

**Soil Standards Rule Changes (RR-15-23) First Draft  
July 19, 2024, Rule Advisory Committee Meeting**

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**RULE TEXT**

**SECTION 1. NR 700.03 (1s) Note is amended to read:**

NR 700.03 (1s) Note: ~~Under ch. NR 720, the~~ The department allows the use of default attenuation factors from US EPA guidance, or the responsible party may collect enough information to develop a site-specific attenuation factor.

**SECTION 2. NR 700.03 (8m) is created to read:**

NR 700.03 (8m) “Commercial land use” means land used for commercial purposes, including warehouses, office buildings, light manufacturing facilities, restaurants, retail businesses, entertainment venues, hotels.

**SECTION 3. NR 700.03 (44m) is created to read:**

NR 700.03 (44m) "Polycyclic aromatic hydrocarbons" or "PAHs" means a class of chemicals that occur naturally in coal, crude oil, and gasoline and are also produced from combustion of hydrocarbons.

**SECTION 4. NR 700.03 (47m) is created to read:**

NR 700.03 (47m) “Recreational land use” means land used for recreational purposes, including community parks, playgrounds, sports fields, campgrounds, beach and waterfront areas, recreational trails, wildlife areas, and local, state or national forests or parks.

**SECTION 5. NR 700.03 (49g) is amended to read:**

NR 700.03 (49g) “Residential ~~setting~~ land use” means any dwelling land ~~designed or used for~~ human habitation, ~~and includes~~ including educational, childcare, and elder care ~~settings~~ uses and single or multi-family dwellings.

**SECTION 6. NR 700.03 (58m) and Note are created to read:**

NR 700.03 (58m) “Soil cleanup standard” means a residual contaminant level determined

under ss. NR 720.10 or 720.12, and a soil performance standard determined under s. NR 720.08.

Note: Tables of soil residual contaminant levels can be found at:  
<https://dnr.wisconsin.gov/topic/Brownfields/soil.html>.

**SECTION 7. NR 720.02 (7) is amended to read:**

NR 720.02 (7) Nothing in this chapter authorizes an impact on soil quality that would cause a violation of a groundwater quality standard ~~contained in~~ under ch. NR 140, an impact on soil quality or groundwater quality that would cause a violation of a surface water quality standard ~~contained in~~ under chs. NR 102 to 106 ~~or~~, an impact on soil quality that would cause a violation of an air quality standard ~~contained in~~ under chs. NR 400 to 499, or an impact on indoor air that would result in an exceedance of a vapor action level under s. NR 700.03 (66p).

**SECTION 8. NR 720.02 (8) and (9) are created to read:**

NR 720.02 (8) This chapter may apply to floodplain soils and sediment at a site or facility that is subject to regulation under ch. 292, Stats., if the criteria under s. NR 720.14 (1) are met.

(9) This chapter may apply to materials other than soil, which may include saturated deposits, aquifer material, fill, unconsolidated materials, waste fill, and foundry sand, at a site or facility that is subject to regulation under ch. 292, Stats., if the criteria under s. NR 720.14 (2) or (3) are met.

**SECTION 9. NR 720.03 (12s) is created to read:**

NR 720.03 (12s) “Residual contaminant level” means a numerical value expressing the concentration of a contaminant in soil that is calculated in accordance with the requirements of this chapter.

**SECTION 10. NR 720.03 (15) is repealed.**

**SECTION 11. NR 720.05 (2) and (3) (intro.) are amended to read:**

NR 720.05 (2) RESIDUAL CONTAMINANT LEVELS ~~OR~~ AND PERFORMANCE STANDARDS.  
Remedial actions conducted by responsible parties to address soil contamination shall be designed and implemented to restore the contaminated soil to levels that, at a minimum, meet the residual contaminant levels ~~or~~ and any applicable performance standards for the site or facility determined in accordance with this chapter.

(3) NO FURTHER ACTION. If all soil contaminant concentrations meet applicable residual contaminant levels ~~or~~ and any applicable performance standards after a remedial action is completed, the department may not require further remedial action for soils, unless the department determines that the residual soil contamination:

**SECTION 12. NR 720.05 (3) (e) is created to read:**

NR 720.05 (3) (e) Will cause an exceedance of a vapor action level under s. NR 700.03 (66p).

