Pa. Code 250.605(a)(3). The regulations do not differentiate among such "other sources" for purposes of calculating the MSCs pursuant to the statewide health standard (some of which are many years out of date and no longer updated), requiring DEP to pick and choose among such sources in developing MSCs. The commentator believes that if DEP wishes to follow a transparent and objective process that limits subjective decision-making, it would be helpful for the "other sources" to be appropriately weighted and the hierarchy to be disclosed to the regulated community and the public within the regulations implementing Act 2.

**Response:** The Department has indicated to the CSSAB that using a surrogate toxicity value for a substance when a toxicity value for that substance is currently available is unnecessary. Surrogate toxicity values are only needed when toxicity values for the original substance are unavailable. While the commentator feels that the overall use of surrogate values is appropriate, they feel that the Department's use of surrogate values is an ambiguous process that requires DEP to assume the toxicity of a chemical in the absence of valid scientific data. The Department does not "assume" the toxicity of a chemical. Instead, the technical professionals at DEP use their knowledge and experience as environmental chemists to determine if surrogate toxicity values are appropriate. The commentator believes the technical judgments and decision-making used to evaluate surrogates should be added to this rulemaking to be more transparent. The Department believes that transparency is important but including this level of decision making in regulation is impractical. The commentator also suggests that input from the CSSAB should be required for the Department's use of all surrogate toxicity values. The Department consults the CSSAB for technical advice as needed and will continue this practice in the future when appropriate.

When the Department encounters a chemical with no toxicity value from Tier 1 or Tier 2 sources but with values from multiple Tier 3 sources, Department staff use their technical expertise and professional judgment to determine the most appropriate value to use. These decisions are made by comparing how recently the values were published, the level of peer review the value received, and the scope of the study that the toxicity value came from. This process aligns with

the mandate of § 250.11 which requires DEP to periodically review new scientific information in updating the MSCs.

**17) Comment:** The commentator states that Chapter 250 includes MSCs for acenaphthylene, benzo[g,h,i]perylene, 2-methylnaphthalene, and phenanthrene. It does not appear that toxicity values for these PAHs are included in the sources of toxicity information such as IRIS that DEP has identified as acceptable. Likewise, EPA has not developed RSLs for these PAHs, presumably because of the absence of toxicity information. What is clear from 25 Pa. Code Chapter 250, Appendix A, Table 5a is that DEP is using toxicity information associated with surrogate compounds as the basis for the MSCs for these PAHs. In the interests of transparency, it would be useful for DEP to identify which surrogate compounds are being used and the rationale that DEP is using to select those surrogate compounds. With respect to certain other PAHs that are classified as carcinogenic compounds, the commentator notes that DEP is using cancer slope factors (the basic toxicological input values) to calculate MSCs that are significantly at odds with the toxicity information that EPA is using to calculate RSLs for those same PAHs. Using higher cancer slope factors (i.e., greater cancer potency) drives the MSCs lower (there is an inverse correlation between cancer slope factors and MSCs). In researching the source of these differences, it becomes apparent that the cancer slope factors used by EPA for calculating the RSLs as well as the cancer slope factors developed by the California EPA (“CalEPA”) for many PAH compounds are based on a relative potency to benzo[a]pyrene, because the toxicity of that compound has been studied much more extensively and is better understood than the toxicity of other PAHs. Both EPA and CalEPA have published technical guidance documents explaining the basis for the relative potency factors ascribed to each PAH compound as compared to benzo[a]pyrene, and this is further discussed in the referenced PPRTV Screening Value derivation for benzo[a]anthracene and the RSL user guide. Therefore, if an updated cancer slope factor becomes available for benzo[a]pyrene, as is now the case with the IRIS-sourced value that DEP proposes to incorporate, the cancer slope factors for the other PAHs should be appropriately scaled to that new value since their carcinogenicity has only been quantified relative to that of benzo[a]pyrene. This has not been done by DEP in the current revisions to the MSCs for these other PAHs. This is another example of a situation where simply looking up a toxicity value in a source database, without understanding the basis for that value, results in cleanup standards that are not scientifically valid, risk-based, or defensible. The groundwater MSCs for a third group of PAHs are being driven by theoretical solubility limits which produce MSCs that are significantly lower than the corresponding risk-based MSCs. There are several commonly-encountered factors that can increase the practical solubility of the foregoing compounds far beyond the theoretical solubility limits that form the basis of the current MSCs, including pH and temperature variations in groundwater as well as the presence of co-solvent and co-solute effects. Given the significant discrepancies between the risk-based standards and the MSCs based on theoretical solubility limits described above, we suggest that further evaluation is appropriate to determine how to appropriately address these discrepancies, particularly for benzo[g,h,i]perylene.

**Response:** The commentator believes the Department should make the following revisions to the process of calculating MSCs for certain PAHs: 1) identify which surrogate compounds are being used for certain PAHs and the rationale used to select those surrogate compounds, 2) scale the cancer slope factors for certain PAHs to benzo[a]pyrene, and 3) stop considering solubility limits for certain PAHs when calculating MSCs. The CSSAB presented each of these concepts to DEP at its October 29, 2019 meeting. However, these requests require additional time to

undergo thorough research and consideration. As such, DEP commits to considering each of these PAH revision requests in a subsequent rulemaking package.

