



## Division of Environmental Response and Revitalization

### Response to Comments

#### Voluntary Action Program (VAP) Rules, Chapter 3745-300

##### Agency Contact for this Package

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Ohio EPA held a (public hearing and/or comment period) on (insert date) regarding (insert topic). This document summarizes the comments and questions received at during the associated comment period, which ended on March 7, 2014.

Ohio EPA reviewed and considered all comments received during the public comment period. By law, Ohio EPA has authority to consider specific issues related to protection of the environment and public health.

In an effort to help you review this document, the questions are grouped by topic and organized in a consistent format. The name of the commenter follows the comment in parentheses.

##### General Overall Comments:

**Comment 1:**            **Include rule citations in the upper right hand corner of each page, as provided in past rules. (Ron Roelker, CP, AECOM)**

**Response 1:**        This is formatting that will take place once the rules have been filed, it will automatically be populated on each page.

##### 3745-300-01 Definitions

**Comment 2:**            **Change the definition of “source area” to be more inclusive of various site conditions. “Source Area” is an area which COCs are present above applicable standards and may be the point of origin of migrating COCs. (Ron Roelker, CP, AECOM)**

**Response 2:**        The intent of the source area definition is to identify those containers, receptacles in environmental media, or any affected media impacted by a release that may have served as a release point of origin for the migration of chemicals of

concern into the environment. The presence of a source area is not contingent on whether or not an applicable standard is exceeded. A potential source area may be designated during phase II assessment activities where it may be determined that applicable standards are exceeded following investigation. Therefore, identification of a potential source area is not the stage during a voluntary action where one identifies exceedance of an applicable standard, and as such, the definition is proposed to remain as is.

**Comment 3:** **The definition of “soil” should be changed to include the upper layer of earth that may be dug or plowed and in which plants grow. Also suggests including the term “inorganic”. (Bruce Savage, CP, Geotechnical Consultants, Inc.)**

**Response 3:** The proposed definition of soil has been removed from consideration. Based on multiple comments regarding the proposed definition, a definition for soil was not universally viewed as a positive concept. Concerns ranged from questioning the need to have a soil definition, to a dispute over what a consensus and agreed-upon soil definition could be. Further, the voluntary action program has effectively operated since the program’s inception without a soil definition, thus the proposed definition is being removed from rule language.

**Comment 4:** **I am not sure a definition of soil was needed. I would like to know the origin of this definition. Soil is a common term that probably should not have a definition in the VAP unless there is a need for it. Many definitions of soil include solid, liquid and gaseous phases. This three phase soil model is a fundamental consideration in leaching models and vapor migration, and should be considered if soil is to be defined. (John Garvey, CP, Partners Environmental Consulting, Inc.)**

**Response 4:** The proposed definition of soil has been removed from consideration. Based on multiple comments regarding the proposed definition, a definition for soil was not universally viewed as a positive concept. Concerns ranged from questioning the need to have a soil definition, to a dispute over what a consensus and agreed-upon soil definition could be. Further, the voluntary action program has effectively operated since the program’s inception without a soil definition, thus the proposed definition is being removed from rule language.

**Comment 5:** If the VAP feels the need to provide a definition for soil, I would like to see it very broadly defined to capture the entire realm of material that we conventionally have called soil. Toward that end, I would eliminate the word “weathered” from the definition so that mechanically crushed rock would not be excluded from the definition. Also, I would add the words “or inorganic” after “organic” so that soil containing inorganic constituents (e.g., brick or glass) would still fall within the definition. (Jim Smith, CP, Brownfield Restoration Group, LLC)

**Response 5:** The proposed definition of soil has been removed from consideration. Based on multiple comments regarding the proposed definition, a definition for soil was not universally viewed as a positive concept. Concerns ranged from questioning the need to have a soil definition, to a dispute over what a consensus and agreed-upon soil definition could be. Further, the voluntary action program has effectively operated since the program’s inception without a soil definition, thus the proposed definition is being removed from rule language.

**Comment 6:** The definition of soil in the revised version of OAC 3745-300-01 is, at best, vague. A soil scientist would argue that “soil” must be capable of supporting plant life, and consists (in an ideal world) of an A, B and C horizon. This would generally limit “soil” to a depth of (generally) 6 feet, because materials beneath this depth (generally) are not capable of supporting plant life (there are exceptions for certain trees which send out tap roots). “Soil” as most typically used under the VAP means most anything (certain types of fill are excluded), natural or anthropogenic, situated above the first “groundwater zone” (note that I am buying into the elimination of the use of the words “uppermost saturated zone” in the revised rules). The only solution I can offer is the use of the term “materials in the vadose zone”, which includes everything above the first “groundwater zone”, including the capillary fringe. It needs to be borne in mind that some vadose zones extend to 50 feet, and that the reasonable VAP point of compliance for “soil” direct contact is 10-12 feet, at most. Another important distinction is sites where the vadose zone is only 6 feet thick (as an example). Anything below 6 feet is saturated with groundwater, and thus is not “soil” under natural conditions for the purposes of the VAP. A large pet

peeve of mine is sampling “soil” from 8-10 feet at a site where the vadose (unsaturated zone) is only 6 feet thick. The “soil” sample from 8-10 feet is nothing of the sort: it is a sample of the matrix of the saturated zone, and cannot be soil unless a) natural groundwater level drops significantly (i.e., to below 10 feet below ground surface) or b) the natural groundwater level is artificially dropped (through active dewatering during construction of foundations, as an example). Right now, within the VAP, there exists a double edged sword. If “groundwater” is less than 10 feet deep, we as CPs must take into consideration construction worker’s direct contact with groundwater in the event that an excavation encounters groundwater. Hypothetically, we must also take into consideration (at the same site, where groundwater is less than 10 feet deep) direct contact with “soil” below the groundwater interface. My argument to the agency in the past is that both exposure pathways cannot be complete...it has to be one or the other. (Matt Knecht, CP, HzW Environmental)

**Response 6:**

The proposed definition of soil has been removed from consideration. Based on multiple comments regarding the proposed definition, a definition for soil was not universally viewed as a positive concept. Concerns ranged from questioning the need to have a soil definition, to a dispute over what a consensus and agreed-upon soil definition could be. Further, the voluntary action program has effectively operated since the program’s inception without a soil definition, thus the proposed definition is being removed from rule language.

**Comment 7:**

The proposed definition of Soil in the Rules states the following; "Soil" is an accumulation of granular or cohesive particles which may be consolidated, but not cemented, which is partly to completely derived from the weathering of rock materials, and which may or may not contain organic constituents of natural or man-made origin. The current use of Soil in the proposed Rules refer to a variety of material when evaluating the substrate at a property, which include naturally deposited rock and mineral particles mixed with organic matter, native fill, engineered fill, and industrial fill. If a definition for Soil is to be included in the proposed rules, the definition needs to be inclusive of all the intended meanings of the word “Soil” throughout the Rules. (Kara Allison, Hull & Associates, Inc.)

**Response 7:** The proposed definition of soil has been removed from consideration. Based on multiple comments regarding the proposed definition, a definition for soil was not universally viewed as a positive concept. Concerns ranged from questioning the need to have a soil definition, to a dispute over what a consensus and agreed-upon soil definition could be. Further, the voluntary action program has effectively operated since the program's inception without a soil definition, thus the proposed definition is being removed from rule language.

**Comment 8:** **(27) Consolidated Saturated Zone. I suggest removing this definition since the definition of "Saturated Zone" under definition #(125) is proposed for deletion. (Mike McKim, CP, URS)**

**Response 8:** Since the terms "consolidated saturated zone" and "unconsolidated saturated zone" are used several times in OAC 3745-300-10, it was deemed necessary to keep those definitions in OAC 3745-300-01. Both terms need to be defined as both are used as part of the determination of critical resource groundwater, and as part of the threshold criteria demonstration for a request for an urban setting designation. For these reasons, the definition is proposed to remain as is.

**Comment 9:** **(58) Ground water. I suggest adding the phrase "one or both" to the definition, as shown below: "Ground water" is, for purposes of conducting a voluntary action, is water underlying a property in a saturated zone that meets "one or both of" the following criteria:... (Mike McKim, CP, URS)**

**Response 9:** The addition of the phrase "one or both" to the definition of ground water is unnecessary because the definition states that ground water is: "...water underlying a property in a saturated zone that meets the following criteria:". Thereafter, two criteria are listed as: "(a)", related to the minimum required yield; and "(b)", related to the minimum required in situ hydraulic conductivity. Since it is separated into two required criteria, both must be met for the saturated zone to be considered ground water for the purposes of voluntary actions conducted under Chapter 3746 of the Revised Code. Demonstrating that either one of the two criteria is not met results in disqualification as ground water. Failing to meet both criteria is not necessary to eliminate the saturated zone as ground water. Therefore, it has been determined that the phrase "one or both" is unnecessary, and the rule is proposed to remain as is.

**Comment 10:** **(122) Soil. The definition of soil can vary greatly. As an example, the limestone aggregate or recycled concrete placed on a VAP site has previously been considered “Soil Cover” and not necessarily an “Engineering Control” subject to O&M obligations. I am concerned that a “Soil Cover” placed on a VAP site may not meet the proposed definition. If this definition is kept, a definition of “Cover Material” should be considered to specify it can include Soil, Engineered Fill, or Native Fill. Additionally, my broad interpretation of “soil” under the VAP is the “unconsolidated material that overlies bedrock.” Definition nuances, such as “consolidated, but not cemented”, may be confusing should be reconsidered. (Mike McKim, CP, URS)**

**Response 10:** The proposed definition of soil has been removed from consideration. Based on multiple comments regarding the proposed definition, a definition for soil was not universally viewed as a positive concept. Concerns ranged from questioning the need to have a soil definition, to a dispute over what a consensus and agreed-upon soil definition could be. Further, the voluntary action program has effectively operated since the program’s inception without a soil definition, thus the proposed definition is being removed from rule language.