**SECTION 13. NR 720.05 (5) (a) is amended to read:**

NR 720.05 (5) (a) Responsible parties shall identify the current land use and zoning for the site or facility by the time the remedial action is selected, unless otherwise directed by the department. The responsible party shall select a land use classification under par. (d) and shall use the selected land use classification to determine the direct contact residual contaminant level under s. NR 720.12 to apply at the site or facility.

**SECTION 14. NR 720.05 (5) (b) (intro.), 1., 1. Note, 2., and 2. Note are repealed.**

**SECTION 15. NR 720.05 (5) (d), (e), (f), and (g) are created to read:**

NR 720.05 (5) (d) Except as provided under par. (e) and (g), responsible parties shall classify the land use of a site or facility as follows:

1. As commercial land use if the site or facility is currently zoned for, or otherwise officially designated for, commercial use.
2. As recreational land use if the site or facility is currently zoned for, or otherwise officially designated for, recreational use.
3. As residential land use if the site or facility is currently zoned for, or otherwise officially designated for, residential use.
4. As industrial land use if the site or facility is currently zoned for, or otherwise officially designated for, industrial use.

Note: Typically, a site or facility is officially designated for industrial use by the issuance of a conditional use or special exception permit that allows an industrial use of that site or facility in a non-industrial zoning district or by the designation of an area as industrial in a county development

plan or a municipal master plan, among other means.

(e) Responsible parties shall use a land use classification that would result in the application of a more stringent residual contaminant level for soil if needed to protect human health on or near the site or facility. Responsible parties shall classify sites or facilities adjacent to residential land use as residential land use if needed to protect human health.

Note: A residential land use classification may apply when a site or facility is officially designated for industrial land use, and could otherwise be classified under the industrial land use classification, but the site or facility is in close proximity to a property that includes residential land use, such as a property used for residential housing located across the street from the site or facility, and therefore the residential land use classification is determined to apply to the site or facility.

(f) Responsible parties for sites or facilities shall determine direct contact residual contaminant levels based on the land use classification.

Note: A table of residual contaminant levels that are calculated using the EPA's standard default exposure assumptions for residential, commercial/industrial, and recreational exposure scenarios can be found online at <https://dnr.wisconsin.gov/topic/Brownfields/soil.html>.

Note: As a condition of approving an interim action, remedial action, or case closure under chs. NR 708, NR 722, NR 724, or NR 726, the department may impose a continuing obligation. The department may require a continuing obligation at a site or facility that contains residual contamination if residual contaminant levels are determined based on any land use classification other than residential, or if a soil performance standard is used, and the continuing obligation is imposed to ensure that conditions at the site or facility remain protective of public health, safety, welfare, and the environment. The department may impose continuing obligations upon approval of an interim action or remedial action or at case closure.

(g) If approved by the department under s. NR 720.12 (2), responsible parties for sites or facilities may utilize site-specific direct contact residual contaminant levels that are not based on a land use classification under par. (5) (d).

**SECTION 16. NR 720.05 (5) (c) Note is repealed.**

**SECTION 17. NR 720.07 (1) (a), (b) (intro.), (b) 1., (b) 1. Note, and (b) 2. are amended to read:**

NR 720.07 (1) (a) Responsible parties shall use information from the sources listed in s. NR 720.05 (1) to determine the residual contaminant levels ~~or~~ and any performance standards for each

exposure or migration pathway of concern for each soil contaminant of concern at a site or facility ~~in accordance with this chapter~~. Responsible parties may utilize a combination of residual contaminant levels and performance standards at a site or facility.

(b) In addition to meeting the requirements of ~~under~~ par. (c), responsible parties shall establish the soil cleanup standard for each soil contaminant of concern at the site or facility as one or more of the following:

1. The residual contaminant level of each contaminant in soil ~~which~~ that is the lowest concentration from among the following as applicable: the ceiling limit concentration, the soil saturation concentration if the contaminant is a volatile, a land use specific direct contact level, a groundwater quality protective level, a concentration calculated for a pathway of concern set forth ~~in~~ under s. NR 720.13 all of which are determined ~~in accordance with the requirements of~~ under this chapter.