**18) Comment:** The commentator states that the proposed version of Chapter 250 includes modifications to the definition of a “volatile compound” to include criteria based on the Henry’s law constant and molecular weight of particular regulated substances. The effect of this definitional change is that a wider range of regulated substances qualify as volatile compounds. In determining MSCs for volatile compounds, DEP evaluates both the ingestion and inhalation pathways. This does not mean that DEP should calculate MSCs based on both pathways where toxicological information is missing. Many of the other physical and chemical-specific inputs DEP is using to calculate inhalation-based numeric values are not transparent to the regulated community. For example, DEP is incorporating newly proposed transport factors (TFs) which are calculated using formulas set forth at 25 Pa. Code § 250.307. The derivation of PADEP’s newly proposed TFs is not readily transparent as the reference information is not provided for several chemical-specific inputs that are used to derive the TFs for each relevant regulated substance. These chemical-specific inputs are not identified in the existing or proposed version of 25 Pa. Code Chapter 250, Appendix A, Table 5a. Furthermore, the current regulations addressing the calculation of the inhalation pathway numeric values reference outdated EPA documents that have since been updated and other source information that is not readily accessible to the regulated community. Similar to the discussions above, the use of these outdated methodologies results in the adoption of MSCs that are more stringent than standards in other states and guidance values calculated by EPA. In accordance with 25 Pa. Code § 250.11, DEP should review the methodology for calculating numeric values based on the inhalation pathway of exposure to ensure the scientific validity of that methodology considering the passage of time since the methodology was first proposed. DEP should also identify the sources of information used to derive newly proposed TFs.

**Response:** The commentator states that the derivation of DEP’s newly proposed TFs is not readily transparent as the reference information is not provided for several chemical-specific inputs that are used to derive the TFs for each relevant regulated substance. In the final-form rulemaking, the Department has added the surrogate chemicals used in a footnote to Tables 5A and 5B where indicated in the tables.

The commentator also requests that DEP review the methodology for calculating numeric values based on the inhalation pathway of exposure to ensure the scientific validity of that methodology and should identify the sources of information used to derive newly proposed TF values. The Department agrees that a review of the methodology used for calculating numeric values based on the inhalation pathway is warranted. However, these requests require additional time to undergo thorough research and consideration. As such, DEP commits to considering this request in a subsequent rulemaking package.

#### **Appendix A, Tables 1 through 5A – Concerns Relating to the Proposed Numeric Values for Per- and Poly-Fluoroalkyl Substances (PFAS) Compounds**

**19) Comment:** The commentator finds it commendable that the PFAS compounds are being addressed in the proposed Chapter 250 rulemaking quicker than our Federal agencies have moved in relation to acknowledging and respond to the clear and present danger this family of

chemicals clearly presents. However, the commentator feels that the voluntary nature of the Land Recycling Program along with the use of 70 ppm, an elevated figure that does not take into consideration the most recent science, is not acceptable. Our neighboring state of New Jersey had a level of 7 ppm; how does 70 compare? Again, it is nice that some action seems to be being taken, but if it is voluntary and if levels are set too high, then the reality is that no action will be taken that truly addresses the enormous need of the citizens of Pennsylvania, many of whom have suffered from exposure for decades now. The commentator questions why this is being done and for whose purposes as this document does not seem to suggest that the needs of our citizens are being considered at all. Therefore, we opposed the changes that would relax standards of lead and would apply a voluntary benchmark for the PFOS family that is in reality, meaningless. We cannot accept toothless regulations that will in effect, bless the efforts of profit-driven entities to shirk their responsibilities and so continue to poison our lives.

**Response:** The proposed residential and non-residential groundwater MSCs for PFOA/PFOS in used aquifers are 70 nanograms per liter (ng/L), or parts per trillion, not parts per million as stated by the commentator. The groundwater MSCs for PFOA/PFOS are based on the Health Advisory Levels (HALs) published in EPA's Drinking Water Standards and Advisory Tables as required by section 303(b)(3) of Act 2.

**20) Comment:** The commentator is concerned that sampling and testing procedures for PFAS are much different than other testing procedures used for more conventional substances. The commentator highly recommends that the DEP issue further technical guidance to ensure accurate and consistent sampling results are produced by any necessary investigation, characterization, and remediation efforts.

**Response:** The Chapter 250 regulations do not dictate sampling and analysis procedures. The recommendation from this commentator is outside the scope of this proposed rulemaking.

**21) Comment:** The commentator asserts that even though the PFAS contaminants are generally classified as emerging risks, current research strongly suggests that a broad variety of adverse health outcomes and possibly cancer may be linked to exposures from several pathways. While the addition of PFAS numeric values are commended, it is strongly suggested by the commentator that only through the development and implementation of Maximum Contaminant Limits consistent with the SDWA's MCL/MCLGs standards can the public be provided with a comprehensive risk reduction strategy.

**Response:** The commentator suggests that the development of MCLs are the only way the public can be protected from PFAS contamination. The Department agrees that the development of state or federal MCLs for PFAS compounds is important to reducing risk from exposure to PFAS values. However, Act 2 requires the establishment of MSCs when MCLs or Lifetime Health Advisory Levels are published by EPA. When a state or federal MCL is published, it will become the MSC as required by Act 2.

**22) Comment:** The commentator commends DEP and the EQB for the promulgation of soil and groundwater MSCs for PFOS, PFOA and PFBS.