3745-300-02 Eligibility:

**Comment 11:** **C(1)(b)(iii) – Include the additional sufficient evidence milestones: Completion of a phase II property assessment work plan; and Completion of a remedial action bench scale, treatability or pilot study. (Ron Roelker, CP, AECOM)**

**Response 11:** This suggestion was incorporated into rule and added to the list of sufficient evidence milestones.

3745-300-03 VAP Fees:

**Comment 12:** **Make verbs consistent, it is not clear if the fees can change. (Joel Hunt, CP, Arcadis)**

**Response 12:** The suggested grammatical corrections were made to the rule language.

3745-300-05 Certified Professionals:

**Comment 13:** **Add the word “of” to 05(A)(2). (Joel Hunt, CP, Arcadis)**

- Response 13:** The suggested grammatical correction was made to the rule language.
- Comment 14:** **Correct spelling error in 05(C)(3)(a). (Joel Hunt, CP, Arcadis)**
- Response 14:** The suggested grammatical correction was made to the rule language.
- Comment 15:** **Correct spelling error in 05(C)(3)(b). (Joel Hunt, CP, Arcadis)**
- Response 15:** The suggested grammatical correction was made to the rule language.
- Comment 16:** **Add the word “minimum” to 05(C)(7). (Joel Hunt, CP, Arcadis)**
- Response 16:** This change was accepted and incorporated into rule language.
- Comment 17:** **Omit the term “falsifies” and add an “or” to 05(F)(3)(a). (Joel Hunt, CP, Arcadis)**
- Response 17:** The suggested grammatical correction was made to the rule language.
- Comment 18:** **It should be clarified whether “capable of detecting” means with normal dilutions and/or with multiple chemical adjustments. It is not clear what the CPs responsibility is if there are unexpected interferences and the detection limits turn out to be above applicable standards 05(E)(2)(k). (Joel Hunt, CP, Arcadis)**
- Response 18:** This language has been removed from the proposed rule and is addressed in rule 3745-300-08 – Generic Numerical Standards.
- Comment 19:** **Clarify and consistently use the terms “suspend”, “revoke”; and “permanently revoke”. How is suspend and revoke different if the rule allows for a “period of suspension:” and “a period of revocation”. I believe there are only two cases – “suspend or revoke” for a specified time and “revoke or permanently revoke” which means cannot be recertified. The following seems redundant and confusing. (Joel Hunt, CP, Arcadis)**
- Response 19:** The suspended, revoked and permanently revoked terms mainly relate to the reapplication process for a certified professional (CP). When a license is suspended, but not allowed to expire, the CP may renew the license as usual would not have to complete the initial certification again. If

the license is revoked, the CP must apply for recertification and complete the initial training again. If the license is permanently revoked, then the CP cannot be recertified. Additionally, the language in -05(F) has been reorganized to better match the language in section 3746.04 of the Revised Code. Therefore, this recommendation was accepted and incorporated into rule language.

**Comment 20:** **The following is problematic if a CP leaves the firm and the firm insists on retaining documents. Please consider clarification for this instance. 05(H)(1)(a) A certified professional must retain all documents prepared or acquired in connection with a voluntary action for a period of at least ten years. (Joel Hunt, CP, Arcadis)**

**Response 20:** The rule language reflects the statutory requirement, and therefore, it is proposed that the rule language remain as is.

**Comment 21:** **The language in OAC 3745-300-05(E)(2)(k) is troubling. The specific language that is troubling is “The Certified Professional is responsible for ensuring (guaranteeing) that the Certified Laboratory...is capable of detecting the chemical of concern on the property at or below the applicable standard”. This is, in a word, impossible in all cases. The supplemental unrestricted potable use standard for dibenz(a,h)anthracene is NOT quantifiable by any current Certified Laboratory. Another example is the risk-derived leach-based value for the herbicide MCPP. This compound is NOT quantifiable (without qualification of the data, which is generally a no-no) at the risk-derived leach-based value. Finally, matrix interferences are so common that even the best intentioned CP cannot ensure achievement of applicable standards by ordinary chemical analytical techniques. My concern with the language is the somewhat draconian terms in which the rule is set, and is listed under the code of conduct for CPs. It places the entire burden on the shoulders of the CP. Even the best-intentioned CP can slip on this language, with this rule language subsequently used against him or her as a code of conduct violation, despite his or her best efforts. (Matt Knecht, CP, HzW Environmental)**

**Response 21:** This language has been removed from this rule and is addressed in rule 3745-300-08 – Generic Numerical Standards. Therefore this suggestion was accepted and incorporated.

3745-300-06 Phase I Property Assessments:

- Comment 22:** **Correct spelling error in 06(C)(5)(d). (Joel Hunt, CP, Arcadis)**
- Response 22:** The suggested grammatical correction was made to the rule language.
- Comment 23:** **The reference in Rule 01 is ASTM E1527-13 but the text in Rule 06 says ASTM-E1527. Which ASTM E1527 is intended since ASTM E1527-13 was not yet written. (Joel Hunt, CP, Arcadis)**
- Response 23:** The version of ASTM E1527 would be the version in effect between the dates of September 28, 1994 and December 16, 1996. Therefore, the context dictates the version that would have been used at the time. The version that was in effect at the time was the original version of ASTM E1527 which was first published in 1993. Also, by only referencing ASTM E1527 the rule is consistent with the VAP statute because this requirement comes directly from the statute and it only references ASTM E15247. See ORC 3746.07(B).
- Comment 24:** **I believe that the following should be rearranged with the highlighted “as an identified area” moved to the end of the sentence. 06(E(1)(b) If the volunteer has reason to believe a release has or may have occurred on or from the property, but cannot visually observe or otherwise define the portion of the property that may have been affected by hazardous substances or petroleum, the volunteer shall designate the portion of the property as an identified area, suspected to be affected by the hazardous substances or petroleum. (Joel Hunt, CP, Arcadis)**
- Response 24:** The suggested change was incorporated into rule.
- Comment 25:** **Consider making the following de minimis definition language include all of the ASTM E1517-13 explanation which defines a de minimis condition as “a condition that generally does not present a threat to human health and the environment and that generally would not be the subject of an enforcement action if brought to the attention of the appropriate governmental agencies”. (Joel Hunt, CP, Arcadis)**
- Response 25:** Adding the highlighted language is too subjective and provides unclear instruction for use as rule criteria. The criteria of being “...a small quantity confined to a limited area of shallow depth of the soil surface that generally would not present a threat to human health, safety and the

*environment*” is more objective and appropriate for the VAP rule criteria. If a release meets the first set of criteria, the subjective phrase is not needed; therefore, the proposed language will remain as is.

**Comment 26:** Use “are not identified areas if both the following apply” instead of “might not be” in 06(E)(2)(b). (Joel Hunt, CP, Arcadis)

**Response 26:** This recommendation was accepted and incorporated into rule. However, the suggested change in paragraph 3745-300-06(E)(2)(b) required changes to paragraphs (E)(2)(b)(i) and (ii) as well for grammatical reasons.

**Comment 27:** Identifying the on-site impacts associated with vapor intrusion. This pathway may represent the biggest source of contaminants to receptors at a property. (Ed Council, Former CP, Advanced Geologic Services)

**Response 27:** This recommendation was accepted and incorporated into rule. Ohio EPA has added rule language based on the comment with modification for consistency with ASTM protocol.

**Comment 28:** A lot of information associated with potential releases on and off-site are included in “non-traditional” but easily searchable data bases such as google books or various groups that manage historic newspapers (i.e. newspapers.com, newspaperarchive.com, etc.). I usually consult these archives to identify issues such as early fires, chemical spills, historical data on commercial properties and other information on potential contamination sources that are not held by other data groups. As such modify (C)(2)(f). (Ed Council, Former CP, Advanced Geologic Services)

**Response 28:** This recommendation was accepted and incorporated into rule. Historical newspaper search engines, along with a few other examples, were added to make a non-comprehensive, but more informative, list of the sources of records for Phase I reviews.

**Comment 29:** OAC 3745-300-06(C)(3): how does the agency intend that CPs document “the reliability and completeness of [the information obtained through] interviews? Having practiced environmental consulting for 30 years now, I can attest that the interview process is the weakest link of the Phase I. People lie, people die, people forget and people embellish. An example: we recently completed a VAP action at a property where all the contamination

occurred prior to 1975. I was able to find only one living person (he is 86) who worked at the plant during the time that the contamination was occurring. It took me 3 months to track him down, and I found him mainly by dumb luck (his name was on a patent filed in the late 1960s while he was employed by the polluter). He told me what he knew, but his information was vague and only partly substantiated from the facts in the field. I considered his interview information reliable...up to a point. And there was no other living person who could document “the reliability and completeness” of the information he provided. Another example: I was told by the human resources manager that TCE had been dumped somewhat routinely in one portion of a property during the 1960s and early 1970s. The HR manager told me to talk to a retiree who I will call “Bob”. I called “Bob”, who denied any dumping of TCE, routine or otherwise. I called the HR manager, who then called Bob and told him that “I was on his side”, and that he should talk to me. I called Bob back and he said, “Oh, yeah, we used to dump it routinely ‘right there’”. He lied to me!! And if it had not been for the HR manager to run interference, I might never have gotten to the truth. One last example: at Columbus Coated Fabrics I was told by a former security guard (who had been laid off when the plant closed), “they used to bury drums – lots of them – over by the power house”. We ran geophysical, we dug test pits, we even did remedial excavations in the area indicated...no evidence of even a drum fragment in this area. She embellished (and/or lied)! Thus, documenting the reliability and completeness of the information provided during the interview process is an inexact process, and impossible in certain circumstances. (Matt Knecht, CP, HzW Environmental)

**Response 29:**

This recommendation was accepted and incorporated into rule with revisions added for clarification. Ohio EPA agrees that the interviewer is not in the position to document the reliability or completeness of information obtained during the interview. Therefore, the rule language has been revised to clarify that the main objective of the interview process is to conduct interviews with persons with relevant knowledge and allow them the opportunity to provide as much meaningful and relevant information about the property or surrounding properties as is reasonably possible. The responsibility of the interviewer focuses on documenting the information obtained during the interviews in the Phase I

report. Further, the VAP statute prohibits intentional deception of certified professionals, among other prohibitions that are subject to prosecution when known to occur. See ORC 3746.20(D).

**Comment 30:** **OAC 3745-300-06(E)(1)(c): I am not in favor of language indicating that an entire property may be designated an identified area if there is no information on the specific location of a release. For example: Ohio EPA records for a 34 acre parcel of land indicate a past spill, but the record is no more specific than to indicate the address and that 50 gallons of diesel fuel was spilled. It seems to me not a good idea to designate the entire 34 acres as an IA only because I don't know specifically where the release occurred. I know that the language says "may", but...suggest taking another look at this. (Matt Knecht, CP, HzW Environmental)**

**Response 30:** The option to designate the entire property as an identified area has been in the rule since the beginning of the VAP rules, and needs to be retained for those instances where historical information doesn't allow for further narrowing of the area to be investigated at the property. This is an important option for our volunteers and ensures that VAP properties are adequately investigated to evaluate compliance with applicable standards.