Note: For a single contaminant, a numeric ~~land use specific~~ residual contaminant level that is specific to a designated land use classification is determined based on aggregate exposure through incidental ingestion of soil, inhalation of soil vapors and particulates, and dermal contact with soil. When more than one contaminant is present, the residual contaminant level is determined based on cumulative exposure and may have to be adjusted downward so that the cumulative risk does not exceed an excess cancer risk of 1-in-100,000 or a hazard index of 1 for non-carcinogens.

2. A performance standard determined ~~in accordance with~~ under s. NR 720.08 that is established and maintained to ensure that the residual soil contamination for each contaminant in soil does not pose a threat to public health, safety, or welfare or the environment.

**SECTION 18. NR 720.07 (1) (b) 3. is created to read:**

NR 720.07 (1) (b) 3. An environmental standard for soil established using a risk assessment approach under s. NR 722.11 if there are multiple contaminants or multiple pathways of exposure present at the site or facility, and it is determined that a more protective residual contaminant level for soil is needed to protect human health from the cumulative effects of exposure.

**SECTION 19. NR 720.07 (1) (c) 5. is created to read:**

NR 720.07 (1) (c) 5. Residual soil contamination at the site or facility may not result in an exceedance of a vapor action level under s. NR 700.03 (66p).

**SECTION 20. NR 720.07 (2) (title), (a), (b), Note 1, Note 2, (c), (d) 1. and 2. and (3) are repealed.**

**SECTION 21. NR 720.08 (1) is amended to read:**

NR 720.08 (1) GENERAL. ~~If~~ When a responsible party selects ~~this option~~ a soil performance standard for implementation of a remedial action under s. NR 720.05, performance standards shall be established and maintained so that the residual contaminants in the soil do not pose a threat to public health, safety, or welfare or the environment.

**SECTION 22. NR 720.08 (1) Note is repealed and recreated to read:**

NR 720.08 (1) Note: Continuing obligations for a soil performance standard may be imposed at the time of the interim action or remedial action approval or at case closure under s. 292.12 (2), Stats., and chs. NR 708, NR 722, NR 724, and NR 726.

**SECTION 23. NR 720.08 (2) (c) and (3) (b) are amended to read:**

NR 720.08 (2) (c) Operation of a system in compliance with ch. NR 724 until the residual contaminant level is achieved, or the lowest concentration that is practicable is achieved.

(3) (b) Operation of a system in compliance with ch. NR 724 until the residual contaminant level is achieved, or the lowest concentration that is practicable is achieved.

**SECTION 24. NR 720.10 (1) is amended to read:**

NR 720.10 (1) GENERAL. ~~If~~ When a responsible party ~~selects this option~~ determines residual contaminant levels for soil based on the protection of groundwater to implement a remedial action under s. NR 720.05, ~~the residual contaminant levels for soil based on protection of groundwater~~ shall be developed using the enforcement standards established ~~in~~ under ch. NR 140 or using procedures consistent with the methodology ~~in~~ under ss. 160.13 and 160.15, Stats., and the criteria ~~in~~ under s. NR 722.09 (2) (b) 2. when there is no enforcement standard to use as the target concentrations for contamination in groundwater. If the department of health has not developed a recommended enforcement standard and a federal maximum contaminant level exists, that value may be used for calculating a soil residual contaminant level for the protection of groundwater.

**SECTION 25. NR 720.10 (3) and Note are created to read:**

NR 720.10 (3) PARAMETERS. Unless otherwise approved, when determining site specific residual contaminant levels for soil to groundwater, responsible parties shall use all the following soil parameter values:

- (a) A dry soil bulk density of 1.5 gm/cm<sup>3</sup>.
- (b) An air filled soil porosity of 0.13.
- (c) A total soil porosity of 0.43.
- (d) A water filled porosity of 0.30.
- (e) A soil particle density of 2.65 gm/cm<sup>3</sup>.
- (f) A soil organic carbon content of 0.002.

Note: These soil parameter values are the defaults used in Pub-RR-890, "Soil Residual Contaminant Level Determination Using the US EPA Regional Screening Level Web Calculator." This guidance may be found at <http://dnr.wi.gov/topic/Brownfields/Pubs.html>.

