

## Resource Materials

### **RESPONSE ACTIVITY PLAN TO UNDERTAKE RESPONSE ACTIONS TO MITIGATE UNACCEPTABLE EXPOSURES AND ACHIEVE COMPLIANCE WITH SECTION 20107a(1)(b)**

This document was developed in order to promote a consistent and informed approach for the Michigan Department of Environment, Great Lakes, and Energy (EGLE), Remediation and Redevelopment Division (RRD) regarding circumstance when an owner or operator needs to conduct response activities to mitigate an unacceptable exposure to achieve compliance with Section 20107a(1)(b) and is seeking RRD approval. This document provides information to RRD staff, RRD contractors, and persons preparing a Response Activity Plan to Comply with Section 201071(1)(b) for RRD review.

This document is explanatory and does not contain any regulatory requirements. It does not establish or affect the legal rights or obligations for the determination of background concentrations of metals in the soil. It does not have the force or effect of law and is not legally binding on the public or the regulated community. Any regulatory decisions made by the department regarding a Response Activity Plan will be made by applying the governing statutes and administrative rules to relevant facts.

Approved:



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Mike Neller, Director  
Remediation and Redevelopment Division  
February 8, 2021

## Resource Materials

# RESPONSE ACTIVITY PLAN TO UNDERTAKE RESPONSE ACTIONS TO MITIGATE UNACCEPTABLE EXPOSURES AND ACHIEVE COMPLIANCE WITH SECTION 20107a(1)(b)

### Background

This Response Activity Plan (ResAP) may be submitted under Section 20114b for department review and approval when a potential prospective or current owner or operator (submitter) needs to assure the property is safe for the intended current use or a planned end use (post redevelopment) and needs to conduct response activities to mitigate unacceptable exposures [comply with Section 20107a(1)(b)<sup>1</sup>] for all complete pathways. This submittal allows the submitter to seek a department determination as to whether the proposed response activities are acceptable to mitigate the unacceptable exposures.

If further investigation or evaluation is necessary to determine a pathway is complete or whether conditions represent an unacceptable exposure under Section 20107a, the ResAP for Compliance with Section 201071(1)(b) is not the appropriate submittal. A ResAP that proposes the investigation and/or evaluation may be submitted under Section 20114b, at a submitter's discretion.

The ResAP to Comply with Section 20107a(1)(b), must address the property(s) that have been demonstrated to either be or contain a facility, all contaminants, and all complete pathways. The ResAP to Comply with Section 20107a(1)(b) will need to provide the proposed response activities to be conducted that have been determined necessary for the complete pathways.

The ResAP to Comply with Section 20107a(1)(b) is ONLY to request department review of the response activities to comply with the provision to mitigate an unacceptable exposure and does not require and should not include an analysis of any other Section 20107a provisions.

The following outline of the contents of a ResAP to Comply with Section 20107a(1)(b) contains the information that the department has determined necessary for the department to assess that the proposed response activities are acceptable to mitigate the unacceptable exposures for complete pathways. That determination requires sufficient information to establish which pathways are complete and pose an unacceptable risk that requires mitigation. It also requires sufficient information regarding the proposed response activities to determine that if implemented as proposed, the actions would be acceptable to mitigate the unacceptable exposures. Use of the suggested format will assist in providing timely and consistent reviews by the Remediation and Redevelopment Division (RRD).

***Note: It is only appropriate to submit a ResAP under Section 20114b for response activities proposed to be conducted under Part 201 and not for corrective actions for a property contaminated solely by a release of regulated substances under Part 213.***

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<sup>1</sup> Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA) Section 20107a)

## Resource Materials

### PART 201 RESPONSE ACTIVITY PLAN to COMPLY WITH SECTION 20107a(1)(b) SUGGESTED CONTENTS AND FORMAT

*Italicized text is information to provide further explanation, and/or provide examples.*

**1.0 INTRODUCTION** – *The introduction can be whatever the submitter prefers, but because this ResAP focuses ONLY on Section 20107a(1)(b) obligations, it is not necessary to include any references to other Section 20107a(1) obligations. It could include the following information:*

- Location;
- Reason for seeking approval (optional);
- Date submitter intends to purchase or occupy the property or date current owner or operator (O/O) purchased or occupied the property.