**Comment 31:** **OAC 3745-300-06(G)(4): the language would imply that, even if a Volunteer is not seeking a liability release for asbestos, that an asbestos survey should be performed of any buildings that will remain on a VAP property. I get it that if there has been a release of asbestos (or an alleged release of asbestos) to an environmental medium, the CP has an obligation to assess. But I don't understand why the language of (G)(4) has been inserted. I don't understand the intent, or why such a survey would be included as an appendix to the VAP Phase I, particularly if a release is not sought for ACM removed as part of a VAP remedy. I believe I also raised this at the Stakeholder Meeting that I attended. (Matt Knecht, CP, HzW Environmental)**

**Response 31:** This recommendation was accepted and incorporated into rule with revisions added. It is agreed that the rule language needed to be clarified. The (G)(4) concept will be retained, but the language has been modified to clarify that an asbestos survey is not a requirement of a VAP Phase I assessment.

**Comment 32:** I am concerned with the suggested deletion of “(J) A certified professional may not issue a no further action letter without performing a walk-over of the property and making a determination that the requirements of paragraph (I) of this rule have been met.” There needs to be a requirement for a Certified Professional’s involvement in the Phase I. If not a walk-over, at least in a technical review capacity. Otherwise, VAP Phase Is could be completed by individuals without the initial VAP training or without having working knowledge of the VAP rules. (Mike McKim, CP, URS)

**Response 32:** Although the requirement for a CP site walk-over was moved from the Phase I rule, the requirement for a CP to do a site walk-over prior to issuing an NFA letter still exists in the VAP rules. The requirement is now located in the NFA letter rule, OAC 3745-300-13 paragraph (D)(2). This was done in order to comply with the intent of the VAP statute, which allows anyone to conduct a voluntary action, including a Phase I assessment. The CPs role in the voluntary action is to review the work performed by others prior to issuing the NFA letter. It is agreed that requiring the CP to do a site walk-over prior to issuing the NFA letter is an important step, so it was retained and thus moved to the NFA letter rule.

3745-300-07 Phase II Property Assessments:

**Comment 33:** Reword as shown and use “or” instead of “and” in 07(A)(1). (Joel Hunt, CP, Arcadis)

**Response 33:** This suggestion was accepted and incorporated into rule.

**Comment 34:** Use of the word “begins” appears to be problematic because an iterative Phase II could last for 1 – 2 years. Suggest using “ends” instead of “begins” in 07(E)(2)(c). (Joel Hunt, CP, Arcadis)

**Response 34:** This language is statutorily based (see ORC 3746.04(B)(4)(a)). The referenced is not new rule language; however, it has been moved from rule 3745-300-06 to 3745-300-07. The intent of the statute, and hence rule language, is to ensure that the volunteer has a complete picture of known or suspected release areas on the property prior to commencing Phase II assessment activities. If the volunteer can assert that the environmental conditions had not changed since the completion of the Phase I assessment, then an update may not be required. This can provide the volunteer with greater discretion as to whether a Phase I assessment update is needed or not. The rule language that was proposed is proposed to remain as is.

**Comment 35:** For clarity, add “ground water” to 07(E)(1)(d). (Joel Hunt, CP, Arcadis)

**Response 35:** This suggestion was accepted and incorporated into rule.

**Comment 36:** **Modify or move the language to discussion of exceedance confirmation since it would prohibit a June and January seasonal sampling strategy, or prevent a second consultant to sample two years after a single VAP sample from a prior consultant in 07(F)(3)(a)(i). (Joel Hunt, CP, Arcadis)**

**Response 36:** This rule provision is intended to instruct a volunteer of the methodology used to confirm a sample result obtained when demonstrating if a ground water zone meets or exceeds unrestricted potable use standards. The intent of the rule is to instruct the volunteer to collect a sample as temporally close to the initial sample as possible, thereby reducing the effects outlined in 07(F)(3)(a)(ii) (e.g., temporal variations). The volunteer may institute a June and January seasonal sample strategy as long as the initial ground water sample collected is confirmed within the 48 hour to 90 day window. This rule provision is not newly proposed language, and the existing rule language is proposed to remain as previously promulgated.

**Comment 37:** **The highlighted reference to “table V” should be “table VI”. Furthermore, I don’t understand the intent of the final highlighted section. Why would someone use the potable use standard for a different pathway? 07(F)(3)(a)(iv) When demonstrating whether ground water meets or exceeds unrestricted potable use standards, calculations for the presence of multiple chemicals must be conducted in order to meet the human health and hazard levels described in paragraph (D)(2)(b)(i) of rule 3745-300-08 of the Administrative Code. The adjustment for multiple chemicals is required for both generic and property- specific unrestricted potable use standards. However, standards from table V in paragraph (D)(3)(b) of rule 3745-300-08 of the Administrative Code are not included in the calculations to adjust for multiple chemicals in the ground water zone. When making this demonstration, unrestricted potable use standards must not be adjusted to account for cumulative risk from exposure pathways other than potable use of ground water. (Joel Hunt, CP, Arcadis)**

**Response 37:** The intent of the highlighted rule provision is to instruct a volunteer not to sum the risk associated with unrestricted

potable use of groundwater with other complete exposure pathways that exist on the property for the purposes of determining whether unrestricted potable use standards are exceeded. In other words, the added risks created by the existence of other complete exposure pathways on the property (e.g., vapor intrusion, direct contact, etc.) do not affect the risk determination in this rule paragraph. Ohio EPA is proposing revised rule language to clarify the intent of this rule provision.

**Comment 38: Why are the generic soil leaching to ground water values or guidance document not referenced in 07(F)(4)(a)? (Joel Hunt, CP, Arcadis)**

**Response 38:** Soil leaching values cannot be referenced in either rule 3745-300-07 or 3745-300-08 because they are not considered applicable standards. The leach-based soil values are numbers which are calculated or generated through use of a model. The model results are included as part of an overall property-specific demonstration resulting in the determination that unrestricted potable use standards will not be exceeded in an underlying groundwater zone. Therefore unrestricted potable use standards, not the leach-based soil values, are the appropriate standards which are to be met as part of a leaching demonstration. Therefore the leach-based values, which by definition are not applicable standards, cannot be promulgated into rule.

Other guidance documents are referenced in rule (e.g., Ohio EPA's Technical Guidance Manual for Hydrogeologic Investigations and Ground Water Monitoring and Ohio EPA's Vapor Intrusion to Indoor Air - Sample Collection and Evaluation for the Remedial Response and Voluntary Action Programs guidance document). However, these documents provide a broad range of field sampling protocols and methodologies related to collection of representative samples. The Ohio Leach-Based Soil Values Support Document guidance is limited to an Ohio EPA recommended calculation methodology in which to generate leach-based soil values. There are multiple peer-reviewed and generally accepted methodologies in which to calculate leach-based values. Therefore Ohio EPA proposes maintaining the Leach-Based Soil Values guidance as a separate support document, and does not propose referencing it in rule.

**Comment 39: The use of "lowest" yield highlighted below seems inconsistent with the requirement to select the "highest" yield for tests. 07(F)(7)(d) For the purpose of comparing**

**the yield of the ground water zone being classified to another ground water zone present below the property in accordance with the criterion of paragraph (B)(2)(c) of rule 3745-300-10 of the Administrative Code, the yield of the other ground water zone, which is the likely source of water used for potable purposes within one mile of the property, must be determined based on the lowest yield of any wells within one mile of the property. If no wells used for potable purposes exist within one mile of the property, the ground water resources maps published by the Ohio department of natural resources may be used to determine the yield of another ground water zone present under the property, which would likely be the source of water used for potable purposes within one mile of the property should a well be developed. (Joel Hunt, CP, Arcadis)**

**Response 39:**

The intent of this rule is to determine the lowest or minimum yield of an aquifer from which ground water may be used for potable purposes. In essence, the determination instructs the volunteer to determine the likely source of potable ground water within one mile of the property which then serves as the baseline, or minimum, ground water yield that is being used for potable purposes. The rule directs volunteer to compare this baseline yield to an upper ground water zone for the purposes of class A or class B determination. It is not meant as a means in which to compare on-property yield with that of an off-property ground water yield, to determine if the on-property yield provides a similar result. This provision is not newly proposed language; therefore it is proposed to remain as previously promulgated.

**Comment 40:**

**Geomorphology seems to be a poor word choice since it focuses on surface features. Suggest using conceptual site model. (Joel Hunt, CP, Arcadis)**

**Response 40:**

The VAP agrees with this recommendation. The term geomorphology is inaccurate. The rule comment language is proposed to be removed in its entirety, because upon further review the clarification provided is not necessary.

**Comment 41:**

**(J)(4) – Insert “and/or written” to allow for smaller sites with a CSM that can be more easily described using a written format. A graphic and/or written representation of the conceptual site model that describes the relationships between contaminants, transport media and receptors on the property at the time of the no**

**further action letter issuance. (Ron Roelker, CP, AECOM)**

**Response 41:** The VAP agrees with this recommendation with the exception that “and/or” will be replaced with “or” only.

3745-300-08 Generic Numerical Standards:

**Comment 42:** Very minor thing in the grand scheme of the proposed rules, but Industrial is spelled wrong on Table II in the Appendix to Rule-08. Just something I noticed while looking through the new tables for Generic Standards. (Matt Pesci, The Mannik & Smith Group)

**Response 42:** The suggested grammatical correction was made to the rule language.

**Comment 43:** On a more significant note regarding the Generic Standards tables in Appendix A, the proposed format of every chemical being listed in alphabetical order is very user un-friendly. From a usability standpoint, it would be very helpful if the tables were separated into chemical classes (i.e. volatile organic compounds, semi-volatile compounds, inorganic compounds, etc.) as the current tables are formatted. Also, providing the final version of the tables in an electronic format (Excel) would also be very useful to consultants for generating comparison tables. (Matt Pesci, The Mannik & Smith Group)

**Response 43:** While we understand the benefits of listing the chemicals by chemical class, the chemicals in OAC 3745-300-08 Appendix A are organized in alphabetical order because this allows users to easily find a chemical without knowing its chemical class which, in some instances, might be viewed as arbitrary (e.g. volatile vs. semi-volatile). The tables in Appendix A cannot be provided in electronic (Microsoft Excel) format in the rules themselves due to the limitations of our rule software. However, similar to the current CIDARS database, the final versions of the tables in Appendix A and in the VAP Support Document will be available to the public on the VAP website in electronic (Microsoft Excel) format. This will allow users to readily view the generic numerical standards, physical and chemical properties, and toxicity information for each chemical. This will also allow users to reorganize chemicals from their current alphabetical organization to chemical classes, for instance.