**SECTION 26. NR 720.12 (1) is amended to read:**

NR 720.12 (1) GENERAL. ~~If~~ When a responsible party ~~selects this option,~~ determines residual contaminant levels for soil based on protection of human health from direct contact, the residual contaminant levels shall be developed using the following ~~criteria~~ standards:

- (a) For individual compounds using an excess cancer risk of  $1 \times 10^{-6}$  and a hazard quotient for non-carcinogens of one; ~~and~~.
- (b) The cumulative excess cancer risk will not exceed  $1 \times 10^{-5}$  and the hazard index for non-carcinogens will not exceed one for the site or facility.
- (c) Risks for carcinogens and hazard quotients for non-carcinogens are presumed to be additive within each category, unless there is specific information that demonstrates that an alternative approach is more appropriate.
- (d) If toxicological values for both carcinogenic and non-carcinogenic end points exist for a substance, both toxicological values shall be evaluated and the ~~method~~ value that generates the lowest residual contaminant level shall be used for the site or facility.

**SECTION 27. NR 720.12 (1) (e) is created to read:**

NR 720.12 (1) (e) The land use classification of the site or facility.

**SECTION 28. NR 720.12 (2) and Note are amended to read:**

NR 720.12 (2) METHODS AND PROCEDURES. Responsible parties shall determine a residual contaminant level to protect public health from direct contact with soil contamination using scientifically valid procedures and toxicological values approved by the department and the default exposure assumptions identified ~~in~~ under sub. (3) or alternative assumptions for exposure frequency, exposure duration and exposure time specifically approved by the department in writing.

Note: The department will generally consider toxicological values in the following order: U.S. EPA's Integrated Risk Information System (IRIS); U.S. EPA's Provisional Peer Reviewed Toxicity Values (PPRTV); Agency for Toxic Substances and Disease Registry (ATSDR); California EPA (Cal EPA); U.S. EPA's Health Effects Assessment Summary Tables (HEAST); and other pertinent toxicological information.

**SECTION 29. NR 720.12 (2) Note 2 is created to read:**

NR 720.12 (2) Note: Default residual contaminant levels for chemicals in soil may be found in the residual contaminant level spreadsheet, which may be found at <https://dnr.wisconsin.gov/topic/Brownfields/soil.html>.

**SECTION 30. NR 720.12 (2) Note 3 is created to read:**

NR 720.12 (2) Note: Responsible parties that are calculating residual contaminant levels according to the land use classifications under s. NR 720.05 (5) may utilize the default exposure assumptions available in the U.S. EPA Regional Screening Level calculator, which may be found at [https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl\\_search](https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search).

**SECTION 31. NR 720.12 (3) (a) is amended to read:**

NR 720.12 (3) (a) *Non-carcinogens*. When the contaminant is not a carcinogen, the following default exposure assumptions shall be used:

1. When the land use of a site or facility is classified as ~~non-industrial, in accordance with residential under~~ s. NR 720.05 (5), all of the following shall apply:

a. Incidental ingestion of soil shall be assumed to occur at the rate of 200 mg of soil per day for a 15 kg child for 350 days each year.

b. Dermal absorption of soil shall be determined assuming a child's daily exposed skin surface area of ~~2,800~~ 2,373 cm<sup>2</sup> with a skin-soil adherence factor of 0.2 mg/cm<sup>2</sup> and a contaminant specific dermal absorption fraction.



c. Inhalation of outdoor soil vapors shall be assumed to occur for each volatile contaminant at a 24-hour daily exposure rate determined by the volatile's soil-to-air volatilization factor, and inhalation of particulate matter shall be determined assuming a particulate emission factor of ~~1.43~~  $1.56 \times 10^9$  m<sup>3</sup>/kg.

2. When the land use of a site or facility is classified as commercial or industrial, ~~in accordance with~~ under s. NR 720.05 (5), all of the following shall apply:

a. Incidental ingestion of soil shall be assumed to occur at the rate of 100 mg of soil per day for a ~~70~~ 80 kg adult worker for 250 days each year.

b. Dermal absorption of soil shall be determined assuming an adult outdoor worker's daily exposed skin surface of ~~3,300~~ 3,527 cm<sup>2</sup> with a skin-soil adherence factor of ~~0.2~~ 0.12 mg/cm<sup>2</sup> and a contaminant specific dermal absorption fraction.

c. Inhalation of outdoor soil vapors shall be assumed to occur for each volatile contaminant at an 8-hour daily exposure rate determined by the volatile contaminant's soil-to-air volatilization factor, and inhalation of particulate matter shall be determined assuming a particulate emission factor of ~~1.43~~ 1.56  $\times 10^9$  m<sup>3</sup>/kg.

d. An averaging period of exposure shall equal the default exposure duration of 25 years.