**Response:** The Department acknowledges this comment.

**23) Comment:** The commentator opposes each state pursuing its own solution to PFAS regulation. Rather, there should be a uniform national approach across all 50 states. Many commentator members have interests in multiple states, and it is important to achieve uniformity and consistency among state standards, not just for business operations but for risk communication to the general public, as well. EPA is attempting to assert that federal leadership, and the commentator recommends that states, including Pennsylvania, contribute by assisting EPA establish standards and defer setting individualized state standards for compounds for which EPA has not yet developed federal levels. Recognizing that Pennsylvania is committed to its own standards, the State must acknowledge and evaluate the potential costs that may result from this proposed rulemaking. This proposal lays a foundation for additional remediation and permitting liability under other state environmental statutes, and it is disingenuous and inconsistent with a transparent rulemaking to dismiss the costs of this inevitable outcome. Indeed, a patchwork of 50 different state solutions is unworkable and contrary to how the US has previously addressed similar emerging-contaminant issues. While some limited variations related to groundwater, surface water, or soil cleanup levels may be expected and appropriate, the highly variable regulatory health advisories, action levels, and drinking water standards currently being developed or under consideration across the country create unnecessary confusion and complexity for the public and the regulated community. The commentator can foresee challenges to states that choose to develop their own unique and varying standards. Many jurisdictions have existing laws or rules that prohibit states from promulgating regulations that are more stringent than the federal rules. When EPA does promulgate national primary drinking water regulations, such states may be in conflict with their legislatures' clearly stated policies. States that promulgate their own standards ahead of EPA may be required to amend such state specific PFAS regulations when EPA completes its work in this regard. Anti-backsliding provisions may further limit states' abilities to change their standards to conform with federal rules.

**Response:** The groundwater MSCs for PFOA/PFOS are based on the Health Advisory Level (HAL) published in EPA's Drinking Water Standards and Advisory Tables as required by section 303(b)(3) of Act 2. The Land Recycling Program is required by Act 2 to adopt these values upon publication by EPA. The Department understands that a patchwork of various state cleanup values for PFAS compounds can be challenging, but in Pennsylvania, EPA's HALs or MCLs become the MSCs immediately upon publication by EPA, thus preventing any lag time or confusion between state and federal cleanup values.

On average, remediators apply the Act 2 remediation standard to approximately 800 contaminated properties across this Commonwealth. The 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, it is virtually impossible to estimate the potential monetary cost of adding these PFAS numeric values to the MSC tables. Having these new MSCs would allow remediators to address PFOS, PFOA and PFBS groundwater and soil contamination. This would benefit the public by reducing public exposure to these contaminants. This would also benefit remediators wishing to remediate contaminated sites, who tend to be owners, operators or purchasers, or their contractors, of properties and facilities include, or are at or near, military bases, municipalities, and other locations that used or stored fire-fighting foam.

**24) Comment:** The commentator believes that the scientific understanding of how PFAS impacts people and the environment is still developing and, for thousands of PFAS compounds, much remains unknown. The commentator urges the State to work with EPA to develop consistent standards. From a toxicological perspective, regulatory agencies must have adequate science for determining health-based values before promulgating individual-compound standards, limits, and related regulations. The most prevalent and available science regarding the incidence and potential health effects of PFAS is based on PFOA and PFOS, two compounds that are no longer manufactured in the United States due to voluntary phase outs. For replacement chemicals, industry has begun using shorter-chain PFAS that can have vastly different physical, chemical, and toxicological properties from the long-chain PFOA and PFOS. Toxicologists, whether they work for various state agencies, EPA, international standards-setting organizations, academia, or in private practice, have not yet established specific methodologies or resources, or even agreed on which of the hundreds of studies of PFAS compounds are the appropriate or critical studies that must or should support appropriate regulatory “standards.” Different methodologies, levels of experience, procedural prerequisites to standards-setting, and even local political pressures are leading to consideration of very different standards in various states and at EPA. Accordingly, the commentator urges states to work with one another and with EPA to ensure that all use consistent, peer-reviewed and transparent scientific research and standards-setting methodologies, to help ensure that more consistent and reliable standards are established, whether in PA or elsewhere. Along these lines, the commentator supports the language at § 250.304(c) that sets the MSCs for groundwater at the MCL or the HAL if EPA has not yet established an MCL and also updates the MSCs if EPA promulgates new or revised MCLs or HALs. Additionally, the commentator requests that proposed language at §250.304(c) be revised to allow a “phase-in” for new criteria that would need to be used in a demonstration of attainment. The proposed language states that revised criteria “shall become effective immediately for any demonstration of attainment completed after the date the new or revised MCLs or HALs become effective.” The commentator suggests a phase-in period of at least six months so that demonstrations of attainment that are nearly complete are not derailed at the last minute should the criteria change. In contrast, while the commentator respects PA’s attempt to rely on EPA toxicological and related data, we are concerned that the State is seeking to set criteria for other media and pathways that few, if any, other states have attempted to regulate – namely soil direct contact and soil to groundwater. According to the ITRC, EPA has human health soil screening levels for PFOA and PFOS, but not for PFBS. The commentator was not able to identify any other state that has soil direct contact criteria for any PFAS compounds. Regarding PFBS, the commentator has identified only three other states with soil standards related to the protection of groundwater criteria for PFBS, and the ranges of these criteria vary greatly. The commentator recommends that the State defer setting individualized standards for PFBS until EPA develops a corresponding final federal standard for PFBS. This approach would promote national consistency and not contribute to an unnecessarily complex regulatory environment.