**Comment 44:** I have been reviewing the proposed Table VI: Generic unrestricted potable use standards based on maximum contaminant levels and am wondering about a chemical that is no longer listed that used to be. cis-1,2-dichloroethene (cis-1,2,-DCE) with CAS #156-59-2 is not listed in the Proposed Table, but is listed in the current standard. Just curious to see if this is an oversight, or if it is truly being dropped as a listed chemical. (Matt Pesci, The Mannik & Smith Group)

**Response 44:** Not all MCLs promulgated by the USEPA are listed in Table VI. Cis-1,2-dichloroethylene is not a hazardous or petroleum-related substance according to the VAP statute (see below).  
Chapter 3746: VOLUNTARY ACTION PROGRAM  
3746.01 Voluntary action program definitions.  
(I) "Hazardous substance" includes all of the following:  
(1) Any substance identified or listed in rules adopted under division (B)(1)(c) of section 3750.02 of the Revised Code;  
(2) Any product registered as a pesticide under section 921.02 of the Revised Code when the product is used in a manner inconsistent with its required labeling;  
(3) Any product formerly registered as a pesticide under that section for which the registration was suspended or canceled under section 921.05 of the Revised Code;  
(4) Any mixture of a substance described in divisions (I)(1) to (3) of this section with a radioactive material.  
3750.02.....  
(B) The commission shall:  
(1) Adopt rules in accordance with Chapter 119. of the Revised Code that are consistent with and equivalent in scope, content, and coverage to the "Emergency Planning and Community Right-To-Know Act of 1986," 100 Stat. 1729, 42 U.S.C.A. 11001 , and applicable regulations adopted under it:  
(a) Identifying or listing extremely hazardous substances and establishing a threshold planning quantity for each such substance. To the extent consistent with that act and applicable regulations adopted under it, the rules may establish threshold planning quantities based upon classes of those substances or categories of facilities at which such substances are present.  
(b) Listing hazardous chemicals, establishing threshold quantities for those chemicals, establishing categories of health and physical hazards of those chemicals, establishing criteria or procedures for identifying those chemicals and the appropriate hazard categories of those chemicals, and establishing ranges of quantities for those chemicals to be used in preparing emergency and hazardous chemical

inventory forms under section 3750.08 of the Revised Code. To the extent consistent with that act and applicable regulations adopted under it, the rules may establish threshold quantities based upon classes of those chemicals or categories of facilities where those chemicals are present. To the extent consistent with that act, the threshold quantities for purposes of the submission of lists of hazardous chemicals under section 3750.07 and the submission of emergency and hazardous chemical inventory forms under section 3750.08 of the Revised Code may differ.

(c) Identifying or listing hazardous substances and establishing reportable quantities of each of those substances and each extremely hazardous substance. In addition to being consistent with and equivalent in scope, content, and coverage to that act and applicable regulations adopted under it, the rules shall be consistent with and equivalent in scope, content, and coverage to regulations identifying or listing hazardous substances and reportable quantities of those substances adopted under the "Comprehensive Environmental Response, Compensation, and Liability Act of 1980," 94 Stat. 2779, 42 U.S.C.A. 9602 , as amended.

Therefore, its MCL is not an applicable standard in the VAP. The MCLs listed in Table VI are only for those chemicals that are hazardous or petroleum-related substances and also included in the generic soil direct-contact numerical standards. We believe that previous inclusion of cis-1,2-dichloroethene (cis-1,2,-DCE) with CAS #156-59-2 is in error.

**Comment 45:** **Is there a table somewhere that shows, in red-line and strike out, the proposed changes to existing GNS and UPUS VAP standards. (Shawn Fiore, CP, Haley & Aldrich)**

**Response 45:** There is no red-line strike-out for the generic numerical standards tables, and there are a variety of reasons for this:

- (1) Changes to all GNS are proposed (to varying degrees) based on the new deterministic values.
- (2) Hundreds of COCs were added to the GNS tables.
- (3) GNS for indoor air due to vapor intrusion were added.
- (4) COCs were completely reorganized to be in alphabetical order. Because of these reasons, it would be difficult to show in a red-line strike-out format.

**Comment 46:** **Land Use Definitions in OAC 3745-300-08(C)(2): The revised descriptions of residential and commercial land**

use in OAC 3745-300-08(C)(2)(a) and (b) are useful and positive. The revised definitions clarify the meaning of restricted land use, and do not categorically include all school and day care functions within a strictly residential land use. The paragraph cautions that commercial land use may not be appropriate for some types of school or day care facilities. Due to the importance of educational and day care operations at many commercial facilities (including churches and community centers), clarification of the circumstances under which commercial land use may or may not be appropriate for school and day care facilities should be provided so that maximum benefit may be obtained under real estate reuse. (Kara Allison, Hull & Associates, Inc.)

**Response 46:** Ohio EPA agrees with the commenter's concern that clarification will facilitate the use of the proposed changes. Ohio EPA would prefer to keep prescriptive definitions out of the rules. Ohio EPA will provide this clarification through VAP specific guidance, such as a Technical Guidance Compendium document.

**Comment 47:** **Moving from Probabilistic to Deterministic Methodology for Determination of Generic Standards:** The probabilistic methodology for deriving the generic numerical standards (GNS) for direct contact soils and risk-derived unrestricted potable use standards is an important part of the VAP. Paragraph (B)(1) of Section 3746.04 of the Ohio Revised Code states that when developing the GNS, the Director "shall consider such factors as all of the following: (a) scientific information, including, without limitation, toxicological information and realistic assumptions regarding human and environmental exposure to hazardous substances or petroleum; (b) climatic factors; (c) human activity patterns; (d) current statistical techniques." The probabilistic methodology for deriving GNS promotes each of these objectives. The GNS are based on the quantification of exposures for each receptor population, the toxicological criteria for each chemical of concern (based upon endpoint and route of exposure), and the target non-cancer hazard or excess lifetime cancer risk. In the probabilistic methodology, the exposures of each receptor population are quantified by evaluating a large number (e.g., 10,000 iterations) of exposure scenarios. The use of a range of values for the key exposure factors provides a more

realistic representation of each exposure factor than a single point estimate for all individuals in a population. The range of values (i.e., distributions) for exposure factors account for each of the considerations described above: scientific information (e.g., well defined population-based distributions for body weight); climatic factors (e.g., a distribution for skin surface area exposed, based on weather-appropriate clothing); and human activity patterns (e.g., distribution for exposure duration for commercial/industrial workers based on census job tenure data; distribution exposure time for dermal contact with water, based on time spent in the shower or bath); and current statistical techniques (i.e., the use of a 90th-percentile exposure scenario from among the 10,000 iterations to represent a plausible upper-bound exposure scenario for each receptor population). The use of probability distributions for key exposure parameters accounts for both population variability and the uncertainty associated with the estimation of exposure factor values.

The use of a 90th-percentile exposure scenario from the population of outcomes improves the likelihood that the estimate of upper-bound exposure is based on plausible and realistic assumptions, and reduces the likelihood that the estimate of exposure is a conjectural scenario, or is an estimate representative of an exposure associated with the far end of the upper tail of the distribution of exposures. Therefore, moving from a probabilistic to a deterministic methodology for derivation of GNS is of concern in that it will diminish the capacity of the GNS to represent the “reasonable exposure for [each] category of land use,” as stated in the statute. (Kara Allison, Hull & Associates, Inc.)

**Response 47:**

Ohio Revised Code (ORC) 3746.04(B) discusses the requirements to derive the Generic Numerical Standards (GNS) based on land use and reasonable exposure for each category of land use. Ohio EPA’s use of the deterministic, exposure point value methodology for deriving GNS produces a result that is easier to follow and replicate. It is consistent with the statute and Ohio’s other cleanup programs, as well as being consistent with other state and USEPA risk assessment procedures. When Ohio EPA considered switching to a deterministic methodology for deriving the GNS, we made sure the requirements of ORC 3746.04(B) were addressed.

The use of the deterministic methodology established by USEPA provides a clear, technically defensible evaluation

that also incorporates an up to date toxicity criteria database. Many of the former distributions or ranges of exposure assumption values used in the probabilistic methodology were difficult to communicate and understand in part because best professional judgment was applied to construct the distributions chosen.

- Scientific information:

The exposure assumptions used to derive the GNS using deterministic methods incorporates USEPA recommended defaults and uses Ohio specific exposure parameters and factors to derive reasonable maximum exposure conditions protective of long-term, chronic exposures consistent with current scientific and toxicological information.

- Climatic factors, human activity and current statistical techniques:

Ohio local climatic data and human activity patterns based on land use were considered in the development of the revised GNS. The statistical techniques used to derive the GNS are consistent with current guidance provided by USEPA and other states.

- Other benefits to using deterministic over probabilistic methodology to develop GNS:

In the past, Volunteers requested Ohio EPA to derive standards for chemicals of concern when a GNS was not available. Now they are readily available. Ohio EPA and stakeholder resources are increasingly limited, and using a deterministic methodology is far less labor intensive than the probabilistic methodology. As a result, GNS were readily derived for a much larger number of chemicals of concern.

The concentrations of GNS derived using the deterministic methodology are, in general, similar to the GNS previously calculated using the probabilistic methodology. The revised GNS were developed using current scientific information and consider Ohio's climatic factors and human activity as required by the statute.

A volunteer may elect to conduct a probabilistic risk assessment to derive standards in accordance with the procedures established in OAC 3745-300-09 should they so desire.