**SECTION 32. NR 720.12 (3) (a) 3. is created to read:**

NR 720.12 (3) (a) 3. When the land use of a site or facility is classified as recreational under s. NR 720.05 (5), all of the following shall apply:

a. Incidental ingestion of soil shall be assumed to occur at the rate of 200 mg of soil per day for a 15 kg child and 100 mg/kg for a 80 kg adult for 175 days each year.

b. Dermal absorption of soil shall be determined assuming a child's daily exposed skin surface area of 2,373 cm<sup>2</sup> with a skin-soil adherence factor of 0.2 mg/cm<sup>2</sup>, an adult's daily exposed skin surface area of 6,032 cm<sup>2</sup> with a skin-soil adherence factor of 0.07 mg/cm<sup>2</sup> and a contaminant specific dermal absorption fraction.

c. Inhalation of outdoor soil vapors shall be assumed to occur for each volatile contaminant at a 4-hour daily exposure rate determined by the volatile's soil-to-air volatilization factor, and inhalation of particulate matter shall be determined assuming a particulate emission factor of 1.56  $\times 10^9$  m<sup>3</sup>/kg.

d. An averaging period for exposure shall equal the default exposure duration of 6 years for a child and 20 years for an adult.

**SECTION 33. NR 720.12 (3) (b) is amended to read:**

NR 720.12 (3) (b) *Carcinogens*. When the contaminant is a carcinogen, the following default exposure assumptions shall be used:

1. When the land use of a site or facility is classified as ~~non-industrial, in accordance with residential under~~ s. NR 720.05 (5), all of the following shall apply:

a. Incidental ingestion of soil shall be assumed to occur at the rate of 200 mg of soil per day for 350 days each year for 6 years for a 15 kg child and the rate of 100 mg per day for 350 days each year for ~~24~~ 20 years for a ~~70~~ 80 kg adult.

b. Dermal absorption of soil shall be determined assuming a child's daily exposed skin surface area of ~~2,800~~ 2,373 cm<sup>2</sup> with a skin-soil adherence factor of 0.2 mg/cm<sup>2</sup>, and an adult's daily exposed skin-surface area of ~~5,700~~ 6,032 cm<sup>2</sup> with a skin-soil adherence factor of 0.07 mg/cm<sup>2</sup> and a contaminant specific dermal absorption fraction.

c. Inhalation of outdoor soil vapors shall be assumed to occur for each volatile contaminant at a 24-hour daily exposure rate determined by the volatile contaminant's soil-to-air volatilization factor, and inhalation of particulate matter shall be determined assuming a particulate emission factor of ~~1.43~~ 1.56 x10<sup>9</sup> m<sup>3</sup>/kg. For mutagenic contaminants, age segmented exposure durations shall be assumed when age adjusted cancer slope factors are available.

d. An averaging period of 30 years of exposure consisting of 6 child years and 24 adult years shall be assumed during a ~~70-year~~ 70-year lifetime.

2. When the land use of a site or facility is classified as commercial or industrial, ~~in accordance with~~ under s. NR 720.05 (5), all of the following shall apply:

a. Incidental ingestion of soil shall be assumed to occur at the rate of 100 mg of soil per day for 250 days each year for a ~~70~~ 80 kg adult worker.

b. Dermal absorption of soil shall be determined assuming an adult outdoor worker's daily exposed skin surface of ~~3,300~~ 3,527 cm<sup>2</sup> with a skin-soil adherence factor of ~~0.2~~ 0.12 mg/cm<sup>2</sup> and a contaminant specific dermal absorption fraction.

c. Inhalation of outdoor soil vapors shall be assumed to occur for each volatile contaminant at an 8-hour daily exposure rate determined by the volatile contaminant's soil-to-air volatilization factor, and inhalation of particulate matter shall be determined assuming a particulate emission factor of ~~1.43~~ 1.56 x10<sup>9</sup> m<sup>3</sup>/kg.

d. An averaging period of 25 years of exposure shall be assumed during a ~~70-year~~ 70-year lifetime.