**Response:** Although the current scientific knowledge of PFAS compounds is limited, remediators need a means of demonstrating attainment of an Act 2 standard for PFAS compounds. EPA developed their HAL value for PFOS/PFOA based on the most current peer-reviewed science. When EPA published their HAL for PFOS/PFOA, it immediately became the groundwater MSC as required by Act 2. Thus, DEP is required by statute to publish these HAL-based MSCs in this rulemaking. Soil direct contact values for PFOS/PFOA are calculated using the same toxicity values that EPA used to calculate the HAL so there should be no question

regarding its validity. These toxicity values are based on route of exposure, not on the media in which they occur which is why using toxicity values that were derived for a water quality standard can be applied to calculating soil cleanup values. DEP is not proposing MSC values for any PFAS compounds other than PFOS, PFOA, and PFBS which each have established, peer-reviewed toxicity values. Individual states have their own unique ways of calculating cleanup standards based on their unique statutory framework. Many states, including Pennsylvania, rely heavily on EPA to develop nationally accepted toxicity values and standards as the basis for the development of state cleanup values.

The March 2021 version of the Interstate Technology and Regulatory Council's (ITRC) "Residential Soil Standards and Guidance Values for PFAS" includes an EPA human health screening level for PFBS of 1,300 mg/kg. Additionally, this table shows 18 other states with direct contact soil screening levels for a variety of PFAS compounds. Three states have set soil-to-groundwater criteria for PFBS.

Act 2 does not allow for a "phased-in" approach to the effectiveness of promulgated cleanup standards. The values become effective upon final publication in the *Pennsylvania Bulletin*. Remediators that have already submitted final reports to the Department are not required to apply the new cleanup values retroactively.

**25) Comment:** The commentator supports the State's approach of relying on toxicity information from sources other than the Agency for Toxic Substances and Disease Registry (ATSDR), such as the EPA HALs and the 2014 EPA Provisional Peer-Reviewed Toxicity Value (PPRTV). The ATSDR, part of the federal Center for Disease Control, and many states have reviewed the toxicity information available for PFOA and PFOS and opined on appropriate dosages that reflect highly conservative assumptions designed to protect human health, including the most susceptible subpopulations. ATSDR values are derived through different methods than EPA's MCL (and Health Advisory) values and the two are not directly comparable. These variabilities in how various health recommendations are derived must be considered and addressed to ensure that any final standards are scientifically justified and corroborated. Moreover, ATSDR has only finalized the Toxicological Profile for two PFAS compounds, PFOA and PFOS. The profiles for two additional PFAS—Hexafluoropropylene Oxide (HFPO) Dimer Acid, more commonly referred to as the "GenX Chemicals;" and PFBS are still only in draft form. ATSDR made the Toxicological Profiles for these additional PFAS available for public comment in 2018, and the Profiles have not yet been finalized. Here, the State asserts it directly incorporated EPA's 2016 HALs regarding PFOS and PFOA into its groundwater MSCs and has used the data developed by EPA for those HALs to calculate soil MSCs for both compounds. With respect to PFBS, the State has proposed soil and groundwater standards based on the 2014 EPA PPRTV. The commentator supports this general approach, as opposed to approaches used by other states that have improperly used and relied on ATSDR data.

**Response:** The Department acknowledges this comment and appreciates the commentator's support. It should be noted that EPA announced the publication of a new toxicity assessment for PFBS on April 8, 2021. The updated toxicity assessment included a revised toxicity value that was used in the final rulemaking. 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. This change was made in an effort to use the most current and accurate science to calculate these newly proposed PFBS MSC values as required by § 250.11.

**26) Comment:** The commentator believes the State should regulate only those PFAS compounds for which there are EPA-validated analytical test methods; currently, there are no such methods for soil or for groundwater. The commentator recommends that the proposed rulemaking recognize the limits of the available EPA validated test methods and choose a specific test method to be referenced by any standards being adopted. Limitations on test methods and the lack of any validated method by EPA for any medium except drinking water create major challenges for the State's efforts to regulate non-potable water or other media, including the soil and groundwater the State is proposing to regulate.

**Response:** EPA has validated SW-846 Method 8327 which is designed to measure a group of 24 PFAS compounds, including PFOS, PFOA, and PFBS, in groundwater, surface water, and wastewater samples using liquid chromatography/tandem mass spectrometry. While EPA is evaluating public comments, the method has been made available for public use. Additionally, EPA is working with the Department of Defense to validate a solid-phase extraction/isotope dilution method which will include solid matrices such as soil. (See EPA's Technical Brief at [https://www.epa.gov/sites/production/files/2020-01/documents/pfas\\_methods-sampling\\_tech\\_brief\\_7jan2020-update.pdf](https://www.epa.gov/sites/production/files/2020-01/documents/pfas_methods-sampling_tech_brief_7jan2020-update.pdf)). Although these methods have not yet been fully validated, they are still appropriate for use in Act 2 investigations. Act 2 does not prevent remediators from demonstrating attainment, and receiving liability relief, for a compound without an EPA-validated analytical test method.

**27) Comment:** The commentator urges the State to consider the capabilities and reliability of laboratories that test for PFAS. There is limited capacity nationally to perform all of the analytical laboratory work and limited reliability on any given sample result due to potential lab error, cross contamination, or other factor that could impact results in the very low parts per trillion levels being considered. There is little doubt that the closer the State sets a limit or standard to the detection limit, the less reliable the analytical sampling and related lab results become. For example, the commentator's members who have sent split samples to multiple labs report receiving highly variable results. Such anecdotal evidence demonstrates the potential difficulty and unreliability of performing testing at limits that approach the detection limit. Considering that the State can potentially impose fines, costly corrective action, or other penalties for failing to meet regulatory limits, the regulated community must have the ability to accurately measure PFAS to demonstrate compliance. Subjecting the regulated community to fines, corrective action, and other penalties based on potentially unreliable testing raises due process concerns. Accordingly, the commentator urges the State to consider the potential liability that may result under other state environmental statutes and evaluate the testing capability and reliability. Based on such consideration, the State should ensure that this proposed rulemaking lays the foundation for a regulatory program that accounts for the variability in and limits of current laboratory testing.