**Comment 48:** Using the RSL ‘constructs’ for the GNS: The purpose of screening levels and clean-up standards are similar, but distinctly different. Screening levels are representative of concentrations that are assumed to pose a negligible non-cancer hazard or excess lifetime cancer risk, without further evaluation. Clean-up standards are the levels of a chemical of concern that, once achieved by remedial actions, demonstrate that conditions at the property are protective of human health. The Regional Screening Levels (RSLs) are aptly named, because they represent a conservative estimate of a concentration that poses negligible hazard and risk. The RSLs are based on a deterministic methodology, multiplying several to many upper-bound exposure factor values to predict an upper bound exposure estimate that likely results in a conjectural exposure associated with the far end of the upper tail of the distribution of exposures. The RSLs include toxicity criteria from a large number of sources; when criteria are not available from the preferred source (U.S. EPA’s Integrated Risk Information System, or IRIS), the RSLs are based on provisional values from other sources. In some instances, the toxicity criteria provided by other sources are not consistent with the toxicity evaluations provided on IRIS; the RSLs provide numerical cancer-based screening levels for chemicals that have not been definitively classified as carcinogens by U.S. EPA using its weight-of-evidence classification system, as reported on IRIS (e.g., ethylbenzene, methyl-tertiary-butyl ether, and hexavalent chromium by the oral route of exposure). Therefore, the RSLs are more useful as screening levels than as generic numerical clean-up standards. Although altering the target excess cancer risk to  $1 \times 10^{-5}$  does address appropriate target levels of single-chemical excess lifetime cancer risk, it does not by itself convert screening levels to generic numerical clean-up standards. Generic numerical clean-up standards should be based, as reasonably possible, on a consistent basis for hazard assessment (i.e., identifying the health effects endpoints associated with exposures to a chemical, based on exposure period and route of exposure), toxicity assessment (assessing the magnitude of potential health effects based on a consistent system for identifying adverse health effects and the likelihood of carcinogenic potential), exposure assessment (utilizing realistic assumptions regarding human and environmental exposures, including

**climatic factors and human activity patterns), and risk characterization for non-cancer effects (appropriate target levels of single-chemical non-cancer hazard, and aggregate and cumulative hazards based on principles of dose addition) and cancer effects (appropriate target levels of single-chemical excess lifetime cancer risks, and aggregate and cumulative risks based on principles of dose addition for threshold carcinogens, or response addition for non-threshold carcinogens, as appropriate). The development of GNS and risk assessment methodology that incorporate as many of these elements as practicable is a sound basis for implementing these risk assessment principles. (Kara Allison, Hull & Associates, Inc.)**

**Response 48:**

The VAP has not contemplated screening out COCs from further evaluation because the statutory language requires the development of applicable standards for all releases. Therefore, the generic numerical standards are clean-up standards as opposed to screening levels. Furthermore, Ohio EPA's use of the deterministic methodology for deriving generic numerical standards is consistent with the statute and Ohio's other clean-up programs, as well as being consistent with other state and USEPA risk assessment procedures.

Ohio EPA strives to use the most up-to-date, yet defensible, toxicity data available. The Regional Screening Levels (RSLs) do include screening toxicity values from PPRTV appendices. While these values receive some external peer review along with the PPRTV assessments, there is more uncertainty associated with these values. The screening toxicity values from PPRTV appendices are often based on surrogates, only one toxicity study, and low-confidence toxicity studies. For these reasons, the VAP has not used screening toxicity values from PPRTV appendices in the generation of generic numerical standards, even though they are considered a third tier source for the RSLs. However, Ohio EPA does use reliable third tier sources (e.g., California EPA and New Jersey Department of Environmental Protection) in instances when IRIS toxicological profiles for some chemicals (e.g., chromium VI, ethylbenzene, and methyl-tertiary-butyl ether) have not yet been updated to consider new toxicological studies. The toxicity values from

these third tier sources undergo public and/or peer review prior to being made available for official use.

The generic numerical standards incorporate both upper bound and central tendency, Ohio-specific exposure factors, in addition to a target excess cancer risk to  $1 \times 10^{-5}$ , to assess reasonable maximum exposure conditions protective of long-term, chronic exposures consistent with current scientific and toxicological information. While the exposure factors used in the derivation of the generic numerical standards are often consistent with US EPA recommended defaults used for the RSLs that is not always the case. For example, Ohio EPA uses a soil ingestion rate of 200 mg/day for construction/excavation workers as opposed to the USEPA recommended default of 330 mg/day. Ohio EPA also uses a Fraction Contaminated (FC), which represents the proportion of soil contaminated by a release at a property, of 0.5. This is consistent with the formerly used uniform distribution of 0.01 to 1.0. Furthermore, Ohio local climatic data and human activity patterns based on land use were considered in the development of the revised generic numerical standards. Therefore, the generic numerical standards were developed on a consistent basis for hazard assessment, toxicity assessment, exposure assessment, and risk characterization that meets the requirements of ORC 3746.04(B).

**Comment 49:** **Any Major Concerns with the Resulting Values: Despite the large numbers of chemicals for which direct contact soil standards have been added, it was noted during Hull's initial review of the latest proposed rules that there are no proposed direct contact soil standards for barium, chloroethane, cobalt, cyanides (total), cis-1,2-dichloroethene, DDD, DDE, DDT, Di-n-butyl-phthalate, thallium, 1,2,3-trimethylbenzene or 1,3,5-trimethylbenzene. It is not uncommon for several of these chemicals to be encountered at a site and (with the exception of 1,2,3-trimethylbenzene) have direct contact soil standards under the existing rule. Although proposed direct contact soil standards are provided for hydrogen cyanide and specific cyanide salts (e.g., potassium cyanide, sodium cyanide, zinc cyanide), SW-846 analytical methods for soils are based on various forms of cyanides, including amenable cyanide, total**

**cyanides and weak acid dissociable cyanides. Cyanide speciation methods are not generally available by certified laboratories. Similarly, the available methods for thallium analysis do not provide for thallium speciation. Unrestricted potable use standards are proposed for cyanides and thallium, and direct contact soil standards should be provided as well. Although 1,2,3-trimethylbenzene and 1,3,5-trimethylbenzene are not listed as hazardous substances (while 1,2,4-trimethylbenzene is listed), the 1,2,3- and 1,3,5- isomers are frequently encountered and may be addressed under the VAP as petroleum constituents. Therefore, direct contact soil, indoor air and potable use water standards for all three isomers may be useful. Although 1,2-dichloroethene is listed as hazardous substance (CASRN 156-60-5), neither the cis- nor trans- isomers of 1,2-dichloroethene are specifically listed as hazardous substances. The VAP has proposed direct contact soil and indoor air standards for trans-1,2-dichloroethene only. Therefore, the generic standards should either include total 1,2- dichloroethene (i.e., the listed hazardous substance), or otherwise include standards for both the cis- and trans- isomers of 1,2-dichloroethene (alternate isomers of the listed hazardous substance). Several proposed GNS are problematic. The residential, commercial/industrial and construction/excavation direct contact soil standards for sulfuric acid are 250,000 mg/kg, 1,000,000 mg/kg, and 250,000 mg/kg, respectively. Similarly, hydrogen chloride has proposed direct contact soil standards of 1,000,000 mg/kg for all three use categories (residential land use, commercial/industrial land use and construction/excavation activities), suggesting that the hydrochloric acid content of these soils can be 1,000,000 parts per million and still be protective of human health. It is not certain whether such concentrations are measurable, let alone protective. These results suggest that the mere adoption and modification of the RSL methodology is not sufficient to ensure health-protective standards. A more robust methodology is needed, so that each endpoint value (i.e., the values for the non-cancer endpoint, cancer endpoint, soil saturation and standard) for each chemical in each land use or activity use category is individually scrutinized before promulgation as a health-protective standard. The need for scrutiny of the proposed VAP standards is particularly relevant, since**

the RSL tables are updated twice annually, allowing frequent opportunities for corrections or changes; the RSL values are not regulation and are not subject to public comment and review. By contrast, the Maximum Contaminant Levels, which have been adopted (as available) as generic unrestricted potable use standards, have been promulgated as regulation in OAC 3745-81 and thereby have undergone a robust level of public comment; therefore, the adoption of MCLs as GNS is appropriate. The proposed direct contact standard for hexavalent chromium is 24 mg/kg for residential land use and 210 mg/kg for commercial /industrial land use, based on the oral slope factor from New Jersey DEP (i.e.,  $5 \times 10^{-1}$  [mg/kg-d]<sup>-1</sup>). Hexavalent chromium has been described as Class D (not classifiable as to carcinogenicity by the oral route of exposure) by U.S. EPA on IRIS. It is not clear why a standard would be based upon information from a source (New Jersey DEP) that is not even listed as a secondary source in the Support Document for the Development of Generic Numerical Standards and Risk Assessment Procedures (January 2014, Part B.2, p. 36), particularly when the value is not consistent with the carcinogenicity determination on the Integrated Risk Information System, which is identified as the “most reliable source of toxicity information.” It would be useful if each of the proposed standards were to be reviewed with the VAP Certified Laboratories to determine whether the methods are capable of quantifying the proposed standards. One case in point is the proposed direct contact soil standards for 2,3,7,8-TCDD of 0.00009 mg/kg, 0.00063 mg/kg and 0.010 mg/kg for residential land use, commercial/industrial land use and construction/excavation activities, respectively; and an unrestricted potable use standard of 0.000003 ug/L. If VAP Certified Laboratories cannot achieve the proposed standard, then perhaps it is best to defer the assessment of specific chemicals to special assessment methods on a case-by-case basis, within the scope of a property-specific risk assessment. (Kara Allison, Hull & Associates, Inc.)

**Response 49:**

Hull and Associates has expressed concern that during review of the proposed Voluntary Action Program (VAP) rules that there are no proposed generic numerical direct-contact soil standards for barium, chloroethane, cobalt, cyanides (total), cis-1,2-dichloroethene, DDD, DDE, DDT, di-

n-butyl-phthalate, thallium, 1,2,3-trimethylbenzene or 1,3,5-trimethylbenzene.

Generic numerical direct-contact soil standards are included in Appendix A of OAC 3745-300-08 for chloroethane (as ethyl chloride), cyanide (CN-), DDD, DDE-p,p', DDT, and dibutyl phthlate. Chloroethane will be added in parentheses behind ethyl chloride for further clarification.

Generic numerical direct-contact soil standards for the remaining chemicals were not generated for the following reasons.

**Barium and Cobalt:**

Barium and cobalt are not listed as hazardous substances in 40 CFR 302.4, and are, therefore, not considered hazardous substances in accordance with ORC 3746.01(I) or OAC 3745-300-01(A)(60). For this reason, generic numerical standards have not been generated for these constituents.

**Thallium:**

Thallium only has a screening toxicity value from PPRTV appendices available for use. While these values receive some external peer review along with the PPRTV assessments, there is more uncertainty associated with these values. The screening toxicity values from PPRTV appendices are often based on surrogates, only one toxicity study, and low-confidence toxicity studies. For these reasons, the VAP has not used screening toxicity values from PPRTV appendices in the generation of generic numerical standards, even though they are considered a third tier source for Regional Screening Levels (RSLs). However, the Certified Professional may still evaluate thallium, as well as other hazardous substances or petroleum-related constituents with screening toxicity values from PPRTV appendices, in a property-specific risk assessment conducted in accordance with OAC 3745-300-09.