**2.0 DETAILED PROPERTY DESCRIPTION** – *This section may require any number of subsections, depending on the circumstances of the property*

- General vicinity characteristics;
- A description of the property in general terms (if this information is not included in the introduction);
  - Size and layout;
  - Describe all buildings or proposed buildings to be constructed on the property including foundation construction;
  - Reference a figure (aerial photograph may be acceptable for this reference) that depicts all buildings (current and or proposed) within the property boundaries.

- A description and map of existing infrastructure features and conditions of the infrastructure (e.g., sewers and utilities);  
The location of the existing and/or proposed utilities and sewers should be depicted on a scaled site map (not aerial photograph) in relation to the contamination on the property.

*This information is important to determine the O/O's need to comply with Rule 1013(6) and provide the required notice to utilities and easement holders if the contamination at the property may present an unacceptable exposure to utility workers or other persons conducting activities at the property in an easement, utility, etc. If the submitter is not yet the O/O, the notice is required to be submitted upon becoming the O/O and could be identified as a response action to be undertaken to comply with Section 20107a(1)(b) in Section 9.0. If the submitter is the current O/O, the notices should have already been submitted to the persons identified in the rule and the information should be noted in Section 9.0.*

- A description of water and waste flow pathways such as roof drains, storm sewers, floor drains, septic tanks, and tile fields;
- Identify whether underground storage tanks (USTs) and/or aboveground storage tanks (ASTs) are present on the property;
  - If present, do they contain hazardous substances?
  - If present, is the O/O using the tanks?

*The Due Care Rules require a person to be in compliance with all applicable rules and regulations, which include Part 211 (Michigan Underground Storage Tank Regulations) of NREPA, National Fire Protection Association, Flammable and Combustible Liquids (NFPA) and Flammable and Combustible Rules.*

## Resource Materials

*Compliance with Part 211 and NFPA requires an O/O of the tanks to empty them if they are not intended to be put back in use within a specific time frame. The statute also requires them to be removed if the O/O does not ever intend to put them back in use.*

*Note: A person who owns the property, is considered an owner of the underground tanks; Part 211 does not consider them to be abandoned. If the tanks contain an inch or greater of hazardous substances, the tanks are considered to be in “operation” and the property owner is considered an operator of the tanks, as well as an owner.*

*If a submitter is a prospective O/O and does not intend to use the tanks the tanks must be emptied and removed. If there are underground storage tanks on the property that have been closed in place, the presence should be identified and their location on the property depicted on a scaled, detailed site map (not aerial photograph).*

- Identify the presence of containers of hazardous substances and what the submitter intends to do with them;  
*If a submitter is not yet the O/O and does not intend to empty and/or remove the containers from the property within 45 days of becoming the O/O, then the Notice of Abandoned Containers form ([EQP4476](#)) is required to be submitted to the department within 45 days of the submitter becoming the O/O. This should be identified as a response activity to be undertaken (Rule 1015) in Section 9.0. If a submitter has been the O/O for longer than 45 days and has not yet submitted the form, the form should be submitted to the department as soon as possible and prior to the submittal of this ResAP. It is not a part of this ResAP; it is a separate and distinct document.*
- Identify the presence of conditions at the property that are or may result in erosion of surface soils creating a risk to off-site properties;  
*If present, information as to how the O/O will prevent or mitigate these exposures should be provided in Section 9.0.*
- Identify the presence of conditions at the property that are or may result in dispersion of particulate or volatile hazardous substances from surface soils creating a risk to off-site properties;  
*If present, information as to how the O/O will prevent or mitigate these exposures should be provided in Section 9.0.*
- Identify the presence on the property of fire and/or explosion hazards.  
*If a submitter is the current O/O, these conditions should have already been addressed and should no longer exist on the property. If a submitter is not yet the O/O, this ResAP should clearly indicate the submitter will address these conditions immediately upon becoming the O/O and indicate the response actions intended to take in Section 9.0.*

### 3.0 PROPERTY USE

#### 3.1 Current and/or Intended Use

- A scaled, detailed site map (not aerial photograph);
- A description how all buildings on the property are or will be used - this should include more information than simply the type of business (e.g., more detail than used as a commercial business or office);
- A description of activities that occur or will occur on the property, how visitors, employees, etc. access and use the property;
- Identify conditions at property that could be affected by the current or intended property use resulting in erosion of surface soils or dispersion of particulate or volatile hazardous substances from surface soils creating a risk to off-site properties.