**Response:** While there may be limited lab capacity for PFAS analysis, laboratory capacity is unrelated to the promulgation of the Chapter 250 regulation and outside the scope of this rulemaking.

**28) Comment:** The commentator states that treatment technologies for PFAS are still being developed, and there is limited capacity for the disposal of byproducts from newly developed technologies. For example, absorption technologies such as granular activated carbon (GAC) are



being developed as potential response measures to achieve compliance with new drinking water standards for PFAS. The regulated community will need to safely dispose of the byproducts of such treatment technologies, like the spent carbon, used to treat PFAS groundwater. Moreover, there are no widely accepted or applied treatment technologies for PFAS in soil. Disposal or incineration of impacted soil has been used, but not without controversy and concerns for the need to further address PFAS. Again, this is another area where EPA is taking action. Congress, in the NDAA, mandated that EPA, not later than one year after enactment, “publish interim guidance on the destruction and disposal of perfluoroalkyl and polyfluoroalkyl substances and materials containing perfluoroalkyl and polyfluoroalkyl substances,” which includes guidance on “spent filters, membranes, resins, granular carbon, and other waste from water treatment.” Again, even though the proposed rulemaking does not directly impose liability itself, the State should consider the potential remediation obligations that may arise from this proposed rulemaking under other state environmental statutes. Because this proposed rulemaking lays the foundation for remedial obligations under other state environmental statutes, the proposed rulemaking should evaluate the availability of testing, treatment, and disposal to ensure that sufficient technology exists in the State to achieve the standards proposed. The State’s proposal avoids having to address these issues by asserting that the rule itself does not create liabilities or associated cost impacts, which rings hollow in the way such standards ultimately are implemented.

**Response:** Regulating the disposal of IDW is not within the scope of the Chapter 250 regulations and therefore does not pertain to this rulemaking. Intentionally delaying the promulgation of cleanup standards for these PFAS compounds would adversely impact remediators and property owners who do have the ability to effectively manage IDW and would unreasonably prohibit them from demonstrating attainment of an Act 2 standard.

**29) Comment:** The commentator maintains that the State’s assertion that it does not expect that this proposed rulemaking, as it relates to new MSCs for PFOA, PFOS and PFBS, will create any additional costs because it does not create liability for, or the obligation to, address contamination for these and other chemicals. The State asserts that, instead, such liability or obligation comes from other environmental statutes, including The Clean Streams Law and SWMA, but, the State fails to address how these statutes will impose obligations based on the proposed MSCs, what obligations they will impose and, importantly, the cost of such obligations. Furthermore, the State’s rationale confuses liability with costs. Even if the liability is imposed by other statutes, the setting of MSCs for these three additional compounds at parts-per-trillion levels certainly imposes additional costs. The State’s statement that “any potential impact to the regulated community would be insignificant” lacks practical credibility and logic. Moreover, the State also asserts that it “does not expect that the proposed amendments would impact the number of remediations voluntarily completed or the number that must be completed as a result of Department enforcement actions.” Yet, just two paragraphs above this statement, the State claims that establishing the MSCs for these PFAS compounds has the additional benefit of allowing for the remediation of sites that used or stored fire-fighting foam. In other words, adding these MSCs will allow for the remediation of additional sites. The addition of soil and groundwater MSCs for PFOS, PFOA, and PFBS will add costs to existing remediation projects and subject additional sites to remediation. The proposed rulemaking’s conclusion that it will not create any additional costs because it does not create any obligation to address contamination is disingenuous. The proposed rulemaking lays the foundation for remedial and permitting obligations under other state environmental statutes, and such obligations will have costs and

impact additional sites. To promote transparency and a sound rulemaking process, the State must openly recognize and quantify those costs and the number of sites impacted. The State should provide additional information regarding how the MSCs will inform obligations and liability under other state statutes. If remedial obligations will result before there is more certainty regarding questions of treatment and disposal, then the State should conduct a more robust cost analysis to account for the potential costs, including remediation and the range of true disposal and ongoing operation and maintenance costs.

**Response:** The cost of obligations from other statutes is outside of the scope of the Chapter 250 regulation. The voluntary nature of Act 2 allows remediators the freedom to only seek relief of liability (ROL) for the regulated substances they choose to investigate. Therefore, the addition of PFAS soil and groundwater MSCs now allows responsible parties to seek ROL for those substances under the Statewide health standard whereas previously, ROL under the SHS was not an option.

**30) Comment:** The commentator believes that the widespread presence of PFOA and PFOS in soils as an anthropogenic background condition warrants further evaluation. Unlike many of the regulated substances covered by Act 2, studies are indicating that these compounds have a widespread, even global, background presence in soils. Sources of background concentrations of PFOA and PFOS include the land application of biosolids and atmospheric deposition. Based on the wide-spread evidence of atmospheric deposition of PFAS, it may be useful for PADEP to evaluate and publish anticipated background levels of PFAS due to atmospheric deposition that can be utilized during site investigations and remediations. Act 2 expressly provides for the use of a background standard in accordance with 25 Pa. Code § 250.201, including reliance on regional background conditions. Without the leadership of PADEP in establishing generalized background levels of PFAS based on atmospheric deposition, addressing PFAS in soils may become extremely challenging and result in a patchwork of individualized determinations that will sap the resources of both DEP and regulated community and that may be difficult to explain to the public.