**1,2,3-Trimethylbenzene and 1,3,5-trimethylbenzene:**

1,2,3-Trimethylbenzene and 1,3,5-trimethylbenzene are not listed as hazardous substances in 40 CFR 302.4, and are, therefore, not considered hazardous substances in accordance with ORC 3746.01(I) or OAC 3745-300-01(A)(60). However, it is correct that 1,2,3-trimethylbenzene and 1,3,5-trimethylbenzene are petroleum related substances. 1,3,5-Trimethylbenzene, however, only has a

screening toxicity value from PPRTV appendices available for use. Therefore, 1,3,5-trimethylbenzene was not included in the generic numerical standards. 1,2,3-Trimethylbenzene does have a PPRTV RfC available. The Tables in Appendix A of OAC 3745-300-08 will therefore be revised to include generic numerical direct-contact soil standards for 1,2,3-trimethylbenzene.

**Cis- and trans-1,2-dichloroethene:**

It is also correct that 1,2-dichloroethylene is listed as a hazardous substance with the CASRN 156-60-5. This is the CASRN for trans-1,2-dichloroethene, for which generic numerical direct-contact soil standards are included in Appendix A of OAC 3745-300-08. The CASRN for 1,2-dichloroethylene (mixed isomers) is 540-59-0. While cis-1,2-dichloroethene is a degradation product of trichloroethene, cis-1,2-dichloroethene is not considered a hazardous substance. For these reasons, the VAP will not generate generic numerical standards for cis-1,2-dichloroethene.

**Hydrogen chloride, hydrogen sulfide, sulfuric acid, and other chemicals with 1,000,000 mg/kg generic numerical direct contact soil standards:**

A soil standard of 1,000,000 mg/kg indicates that there is little risk associated with low level, chronic, soil direct-contact exposure for these chemicals. Whenever a generic numerical soil direct contact standard exceeds unity (1,000,000 mg/kg), that soil direct contact standard was set at 1,000,000 mg/kg; this is consistent with the current generic numerical standards. In some instances, the soil standards for all exposure scenarios (e.g., hydrogen chloride) default to 1,000,000 mg/kg. The construction/excavation generic numerical direct-contact soil standard of 250,000 mg/kg for sulfuric acid, for example, indicates that there is greater risk associated with the intensive, short-term exposures associated with construction/excavation activities than with the activities performed in a commercial/industrial setting. As part of the VAP, the Volunteer must demonstrate that the concentration of each chemical in soil is protective of human health and the environment – regardless of how little risk that chemical might impart – if that chemical is a hazardous or petroleum-related substance. Therefore, chemicals with generic numerical soil direct-contact standards of 1,000,000 mg/kg were included in the generic numerical standards in order to aid the Volunteer in demonstrating compliance with applicable standards.

However, it was noted that the RSLs include residential and industrial air screening levels for several chemicals (e.g. hydrogen sulfide and cyanide) that indicate vapor intrusion may pose a greater risk than soil direct-contact; however, no generic indoor air standards due to vapor intrusion were generated for these chemicals. Therefore, Table IV and Table V will be revised to include these chemicals in the generic indoor air standards due to vapor intrusion for residential land use and commercial/industrial land use.

**RSL methods:**

It was indicated that the RSL methods are not sufficiently protective of human health. The RSL methods were used as a starting point for the development of generic numerical standards for the VAP (and much of the formatting was retained) in order to facilitate the addition of many chemicals when developing standards deterministically. The methods (i.e. the equations used to combine intake factors and toxicity values to calculate the values for the non-cancer and cancer endpoints, as well as equations used to calculate soil saturation values) used by the RSLs is consistent with that recommended by the U.S. EPA (e.g., RAGS). These methods that were used to generate the proposed VAP generic numerical standards are also recommended for property-specific risk assessments in the support document for the current VAP generic numerical standards. The proposed generic numerical standards for the VAP based on U.S. EPA methods are considered to be protective of human health. Also, please refer to Ohio EPA's response regarding the use of deterministic (vs. probabilistic) methods for the derivation of generic numerical standards for additional information regarding Ohio EPA's adoption of these U.S. EPA methods.

It is correct that the RSLs are updated twice a year. These updates typically include updated toxicity values, additional chemicals, and improvements aimed at making the spreadsheets and calculator more user-friendly; however, the framework remains consistent with that recommended by U.S. EPA.

Furthermore, it is correct that the RSL values are not subject to formal public comment and review whereas the Maximum Contaminant Levels (MCLs) have undergone public comment. The VAP generic numerical standards are also made available for public review and comment prior to

becoming effective. Additionally, the VAP generic numerical standards are subject to considerable internal review for quality assurance and quality control prior to rule promulgation.

**Chromium (VI):**

It is correct that IRIS states that carcinogenicity for chromium (VI) cannot be determined by the oral route of exposure, and is classified as Group D. Furthermore, IRIS is the first tier in the toxicity hierarchy for toxicity values for the VAP.

However, The IRIS carcinogenicity assessment has not been updated since 1998. The New Jersey oral slope factor, which is considered a third tier source, was developed from a 2008 National Toxicology Program (NTP) chronic bioassay of rats and mice exposed to sodium dichromate dehydrate, a highly soluble form of hexavalent chromium, in drinking water. The VAP strives to use the most-up-to-date, yet defensible, toxicity data available. Until the IRIS toxicity profile for hexavalent chromium is updated, the VAP will use the New Jersey slope factor.

**VAP standards and Certified Labs:**

Ohio EPA is aware that there have been instances where applicable and/or supplemental standards have been lower than what Certified Laboratory methods could detect. Therefore, OAC 3745-300-07(D)(2) was revised to include language that will allow Certified Professionals to use an appropriate method detection limit as a representation of an applicable standard for chemicals of concern where the certified laboratory is not capable of detecting the COC at or below the applicable standard until such time that a lower detection limit can be achieved.

3745-300-09 Property Specific Risk Assessment Procedures:

**Comment 50:** **Selection of Chemicals of Concern [OAC 3745-300-09(D)(3)(a)]:** The caveat that all hazardous substances or petroleum identified at the property must be evaluated unless: (1) they are essential human nutrients; or (2) they contribute less than 1% of the estimated hazard or risk in accordance with RAGS Part A, has been removed from the proposed rule. It is assumed that the essential human nutrient provision has been removed since the listed essential nutrients (iron, magnesium, calcium, potassium, and sodium) are not hazardous substances and do not require evaluation under the VAP. The second provision may have been removed as a

**cumbersome tool. Nevertheless, the concept of screening for the selection of chemicals of concern is a valid risk assessment concept; it enhances the quality of risk assessments by focusing attention on the key chemicals of concern at a property. It would be useful if screening were to be introduced into the risk assessment methodology for the VAP. There are several useful screening tools, including frequency of detection screens and conservative screening levels; thus, the RSLs (derived on the basis of a hazard quotient of 0.1 and an excess lifetime cancer risk of  $1 \times 10^{-6}$ , and excluding problematic RSLs such as those for sulfuric acid and hydrogen chloride) may well be used as actual screening levels, the purpose for which they were originally intended. (Kara Allison, Hull & Associates, Inc.)**

**Response 50:** The VAP has not contemplated screening out COCs from further evaluation because the statutory language requires the development of applicable standards for all releases of hazardous substances and petroleum. In addition, a volunteer is not required to fully delineate the nature and extent of releases on a property (which would then be subject to a screening evaluation), but directs the Volunteer to evaluate releases from the property as they relate to complete exposure pathways.

**Comment 51:** **GNS for Indoor Air, and Evaluation of Indoor Air by Modeling:** The addition of indoor air GNS for residential and commercial/industrial land uses represents a new set of VAP standards that allow direct comparison of indoor air concentrations to GNS; this concept is a useful addition to the rule. In many circumstances, the prediction of indoor air concentrations by modeling (based on the concentrations of volatile COCs in sub-slab vapor, soil gas, soil and groundwater) will remain an important tool for risk assessment. Therefore, it is important that the role of indoor air modeling, in which the indoor air standards serve as the target indoor air concentration, be recognized in the proposed rule. The addition of a paragraph to proposed rule 3745-300-08 to describe indoor air modeling would be useful. This paragraph would be similar in scope and intent to Paragraph (J) of Proposed Rule 3745-300-08, which describes the development of leach-based soil standards based on fate and transport modeling. (Kara Allison, Hull & Associates, Inc.)

- Response 51:** Ohio EPA is revising the indoor air guidance document for remedial, voluntary and RCRA programs and specific recommendations on data collection, evaluation, and modeling have not yet been finalized. Providing rule language on modeling tools to evaluate contaminant transport to indoor air would serve to lock in the evaluation of groundwater, soil, or soil gas media to specific procedures and may require rule revision when the guidance document becomes final. In addition, modeling for demonstrations in a voluntary action may be used as long as the model comports with OAC 3745-300-07(G).
- Comment 52:** **Direct Contact Groundwater Standards for Construction/Excavation Workers: The exposure of construction/excavation workers to shallow groundwater during excavation and grading activities is evaluated in many VAP risk assessments. Therefore, a set of GNS to evaluate these exposures would be a useful complement to the direct contact soil standards for construction/excavation activities. These additional GNS would be more useful than many dozens of the proposed direct contact soil standards for chemicals that will seldom, if ever, be assessed at VAP sites (e.g., acrylic acid, acrylamide, allyl alcohol, 4-aminobiphenyl, and auramine, to name just a few from the list of GNS starting with the letter 'A'). (Kara Allison, Hull & Associates, Inc.)**
- Response 52:** The direct contact groundwater exposures for construction/excavation workers are highly property-specific in nature. The exposure assumptions (i.e., exposure frequency and exposure time) and other assumptions (i.e., trench dimensions) can be highly variable from property to property. The exposure on a vacant site where redevelopment is anticipated may differ from a developed site where exposure is only anticipated for utility maintenance. Ohio EPA does provide guidance for evaluating this exposure pathway on a property-specific basis, through the technical guidance compendium. Therefore, the VAP does not plan to generate generic numerical standards for this exposure pathway.
- Comment 53:** **(F) Procedures for assessment and remediation of sediments. The proposed revisions shown below have been described by OEPA as clarifications. However, these changes can be interpreted as fundamental change in the rule that will require assessment of off-Property sediment where no on-Property sediment**

exists. Potentially complete pathways from on-Property non-sediment sources to off-Property sediment should be specified in the proposed rule changes.