Note: EPA's regional screening level user's guide provides a table containing contaminant

specific dermal absorption factors and soil to air volatilization factors. The document can be found at: [http://www.epa.gov/reg3hwmd/risk/human/rb-concentration\\_table/usersguide.htm](http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/usersguide.htm).

Note: Department approval of alternative exposure assumptions for a site or facility may be based on consultation with the department of health services. If EPA makes changes to the default exposure assumptions, the department ~~would generally use~~ recommends that the responsible party use the revised values.

Note: Guidance document RR-890 provides detailed instructions on one method the department considers scientifically valid for purposes of calculating site specific residual contaminant levels that are protective of the direct contact pathway. A table of residual contaminant levels that are calculated using the standard default exposure assumptions can be found at: <http://dnr.wi.gov/topic/Brownfields/professionals.html#tabx2>.

**SECTION 34. NR 720.12 (3) (b) 3. is created to read:**

NR 720.12 (3) (b) 3. When the land use of a site or facility is classified as recreational under s. NR 720.05 (5), all of the following shall apply:

a. Incidental ingestion of soil shall be assumed to occur at the rate of 200 mg of soil per day for 175 days each year for 6 years for a 15 kg child and the rate of 100 mg per day for 175 days each year for 20 years for a 80 kg adult.

b. Dermal absorption of soil shall be determined assuming a child's daily exposed skin surface area of 2,373 cm<sup>2</sup> with a skin-soil adherence factor of 0.2 mg/cm<sup>2</sup>, and an adult's daily exposed skin-surface area of 6,032 cm<sup>2</sup> with a skin-soil adherence factor of 0.07 mg/cm<sup>2</sup> and a contaminant specific dermal absorption fraction.

c. Inhalation of outdoor soil vapors shall be assumed to occur for each volatile contaminant at a 4-hour daily exposure rate determined by the volatile contaminant's soil-to-air volatilization factor, and inhalation of particulate matter shall be determined assuming a particulate emission factor of 1.56 x10<sup>9</sup> m<sup>3</sup>/kg. For mutagenic contaminants, age segmented exposure durations shall be assumed when age adjusted cancer slope factors are available.

d. An averaging period of 30 years of exposure consisting of 6 child years and 24 adult years shall be assumed during a 70-year lifetime.

**SECTION 35. NR 720.12 (4) (b) is repealed.**

**SECTION 36. NR 720.13 is amended to read:**

NR 720.13 **Other pathways of concern.** Responsible parties shall consider human food chain, surface water quality, and terrestrial ~~eco-system~~ ecosystem pathways of exposure, when those pathways of exposure are of concern at a site or facility.

**SECTION 37. NR 720.14 is created to read:**

**NR 720.14 Criteria for application of direct contact residual contaminant levels to media other than soil.**

(1) FLOODPLAIN SOILS AND SEDIMENT; DIRECT CONTACT. Direct contact residual contaminant levels under s. NR 720.12 shall be applied to floodplain soils and sediment if any or all of the following criteria apply:

(a) The contaminated floodplain soils and contaminated sediment present a human health risk from direct contact.

(b) The department approves the application of this chapter to floodplain soils or sediment at a site or facility.

(2) MATERIALS OTHER THAN SOIL; GROUNDWATER. The department may require a responsible party to apply the residual contaminant levels determined for protection of groundwater under s. NR 720.10 to materials other than soil, which may include saturated deposits, aquifer material, fill, unconsolidated materials, waste fill, and foundry sand if the site or facility is subject to regulation under ch. 292 and any or all of following criteria apply:

(a) The materials are interspersed with soil and the dominant material in the area of dispersal is soil.

(b) There is potential for contaminants in the materials to pose a risk to groundwater.

(3) MATERIALS OTHER THAN SOIL; DIRECT CONTACT. The department may require a responsible party to apply the residual contaminant levels determined for protection from direct contact with contaminated soil under s. NR 720.12 to materials other than soil, which may include saturated deposits, aquifer material, fill, unconsolidated materials, waste fill, and foundry sand, if the site or facility is subject to regulation under ch. 292 and all following criteria apply:

(a) The materials are interspersed with soil and the dominant material in the area of dispersal is soil.