**Response:** DEP agrees that Act 2 provides for the use of the background standard and encourages remediators to explore all options for demonstrating attainment of an Act 2 remediation standard. Act 2 and Chapter 250 currently describe the process remediators should follow for determining background standards which is no different for PFAS compounds or other compounds that may be the result of atmospheric deposition. The background standard may be pursued on a site-by-site basis.

#### **Appendix A, Tables 4A and 5B - Soil MSCs for Vanadium**

**31) Comment:** As IRRC notes, some commentators believe the MSCs for vanadium should be modified or removed as part of the revisions to Chapter 250 because the residential soil MSC for vanadium is below background levels and will have a significant detrimental impact on the clean fill program and this could trigger a remediation requirement that is not the result of contamination.

A commentator states that USGS datasets obtained to evaluate naturally occurring background concentrations of vanadium in soils in Pennsylvania clearly demonstrate that the residential soil

MSC and clean fill concentration limit for vanadium of 15 mg/kg is far below those naturally occurring background levels. The USGS datasets indicate that the naturally occurring vanadium content of soils in Pennsylvania is as high as 162 mg/kg. Of the 243 background samples in the combined USGS datasets, only two samples contained vanadium below the residential MSC of 15 mg/kg.

**Response:** The Department did not propose to alter the current residential direct contact MSC for vanadium. The Land Recycling Act and the regulations promulgated thereunder require the calculation of Statewide health standard MSCs based only on human health toxicity values and not on background soil levels. However, DEP recognizes that human health toxicity values may result in MSCs that are numerically less than the naturally occurring levels at specific sites in the Commonwealth. Therefore, persons may establish the background concentration at the site pursuant to the requirements of the Land Recycling Act and the regulations promulgated thereunder and are not required to remediate below that level.

The vanadium residential direct contact MSC is based on human health toxicity values that are published and peer-reviewed, according to sources approved under 25 Pa. Code § 250.605(a). The Land Recycling Act provides that if Statewide health standard numeric values are lower than the background standard, persons do not have to remediate beyond the background standard established for the site. Thus, the current vanadium residential direct contact MSC does not affect an inordinate number of persons nor does it lead to increased costs for the regulated community.

**32) Comment:** The commentator states that since the August 27, 2016, Chapter 250 final rulemaking was published, lowering the MSCs for vanadium has created significant implementation problems at sites being remediated in Pennsylvania under Act 2 and that those issues will continue if no changes to the vanadium MSCs are made. The commentator opposes the continued use of the current vanadium MSCs and provides the following reasons:

- The commentator believes the current vanadium MSCs are unworkable and are not supported by the Cleanup Standards Scientific Advisory Board (CSSAB);
- The commentator notes the Chapter 250 residential soil MSC is lower than several other states' vanadium soil cleanup values;
- The commentator feels that the use of the current PPRTV-based toxicity value makes use of the site-specific standard for sites with vanadium contamination impractical;
- The commentator believes that the current vanadium residential direct contact soil numeric value is difficult to apply to the Bureau of Waste Management's Management of Fill Policy;
- The commentator asserts that there is an inappropriate level of uncertainty associated with the currently used PPRTV toxicity value;
- The commentator contends that an alternative toxicity value is available from EPA's Regional Screening Levels (RSL) table which is based on the IRIS toxicity value for vanadium pentoxide.

The commentator urges DEP to recalculate the vanadium MSCs using the vanadium pentoxide-based toxicity value for vanadium presented in the RSL table, rather than the currently used PPRTV-based toxicity value for vanadium.

Additionally, IRRC noted that the CSSAB does not endorse the current MSCs for vanadium and “recommends revision or removal of the MSCs for vanadium that are included in the proposed regulations.” IRRC recommended the Environmental Quality Board respond to the concerns of CSSAB and commentators in the Preamble of the final-form regulation by explaining why the MSCs for vanadium are reasonable, the appropriateness of the data used to determine the MSCs, and the fiscal impact to attain compliance with the MSCs for vanadium. Further, IRRC requested that the Environmental Quality Board consider revising the MSCs for vanadium as suggested by CSSAB.

**Response:** The commentator asserts that the current vanadium MSCs are unworkable and are not supported by the CSSAB. While DEP acknowledges that lowering the vanadium MSCs in the 2016 Chapter 250 final rulemaking has made attaining the Statewide health standard challenging at some sites, Act 2 requires the MSCs to be health-based values that eliminate any substantial present or probable future risk to human health and the environment. The current vanadium MSCs were developed under the clear and transparent framework of Chapter 250 and Act 2 and achieve this goal. DEP also recognizes and appreciates the significant amount of input the CSSAB has provided to DEP to address this issue. Moreover, the EQB did not propose to change the vanadium MSC in this rulemaking. Any changes at this juncture to the vanadium MSC in the final form rulemaking would run afoul of the Commonwealth Documents Law (“CDL”), (45 P.S. §§ 1102 *et seq.*, ) which, among other things, prohibits the adoption of a regulation that enlarges the original purpose of a proposed rulemaking. Here, to change the vanadium MSC, which was not proposed to be changed, would result in an enlargement of the original proposal.

The commentator notes that the residential soil MSC is lower than several other states’ vanadium soil cleanup values. While this may be true, each state has its own unique way of determining acceptable cleanup values in accordance with their state’s laws and regulations. Thus, a comparison to other states’ values is not necessarily an accurate method of determining the appropriateness of Pennsylvania’s cleanup standards. DEP has calculated Pennsylvania’s vanadium MSCs in accordance with Act 2 and the methods described in Chapter 250.