(1) For each complete exposure pathway from source areas on the property to sediments ~~from sediments on or emanating from the property to human receptors identified in accordance with paragraph (F)(1) of rule 3745-300-07 of the Administrative Code~~, the volunteer must determine if concentrations of chemicals of concern in sediments meet applicable standards in accordance with paragraph (G)(H) of rule 3745-300-08 of the Administrative Code, or conduct a human health property-specific risk assessment following the methodology outlined in paragraph (D) of this rule. For purposes of this rule and rule 3745-300-07 of the Administrative Code, an exposure pathway to humans is considered to exist if the surface water which contains the sediments produces or can produce a consistent supply of edible-sized fish and chemicals of concern that are persistent, bioaccumulative and toxic are present in the sediment or the surface water or if the surface water which contains the sediments is reasonably anticipated to support recreational activities such as wading, fishing, swimming, and boating.

(2) For each complete exposure pathway from sediments ~~on the property~~ to important ecological resources where applicable standards determined in accordance with paragraph (H)(2)(I)(2) of rule 3745-300-08 of the Administrative Code have not been met or sediment samples were not compared to the appropriate values in accordance with paragraph (H)(I) of rule 3745-300-08 of the Administrative Code, the volunteer must evaluate the sediment toxicity must be evaluated according to the following methodology:..(Mike McKim, CP, URS)

**Response 53:**

Ohio EPA believes that the commenter's concern is addressed without the further revision recommended by the commenter. The revisions to rule 3745-300-09(F) as proposed encompass a complete exposure pathway (determined based on the rule 3745-300-07 process) from a source area at the voluntary action property (source area is defined by rule 3745-300-01), to the affected sediments. The revisions clarify that the volunteer is to respond to any sediment contamination originating from any on-property source area. The sediments containing releases from the

source area would undergo assessment and remediation, as needed, to comply with applicable standards at locations where the release is emanating or has emanated. The contamination may have emanated from any type of source area, i.e., from soil, surface water or sediment at the property, to another sediment location. See also OAC 3745-300-07(I) for applying the derived standards to the affected media.

3745-300-10 Groundwater:

**Comment 54:** Letter was sent in regard to pocket communities and USDs. See attached letter. (Mayor Trevor Elkins, Village of Newburgh Heights)

**Response 54:** The proposed draft rule OAC 3745-300-10(C)(1)(a) expands eligibility for urban setting designations (USD) to include a community, such as a village, that is surrounded by:

- City(ies); or
- Township(s) with populations of twenty-thousand or more residents in unincorporated areas; or
- The unincorporated portion of a township that has an average population density of six-hundred-fifty people per square mile in the unincorporated area; or
- A former township that is entirely composed of municipal corporations; or
- An area that is completely surrounded by areas that are otherwise eligible as described above.

Since all townships in Cuyahoga County are fully incorporated, the Village of Newburgh Heights would be eligible for a USD. Under these circumstances, individual properties within Newburgh Heights would also be eligible for a USD.

**Comment 55:** Letter was sent in regard to modifications of the rule in regard to USDs. See attached letter. (Mayor Jack Bacci, Village of Cuyahoga Heights)

**Response 55:** The proposed draft rule OAC 3745-300-10(C)(1)(a) expands eligibility for urban setting designations (USD) to include a community, such as a village, that is surrounded by:

- City(ies); or
- Township(s) with populations of twenty-thousand or more residents in unincorporated areas; or

- The unincorporated portion of a township that has an average population density of six-hundred-fifty people per square mile in the unincorporated area; or
- A former township that is entirely composed of municipal corporations; or
- An area that is completely surrounded by areas that are otherwise eligible as described above.

Since all townships in Cuyahoga County are fully incorporated, the Village of Cuyahoga Heights would be eligible for a USD. Under these circumstances, individual properties within Cuyahoga Heights would also be eligible for a USD.

**Comment 56:** **OAC 3745-300-10(C)(1)(a) provides the location criteria for properties to be eligible for a USD. I support addressing the need to expand the threshold criteria for a property in a township to be eligible for a USD. However I have a situation that I believe warrants a USD, but does not meet the criteria provided in the proposal. I have a large historical industrial area located outside, but immediately adjacent to, an incorporated city. The industrial area is in a township with a population of well over 20,000, but the unincorporated portion of the township has a population of between 19,000 and 20,000. The township has two incorporated cities partially located within the township boundary that reduces the township unincorporated population of the township to less than 20,000. The volunteer has received a USEPA Assessment Grant to assist in the redevelopment of an old industrial corridor, a major portion of which is outside an incorporated city. I suggest consideration be given to adding a section 3745-300-10(C)(1)(a)(vi) that allows a certified professional to petition the Director to consider a USD for a property that does not meet the location criteria of 3745-300-10(C)(1)(a)(i) – (v). This will allow the OEPA to grant a USD for a property that meets the intended protectiveness of a USD. (Ron Clark, CP, Brownfield Restoration Group)**

**Response 56:** Ohio EPA believes this change is not necessary because under OAC 3745-300-12 (variances and case-by-case determinations), a volunteer may petition to change a ground water standard at the property boundary. Therefore, it has been determined that it is not necessary to add a provision OAC 3745-300-10(C)(1)(a)(vi) allowing a CP to request an

urban setting designation (USD) for a property that does not meet the USD eligibility requirements set forth in OAC 3745-300-10(C)(1)(a)(i)-(v).

3745-300-11 Remediation:

**Comment 57:** **(D)(1) - Include allowance for the pathway omission process for off-site property owners who are non-responsive to volunteer communication efforts. (Ron Roelker, CP, AECOM)**

**Response 57:** Ohio EPA agrees with this suggestion, and we believe that the language currently in 3745-300-11(D)(1)(b)(iv) covers this.

**Comment 58:** **(H)(2) – Include language to apply a remedy revision notice for monitoring as well as remedial activities. (Ron Roelker, CP, AECOM)**

**Response 58:** Changes to monitoring of remedies is expected to be covered by the operation and maintenance plan associated with the remedy element, and thus a remedy revision notice is not expected to be needed in such cases.

**Comment 59:** **To be consistent with other changes throughout the rule, remove “emanating from” from 11(A)(2). (Joel Hunt, CP, Arcadis)**

**Response 59:** The language clarifies the fact that the contamination we are concerned about originated on the subject property. Removing it might cause confusion if there was a complete pathway from contamination that did not originate on the subject property. Therefore, it is proposed that the language remain as is.

**Comment 60:** **(A)(2) – the term “diligent effort” should be defined so the volunteer clearly understands the requirements of the rule. (Katie Courtright, Brownfield Specialist, ODSA)**

**Response 60:** The plain, common dictionary meaning of the term is expected to be sufficient and should provide more leeway. Whereas a new definition could be limiting and restrict a volunteers ability to make use of that provision.

**Comment 61:** **(C) – It seems interim measures in paragraph (C)(6) is contradictory to this section allowing a permanent remedy in place when applicable standards are not yet met at the time of NFA submission. What is the vehicle or document that will contain the responsibility for**

**continued operation and maintenance of a permanent remedy if an O&M agreement is not an acceptable method for remedial activity? (Katie Courtright, Brownfield Specialist, ODSA)**

**Response 61:** An operation and maintenance agreement is the appropriate document to govern operation and maintenance of a permanent remedy that has been constructed but has not yet achieved applicable standards. Section (4)(b) of OAC 3745-300-11 provides that an operation and maintenance plan and agreement may be used in this situation.

**Comment 62:** **(D) - The pathway omission process is not contemplated in the Ohio Revised Code sections for the Voluntary Action Program, specifically 3746.04 and 3746.10. If this measure is to be implemented the agency should first request revision to the statutory language and then develop rules under the Ohio Administrative Code. In general, the requirement for volunteers to cleanup off-property contamination is a broad and onerous responsibility which will hinder participation in the voluntary action program and by default participation in brownfield redevelopment programs and incentives offered by the state. The current structure of the voluntary action program is of great benefit in Ohio for the redevelopment of contaminated properties. It would be a detriment if the current standard of a business and property owner friendly cleanup program would in any way be diminished through this revision. (Katie Courtright, Brownfield Specialist, ODSA)**

**Response 62:** The statute does allow the director to condition the covenant not to sue; see ORC 3746.12(A)(1)(a). The statute specifies that the covenant not to sue covers the voluntary action program property and all releases of hazardous substances and petroleum therefrom – including releases that have left the property. The statute also grants broad rule making authority under ORC 3746.04(B). The need to investigate off property contamination is also already present in the voluntary action program rules. See OAC 3745-300-11(A)(2) (read in context with the rule definitions for ‘complete exposure pathway’ and ‘environmental media’). In light of this, those releases that originated on the property, but impact receptors off the property, must be addressed in order to receive the covenant not to sue. The pathway omission process actually provides compliance flexibility and is designed to provide more options for a volunteer’s success in the program by allowing participation when previously unworkable situations arise.

**Comment 63:** (D) - Terms used throughout this paragraph should be clearly defined: diligent effort, reasonable remedy, fair and reasonable compensation. These terms can take on different meanings to different stakeholders. What parameters are considered when evaluating a reasonable remedy (e.g. the cost for remedial activities, point of compliance, access to impacted media)? Who determines a fair and reasonable compensation value for restoration of the landowner's property? How is the pre-remedy condition of the property determined? (Katie Courtright, Brownfield Specialist, ODSA)

**Response 63:** The plain meaning of the terms is expected to be sufficient. Since the application will be very site specific, a rigid definition could do more harm than good by eliminating flexibility for volunteers in the process. A "reasonable remedy" is any that addresses the complete exposure pathway and meets applicable standards. "Pre remedy condition" is intended to cover things like restoration of landscaping as it existed. Rule language has been re-written and clarified due to the issues brought up in this comment in OAC 3745-300-11(D)(1)(b)(iii).

**Comment 64:** (D) - Item (1)(b)(ii) suggests the certified professional inform the landowner of any risk associated with the complete pathway. How will the certified professional be able to clearly articulate the risks without first performing phase II sampling activities on the landowner's property? Sampling a complete pathway off-property is not clearly stated in the phase II rule (reference OAC 3745-300-07(E)(6)) including to what extent the risk is evaluated (e.g. full delineation of the vertical and horizontal extent of contamination, full data evaluation and risk assessment or modeling). (Katie Courtright, Brownfield Specialist, ODSA)

**Response 64:** Ohio EPA agrees with this comment and has further evaluated and revised rule language to say "potential" risk associated with the release. We do believe the phase II rule adequately covers this situation, and 3745-300-07(E)(5)(a) has been modified to clarify this.