(b) The human health risk from direct contact with the materials is not significantly different from the human health risk from direct contact with soil.

**SECTION 38. NR 720.15 is created to read:**

**NR 720.15 Compliance with soil cleanup standards.**

(1) **METHODS AND ANALYSIS.** Contaminant concentrations in soil samples shall be determined using an appropriate analytical method at a department-certified laboratory and reported on a dry weight basis. An appropriate analytical method shall have limits of detection or limits of quantitation, or both, at or below soil cleanup standards where possible. Responsible parties shall report the limit of detection and the limit of quantitation with sample results. The department may require submission of supporting documentation for the reported limit of detection and limit of quantitation.

(a) If a soil contaminant concentration in a sample exceeds the soil cleanup standard at or above the limit of quantitation for that soil contaminant, the soil cleanup standard shall be considered to have been exceeded, unless an alternative approach for determining standards exceedances is approved by the department.

(b) If a soil cleanup standard for a soil contaminant is between the limit of detection and the limit of quantitation, the soil cleanup standard shall be considered to be exceeded if the soil contaminant concentration is reported at or above the limit of quantitation.

(c) The following applies when a soil cleanup standard for a soil contaminant is below the limit of detection:

1. If a soil contaminant is not detected in a sample, the soil cleanup standard shall not be considered to have been exceeded.

2. If a soil contaminant is reported above the limit of detection but below the limit of quantitation, the responsible party may accept the results and the soil cleanup standard shall be considered to have been exceeded, or the responsible party may choose to have the soil sample reanalyzed by the use of an appropriate analytical method. If the soil contaminant is confirmed to be present between the limit of detection and the limit of quantitation, the soil cleanup standard shall be considered to have been exceeded. If the soil contaminant is not detected upon reanalysis of the soil sample, the soil cleanup standard shall not be considered to have been exceeded.

(d) When determining residual contaminant levels, responsible parties shall assume the point of application is at all locations and all depths. The depth to which soil is remediated at a site or facility may be determined based on site-specific information, but at a minimum shall be a zero to four feet interval when there is direct contact with soil contamination.

**(2) ALTERNATE APPROACHES FOR COMPLYING WITH SOIL CLEANUP STANDARDS.**

(a) *Cumulative risk for PAHs.* In lieu of compliance with residual contaminant levels for individual contaminants, a cumulative cancer risk evaluation may be used to determine compliance with soil cleanup standards for carcinogenic PAHs. Cumulative risk will be determined using the

cumulative excess cancer risk and hazard index targets specified under s. NR 720.12 (1) (b). Cumulative risk shall be based on the same exposure assumptions used for calculating the individual residual contaminant levels. A cumulative risk value that exceeds the cumulative risk target specified under s. NR 720.12 (1) (b) is considered a soil cleanup standard exceedance.

Note: The department has developed guidance on cumulative evaluation that is available in [placeholder for document title and number]. A tool for calculating cumulative risk is available in the department's residual contaminant level spreadsheet available at: <https://dnr.wisconsin.gov/topic/Brownfields/soil.html>.

(b) *Averaging*. Subject to written department approval, averaging of soil contaminant data may be conducted when evaluating the direct contact pathway as a means to comply with soil cleanup standards.

Note: The department provides guidance on soil averaging in the soil guidance document RR-991, which is available on the department's website at <https://dnr.wisconsin.gov/topic/Brownfields/soil.html>. The department recommends that a responsible party requests department approval of the proposed sampling plan and methodology for averaging soil concentrations as soon as possible, and prior to submitting a case closure request, in order to avoid delays and ensure the proposed actions comply with applicable cleanup standards. Averaging soil concentrations is not appropriate as the sole method for addressing sites with areas of significant soil contamination.

(c) *Background*. If the background concentration for a substance in soil at a site or facility is higher than the residual contaminant level for that substance determined using the procedures in this section, the background concentration in soil may be used as the residual contaminant level for that substance. The background concentration for a substance in soil shall be determined using a department-approved and appropriate method. If a responsible party chooses to calculate a background threshold value for a contaminant, written department approval is required.