The commentator feels that the use of the current PPRTV-based toxicity value makes the use of other Act 2 standards, specifically the site-specific standard, for sites with vanadium contamination impractical. The Statewide health standard was never meant to be a one-size-fits-all cleanup standard which is why the Act 2 program provides the flexibility for remediators to choose one or a combination of any of three cleanup standards. Using the background standard for sites with vanadium releases may be a practical way of attaining liability relief under Act 2. Performing a risk assessment under the site-specific standard allows for the input of exposure parameters that are more congruent with the actual conditions at the site and may result in a cleanup value higher than the Statewide health standard MSCs. Performing the proper due diligence prior to sampling can help remediators focus their limited time and resources on the contaminants of concern associated with the activities at the site and not with potentially unrelated naturally occurring compounds.

The commentator believes the current vanadium residential direct contact soil numeric value is difficult to apply to the Bureau of Waste Management’s Management of Fill Policy. The commentator acknowledges in their comment that the new Management of Fill Policy provides a process for developing alternative clean fill concentration limits based on background

concentrations. While this process may be cumbersome, it still provides an alternative to using the Act 2 MSCs. Also, DEP believes that any concerns associated with the Management of Fill Policy should be addressed in future revisions to that policy rather than the Chapter 250 rulemaking process.

The commentator discouraged the use of the PPRTV-based toxicity value because they believe there is an inappropriate level of uncertainty associated with this toxicity value. Specifically, the commentator is concerned with the PPRTV for vanadium because EPA has applied an uncertainty factor of 3,000 which led to a “low confidence” rating for the PPRTV for vanadium. As an alternative, the commentator has suggested DEP use a toxicity value from EPA’s RSL table which is based on the IRIS toxicity value for vanadium pentoxide. The vanadium toxicity value in the RSL table is the result of an adjustment made to the 1987 vanadium pentoxide IRIS value by the RSL Table Workgroup and their chemical managers. The RSL Table contains several previously peer reviewed toxicity values but, in a few cases, such as vanadium, a modification was performed. Using this value would deviate from DEP’s current process for selecting toxicity values for use in MSC calculations. Regardless, DEP will evaluate the commentator’s recommended vanadium toxicity value for possible future use.

Additionally, EPA determined during the development of the IRIS multi-year agenda (<http://www.epa.gov/iris/iris-agenda>) released in December 2015, that an evaluation of the potential toxicity of multiple vanadium-containing compounds, including vanadium pentoxide, was a cross-agency high priority need. The new assessment of vanadium-containing compounds will benefit from undergoing scoping and problem formulations steps, the application of systematic review methodology to assess human health hazards, and a peer review conducted through the standing Science Advisory Board’s Chemical Assessment Advisory Committee. DEP plans to closely monitor the development of this assessment and will use the results of that assessment to inform further decisions on alternative toxicity values for calculating vanadium MSCs. Until then, DEP intends to continue to rely on the PPRTV-based value for the calculation of vanadium MSCs.

### **Other Comments**

**33) Comment:** IRRC states that in § 250.4(a), practical quantitation limits (PQL) are selected from PQLs or estimated quantitation limits “specified by the [United States Environmental Protection Agency (EPA)] in the most current version of EPA’s drinking water or solid waste analytical methods.” The Board states in the Preamble to the proposed regulation that the amendments “update the references and procedures for determining” PQLs. However, the current reference to a specific EPA manual is replaced with general EPA analytical methods. IRRC requests that the Board clarify references to these methods in the final-form regulation or explain in the Preamble to the final-form regulation why it is unnecessary to do so.

**Response:** The specific EPA manual referenced in the regulation was outdated which is what prompted this change. 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. Instead of requiring remediators to only use

the EPA RCRA Manual for SW-846 to identify PQL and EQL values, the Department wanted to allow for a wider range of sources for these values. 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.

**34) Comment:** IRRC states that in § 250.10(d), samples of groundwater from monitored drinking water wells are required to be field acidified and unfiltered in accordance with a DEP technical guidance manual or “an alternative sampling method that accurately measures regulated substances in groundwater.” What alternative sampling methods are acceptable? IRRC requests that the Board specifies sampling methods in the final-form regulation or explain in the Preamble to the final-form regulation why it is unnecessary to do so.

**Response:** Providing specific sample methods in regulations is very restrictive and does not allow for the use of various methods that may be developed after this rulemaking is published. Since various analytical methods can be used to evaluate samples of environmental media, laboratories are best equipped 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) intends to allow the flexibility remediators and laboratories need to use their professional expertise to determine the best method for a site. Sample preservation methods should be discussed with the laboratory performing the analyses. If DEP staff question the methods chosen by a laboratory or remediator when reviewing data submitted with Act 2 reports, they will address these questions with the laboratory or remediator on a case-by-case basis. This information is included in the Preamble to the final-form rulemaking.

**35) Comment:** The commentator is seeking more transparency in the scientific studies used to determine the toxicity levels and, most importantly, the sources of funding for these studies. Although the EPA and The United States Department of Health Agency for Toxic Substances and Disease Registry should serve as generally trustworthy sources, instances where protections regarding human health are being relaxed rather than strengthened should trigger an immediately higher level of research and discussion. This can only be done by thoroughly examining the funding sources of the studies used to make the stated conclusions regarding toxicity levels. Pennsylvania cannot afford to prioritize profits over human health, safety, or the protection of our beautiful natural environment.

**Response:** All of studies that EPA and other public health agencies use to establish their toxicity values are available to the public for review. DEP has a clear and transparent process for establishing the sources used to determine which toxicity values are used in establishing the MSCs and the sources with the highest level of peer review are at the top of the list.