**Comment 65:** Item (D)(2) allows the certified professional to rely on pathway omission in the NFA letter submission. Do any of the protections under the VAP apply to the volunteer when evaluating the off-property pathway for the purposes of pathway omission? Will conducting phase II activities for this purpose by default include the off-

- Response 65:** **property pathway as part of the voluntary action? (Katie Courtright, Brownfield Specialist, ODSA)**  
The covenant not to sue covers the voluntary action program property, and all releases therefrom – including releases that have left the property – that have undergone proper assessment and remedial activities, as needed, in accordance with the voluntary action program rules, and activities have resulted in compliance with applicable standards. Thus those releases that originated on the property but impact receptors off the property must be determined to comply with applicable standards in order to receive the covenant not to sue, and would be included under the voluntary action assessment.
- Comment 66:** **(D) - If a volunteer demonstrates the off-property pathway meets applicable standards post remedial activities does the liability relief of the covenant not to sue extend to the off-property landowner? If so, does that also extend the value of the tax abatement? The agency should consider these options as incentives for landowners. It may entice more landowners to allow volunteers and certified professionals to evaluate and possibly remediate property. Otherwise, the value of the CNS is lost to the landowner. Item (D)(2)(a)(ii)(d)(v) implies the release of liability could extend to include the off-property pathway and so then the property as well? (Katie Courtright, Brownfield Specialist, ODSA)**
- Response 66:** No, liability relief goes to the voluntary action program property and releases of hazardous substances and petroleum therefrom. No, the scope of the tax abatement is limited to the voluntary action program subject property, see ORC 5709.87.
- Comment 67:** **Can a volunteer utilize an institutional or engineering control to meet applicable standards for an off-property pathway? How does the operation and maintenance of these controls work if the landowner is not party to the CNS? What happens if the landowner sells the property and the new owner does not want to provide access for the purposes of performing O&M? (Katie Courtright, Brownfield Specialist, ODSA)**
- Response 67:** Yes, institutional and engineering controls may be relied upon to meet an off-property pathway. Implementation of operation and maintenance off property would require that arrangements be made with that property owner, such that operation and maintenance could be properly supported. A change in ownership of the affected off property parcel may

necessitate new arrangements with that owner. If the new property owner is uncooperative, a different approach may be needed to ensure compliance with applicable standards.

**Comment 68:** **Item (D)(2)(c)(i) references (C)(1)(b) which seems incorrect perhaps (D)(1)(b) is the correct reference. (Katie Courtright, Brownfield Specialist, ODSA)**

**Response 68:** The comment was accepted and the correction was made to the rule language.

**Comment 69:** **Item (D)(2)(e) references (C)(2)(a) which seems incorrect perhaps (D)(2)(a) is the correct reference. (Katie Courtright, Brownfield Specialist, ODSA)**

**Response 69:** The comment was accepted and the correction was made to the rule language.

**Comment 70:** **(E) - verification the property must meet applicable standards. Property as defined in ORC 3746.01 includes the property associated with the voluntary action. If an off-property pathway is not part of the “property” as defined, how is the requirement for off-property remediation of complete pathways in alignment with the current statute definition of property or the definition of a voluntary action? (Katie Courtright, Brownfield Specialist, ODSA)**

**Response 70:** The proposed rule language has been clarified to indicate that the voluntary action would involve any complete exposure pathways to contamination on or from the property that require assessment or a remedy to achieve applicable standards. The voluntary action pertains to the property, as defined, from which releases may extend to off property receptors. The covenant not to sue encompasses releases from the voluntary action property that have undergone property assessment and remedial activities, as needed, in accordance with the voluntary action program rules and the activities that result in compliance with applicable standards. See ORC 3746.12(A)(1).

**Comment 71:** **(H)(3) and (4) – What is the difference between remedy revision approval and remedy revision acknowledgement and when are these items applicable? Additional clarification is needed. (Katie Courtright, Brownfield Specialist, ODSA)**

**Response 71:** The remedy revision approval would go through a process similar to the current voluntary action program technical assistance. Ohio EPA would review all relevant materials for the change of remedy to approve its protectiveness. Under

the remedy revision acknowledgement, the volunteer would simply be alerting the agency that the remedy is being modified, and would not necessarily require additional interaction with the agency. A technical guidance document will be developed to explain and clarify this.

**Comment 72:** **Letter commenting on rule 3745-300-11. See attached letter. (Jeff McElravy, Interim Director, City of Cincinnati Dept. of Trade & Development)**

**Response 72:** The statute indicates that the covenant not to sue (CNS) covers the VAP property and all releases of hazardous substances and petroleum therefrom – including releases that have left the property – that are in compliance with applicable standards. The statute also grants broad rule making authority under ORC 3746.04(B). The need to investigate off property contamination is also already present in the existing voluntary action program rules. See OAC 3745-300-11(A)(2) (read in context with the rule definitions for ‘complete exposure pathway’ and ‘environmental media’). In light of this, those releases that originated on the property, but impact receptors off the property, have always needed to be addressed in order to receive a CNS. The proposed language simply makes this statutory requirement clearer.

**Comment 73:** **Potentially being required to cleanup up a neighboring property that you don’t own introduces too much additional risk for the Volunteer. (Mark Deffet)**

**Response 73:** The statute indicates that the covenant not to sue covers the VAP property and all releases of hazardous substances and petroleum therefrom – including releases that have left the property – that are in compliance with applicable standards. The statute also grants broad rule making authority under ORC 3746.04(B). The need to investigate off property contamination is also already present in the existing VAP rules. See OAC 3745-300-11(A)(2) (read in context with the rule definitions for ‘complete exposure pathway’ and ‘environmental media’). In light of this, those releases that originated on the property, but impact receptors off the property, have always needed to be addressed in order to receive a covenant not to sue. The proposed language simply makes this statutory requirement clearer.

**Comment 74:** **Pathway omission and off-property remediation are not addressed in 3746.04 or 3746.10 of the Revised Code. It seems such major changes in the rule should be reflected in the statute. (Mark Deffet)**

**Response 74:** The statute does allow the director to condition the covenant not to sue. See ORC 3746.12(A)(1). The pathway omission process provides compliance flexibility by allowing the volunteer to not remedy contamination that has migrated off site and is designed to provide more options for a volunteer's successful participation in the program.

**Comment 75:** **Can an off-property remedy include institutional and engineering controls? How is that addressed with the CNS? (Mark Deffet)**

**Response 75:** Yes, institutional and engineering controls may be relied upon to meet an off-property pathway. Implementation of operation and maintenance off property would require that arrangements be made with that property owner, such that the operation and maintenance could be properly supported. The covenant not to sue would apply as it usually does – all complete pathways must meet applicable standards and all releases of hazardous substances or petroleum originating on the property would be covered.

**Comment 76:** **How far off property will the Volunteer be required to assess? Will the volunteer be required to “chase” floor drains and other preferential pathways to their final destination? (Mark Deffet)**

**Response 76:** Unpermitted discharges of hazardous substances or petroleum from a property should be evaluated as far as they can reasonably be linked to releases from the voluntary action program property.

**Comment 77:** **Because the pathway omission process requires Agency approval before submitting an NFA Letter, the process should require public notification similar to applying for a variance. Public notification is an essential check and balance to decisions made by the Agency. (Mark Deffet)**

**Response 77:** The impacted parties here are the affected property owners. They are afforded the opportunity to participate in the decision making process as the rule is currently constructed. Public notification on a site specific decision for a voluntary action program no further letter is inconsistent with the general application of the voluntary action program.

**Comment 78:** **The term “pre-remedy condition” in OAC 3745-300-11(D)(1)(b)(iii) should be defined since this is an additional cost to the Volunteer above the environmental costs. (Mark Deffet)**

- Response 78:** The language has been modified to limit the restoration to repairing “aesthetic impacts to the property resulting from remedy installation or construction.”
- Comment 79:** **The type of impact in OAC 3745-300-11(D)(2)(c)(ii) should be clarified. Do you mean environmental impact? (Mark Deffet)**
- Response 79:** Ohio EPA agrees that this may cause confusion. The rule language has been adjusted accordingly.
- Comment 80:** **Evaluating impacts to property redevelopment and job creation as stated in OAC 3745-300-11(D)(2)(c)(iii) is outside the Agency’s mission. (Mark Deffet)**
- Response 80:** Ohio EPA agrees with this statement, and because of that, the proposed language has been stricken.
- Comment 81:** **Because this rule could add significant costs to a Volunteer’s cleanup and delay the redevelopment of the property, terms such as “underlying reasons” and “diligent effort” should be more well-defined. (Mark Deffet)**
- Response 81:** The proposed wording of “underlying reasons” has been removed, with the proposed removal of the proposed new paragraph. Regarding the term “diligent efforts” Ohio EPA considers that the plain dictionary meaning will provide effective direction, together with the proposed rule criteria for implementation of the concept. Further, Ohio EPA does not agree with the comment’s statement that the rule could add significant costs to a Volunteer’s cleanup and delay the redevelopment of the property.
- Comment 82:** **Because a pathway omission can be part of the NFA Letter, why is the Volunteer’s diligent efforts considered a failure in OAC 3745-300-11(E)(4)(d)? Maybe the wording should be “the volunteer’s diligent efforts did not result in an off-property remediation”. (Mark Deffet)**
- Response 82:** Ohio EPA agrees with this suggestion and has incorporated it within rule language.
- Comment 83:** **In general, the proposed rule will stall or slow down brownfield remediation, thereby hindering economic redevelopment in urban areas. (Mark Deffet)**
- Response 83:** The proposed changes were designed to facilitate brownfield remediation by providing additional options for added flexibility in the process.

3745-300-13 NFA Letters:

**Comment 84:**        **In 13(H)(2), should “volunteer” be “director”? Why is the “manner prescribed by the agency” not provided in the rule? (Joel Hunt, CP, Arcadis)**

**Response 84:**     The requested questions are not applicable, as this section addresses the CPs responsibilities upon notice as to whether the volunteer would like the NFA letter submitted for consideration for a CNS. The wording, upon review, provides appropriate direction to the CP if a CNS is not requested by the volunteer. The NFA would still need to be in the proper format for issuance by the CP, but would not be sent to the director of Ohio EPA. Therefore, the language is proposed to remain as is.

**Comment 85:**        **Omit requirements in 13(M)(2) since these items are all required already to be a part of the Phase I or Phase II reports. (Joel Hunt, CP, Arcadis)**

**Response 85:**     The requested change cited is for submittal of all supporting documentation after the CNS is issued. The new NFA process sets the stage for submittal of the audit documentation at the end of the NFA review process in preparation of either a random or discretionary audit. This is a different procedure than in the past where Ohio EPA received most of the documentation under the old NFA letter review submittal and requested any additional information, if we needed it, under the audit. Therefore, the language is proposed to remain as is.

**End of Response to Comments**