Note: The department has developed statewide background threshold values for some common naturally occurring metals. These values are available in the department's residual contaminant levels spreadsheet, which is available on the department's website at: <https://dnr.wisconsin.gov/topic/Brownfields/soil.html>. When the statewide background threshold value is greater than the calculated residual contaminant level, the background value may be used as the applicable soil cleanup standard for that contaminant.

**SECTION 39. NR 722.09 (2) (a) Note is amended to read:**

NR 720.09 (2) (a) Note: Chapter NR 720 provides requirements and criteria for residual contaminant levels ~~or~~ and performance standards. If residual contaminant levels are used instead of performance standards they must be determined as required ~~in accordance with the requirements set forth in ch. NR 720~~ under this chapter. A performance standard maintains a condition that is protective of human health, safety and welfare and the environment. Use of a performance standard will involve ~~land use restrictions~~ continuing obligations, maintenance agreements, long-term monitoring or a combination of these.

**SECTION 40. NR 722.11 (1) is amended to read:**

NR 722.11 (1) The responsible party may request, and the department may consider granting, approval to prepare and submit a risk assessment for the purpose of developing environmental standards only if the responsible parties demonstrate to the satisfaction of the department that: compliance with the applicable environmental standards listed under s. NR 722.09 (2) will not be protective of public health, safety and welfare and the environment because of the presence of multiple contaminants or multiple pathways of exposure.

**SECTION 41. NR 722.11 (1) (a) and (b) are repealed.**

**SECTION 42. NR 722.11 (1m) and Note are created to read:**

NR 722.11 (1m) The risk assessment shall evaluate the multiple hazardous substances and exposure pathways present at the site or facility and shall be based on current and potential future land use, if known. Default exposure parameters shall be utilized based on the land use classifications as described under s. NR 720.05 (5). Default exposure parameters as described in s. NR 720.12 (3) shall not be modified unless the responsible parties obtain prior department approval in writing. A conceptual site model may be used to identify when an individual or group of individuals may be exposed to hazardous substances through more than one exposure pathway. All applicable exposure pathways shall be evaluated in the risk assessment.

Note: Although drinking water receptors may not be present and therefore not included in the risk assessment, groundwater quality standards under ch. NR 140 must be met.

**SECTION 43. NR 722.11 (2) is repealed and (2) (intro.), (a), (b), (c), and (d) are created to read:**

NR 722.11 (2) If the department authorizes the use of a risk assessment to develop environmental standards, responsible parties shall utilize standard exposure assumptions approved in advance and in writing by the department, and shall comply with the following criteria:

(a) The default values for these exposure parameters specified under s. NR 720.03 shall not be changed when calculating cleanup levels except when necessary to establish a more stringent cleanup level to protect human health.

(b) Other exposure parameters identified under s. NR 720.12 may be modified only when an alternate reasonable maximum exposure scenario is used, and only when there is adequate data to demonstrate that use of a modified exposure parameter would be more appropriate for the conditions present at the site or facility. For calculation of environmental standards, the exposure parameters that may be changed include only those that define the exposure frequency, exposure duration and exposure time. The default values for these exposure parameters may be modified only where there is adequate data to demonstrate that use of a modified exposure parameter would be more appropriate for the conditions present at the site or facility.

(c) The responsible party may make modifications that incorporate site-specific characteristics including the soil, hydrologic or hydrogeologic conditions at the site, such as contaminant leaching and transport variables.

(d) The responsible party shall not rely on the use of site controls such as fencing or access restrictions to control hazardous substance exposures at the site or facility when selecting exposure assumptions and parameters.

**SECTION 44. NR 722.11 (2m) is created to read:**

NR 722.11 (2m) The department may approve, modify or disapprove of the risk assessment prepared by the responsible parties and shall provide a written explanation of the department's action to the responsible parties. The department may consult with the department of health services in determining whether to approve, modify or disapprove of the risk assessment.

**SECTION 45. NR 722.11 (3) is amended to read:**

NR 722.11 (3) When the department enters into a contract ~~pursuant to~~ under s. 292.31, Stats., the department shall determine whether or not a risk assessment ~~should~~ shall be prepared and by whom. When the department enters into a negotiated agreement under s. 292.11 (7), Stats., the department shall determine whether or not a risk assessment shall be prepared and by whom.