**36) Comment:** The commentator feels that if PA chooses to adopt the Federal chart, it does so without the matching Federal precautions that accompany the lower toxicity levels. PA should, in accordance with the reduced Federal levels, have a similar required implementation of a mandatory environmental impact risk assessment to evaluate toxicity on a case by case basis. The public policy implications when considering the effects on human safety should outweigh any concerns of over-regulation. The Federal chart was intentionally left as a very basic guideline purposefully in accordance with the 1976 Resource Conservation and Recovery Act, which directs the EPA to delegate primary responsibility to individual states when it comes to implementing federal hazardous waste regulations to the individual states. States such as

Wisconsin have recently developed water standards that are stricter than Federal levels, showing that states with similar climate, industry, political persuasion, and USDA agricultural hardiness zoning to Pennsylvania can effectively increase safety for human consumers and the environment alike while keeping everyone's interests considered. The lessening in stringency regarding the 17% of soil-based substances and the 8% of water-based substances is not correctly modeled after the Federal system because there is no requirement for an independent risk assessment.

**Response:** This comment lacks the detail necessary to provide an adequate response. The commentator refers to "the Federal chart," "Federal precautions" and "Federal levels" but does not define these terms. The commentator also refers to a "mandatory environmental impact risk assessment" but does not provide detail or a citation for this term.

The commentator objects to the proposed increase in the MSCs for 17% of soil-based substances and the 8% of water-based substances that are changing. As described in the preamble to this proposed rulemaking, § 250.11 requires DEP to periodically review new scientific information that relates to the basis of the MSCs as it becomes available and to propose appropriate changes for the consideration of the EQB. While the implementation of new scientific information often results in lower MSCs, sometimes the application of new scientific information results in higher MSCs. Increases and decreases in MSC values can be due to a host of reasons including updates to toxicity information, exposure parameters, definitions of terms, and changes in calculation processes, to name a few.

The commentator also explains that other states have developed groundwater cleanup standards that are stricter than Federal standards. While this may be possible in other states, Act 2 Section 303(a) states that "Standards adopted under this section shall be no more stringent than those standards adopted by the Federal Government."

**37) Comment:** The commentator expects that the number of sites where remediators are applying the Act 2 remediation standards is much larger than 800 per year, based on the numbers of spill violations reported by the Oil and Gas Program, plus the 12,000 existing underground and aboveground storage facilities that the Department references in its proposal. The commentator recommends that the EQB and the DEP update the numbers of Oil & Gas sites applying Act 2 cleanup standards to be more reflective of what is being reported by the Oil and Gas Program and acknowledge that the impact of the reduction of the Chapter 250 cleanup standards will have a significant impact on the entire oil and gas industry.

**Response:** This comment is outside the scope of the Chapter 250 regulations.

**38) Comment:** The commentator believes Land Recycling Program staff should work with the Oil & Gas Program to ensure that Chapter 250 regulations are only required for spills greater than 42 gallons. The commentator believes that Oil and Gas inspectors and supervisors are inappropriately requiring the unconventional industry to follow Act 2 and the cleanup thresholds for small spills and those contained on a well pad and within secondary containment.

**Response:** This comment is outside the scope of the Chapter 250 regulations.

**39) Comment:** The commentator requests clarity be added to § 250.12. While there are significant specific activities under Chapter 250 that would require an engineer, geologist, or surveyor licensed in the Commonwealth, some consideration should be given to qualified environmental professionals being permitted for report submittals that may not have one of the above licenses, as long as the appropriate licensed activities are completed under the direction of Licensed individuals.

**Response:** The Department agrees that qualified environmental professionals may develop report submittals under the direction of licensed individuals, as long as the report submittals are stamped by qualified individuals. The proposed language does not exclude individuals from preparing submittals if they are stamped by a licensed professional.

**40) Comment:** The commentator suggests that the PIP (Public Involvement Plan) process be made more substantive by incorporating the following: (i) require that municipalities receive the Notice of Intent to Remediate (“NIR”) prior to publishing in a newspaper, as the City often receives the NIR after publication in the newspaper has occurred. As it currently works, it risks municipalities having less than 30 days to request a PIP; (ii) require that NIR be published both in a local newspaper and on relevant news websites and social media locations, as well as provided via mail to relevant neighborhood associations, to increase their visibility to the public. Consider replacing typical legal notice, which few people ever see, with an advertisement; (iii) if a PIP is requested, require that remediators provide a common language summary of all related documents and reports; (iv) if a PIP is requested, require that remediators place relevant reports online in addition to providing “access at convenient locations...” to increase the public’s access to the reports; (v) additionally, it might be helpful to provide examples of “convenient locations” such as local libraries, municipal buildings etc.; and (vi) if a PIP is requested, require that remediators host at least one public meeting. At least one of the public hearings in this matter should be done virtually, such as through WebEx, Zoom or similar platform.

**Response:** The local municipality and the community it serves are entitled to the rights provided in Section 304(n) and (o) of Act 2 with respect to notices, reviews, and community involvement, including PIPs. DEP is bound by the rules of Act 2 when determining regulatory language and requirements for PIPs. The amendments to § 250.6 in the proposed rulemaking help to clarify these rights. DEP is not permitted to impose requirements in Chapter 250 that go beyond the requirements of Act 2. Suggestions for individual PIPs can be provided by the municipality to the remediator during the development of the PIP. These suggestions will vary based on the specific needs for each site and each community. Requiring the commentator’s suggestions for every PIP for every site within every municipality across Pennsylvania is not practical nor is it permitted under Act 2.