## Resource Materials

*If present, information as to how the O/O will prevent or mitigate these exposures should be provided in Section 9.0.*

- Identify if land or resource use restrictions or institutional controls are currently being relied upon or established on the property (whether or not it is a recorded instrument). Include a statement if there are no restrictions;  
*Note: The O/O must comply with any land or resource use restrictions and not impede their effectiveness or integrity.*
- A description of any response activities being conducted on the property by a liable or non-liable person.  
*Note: The O/O cannot undertake actions or use the property in a manner that would interfere with the remedial actions or impede their effectiveness.*

### 3.2 Historical Property Use

If conducted, a copy of the Phase I Environmental Site Assessment (ESA) or All Appropriate Inquiry (AAI) should be appended to the ResAP and should include color photographs (should not include the Environmental Data Resources report)

- Historical hazardous substances and use;  
*Include a summary of the historical uses of the property and descriptions of the historical activities, including what they were and where they occurred on the property, and the hazardous substances used in those activities that account for the existing sub-surface and or surficial contamination. Identified recognized environmental conditions (RECs) should be noted on a detailed site map.*

Sufficient information must be included in this ResAP that identifies the RECs, and releases of hazardous substances and/or petroleum products at a property, that require response activities to mitigate unacceptable exposures. The information, used to identify the RECs, needs to be provided as appendixes for this ResAP. This information would have been collected during a Phase I ESA (or AAI) for the property or will need to be generated in compliance with all appropriate inquiry as defined in Rule 1001(a), as applicable.

### 3.3 Property Geology/Hydrogeology/Topography

This should identify the current and historically relevant geologic and or hydrogeologic conditions at the property; a full geological history is rarely necessary. It should include:

- Site-specific geologic characteristics including soil type, shallow bedrock, etc.;
- Information that identifies whether fill material is present on the property and whether it contains waste materials (e.g., fly ash, slag, coal, etc.);
- Site-specific hydrogeological characteristics including depth to groundwater and flow direction.

## 4.0 IDENTIFICATION OF COMPLETE OR LIKELY TO BECOME COMPLETE EXPOSURE PATHWAYS

*The evaluation is based on exposure pathways that are complete or likely to become complete based solely on the current or intended use of the property. An exposure pathway is the link between a contaminant source and a receptor. The elements of a complete or likely to become complete exposure pathway based solely on the use of the property are:*

- *Contamination in an environmental media on the property;*
- *A point of exposure (such as a private well or building) on the property;*
- *A receptor population (people potentially or actually exposed) on the property.*

*If a submitter is not yet an O/O and is preparing this ResAP based on the intended use of the property (e.g., post redevelopment) the complete exposure pathways are based on those likely to become complete with the intended end use.*

## Resource Materials

The factors associated with the use of the property that affect whether exposure pathways are complete or likely to become complete may be provided in a table format. An example of such a table follows:

Note: Comparison to available data for the evaluation of the pathways that are identified as complete occurs in Section 7.0.

Example Table:

COMPLETE PATHWAY?	RELEVANT PROPERTY CONDITIONS	EXPLANATION, IF NOT COMPLETE
<i>Drinking water pathway is not complete</i>	<i>A person cannot drink groundwater because groundwater is not being used on the property for any purpose.</i>	<i>Municipal water supply and no wells present on property.</i>
<i>Direct contact pathway is complete</i>	<p><i>A person can come in contact with contaminated soils on the property (walking, playing, or working on surficial soils with or without vegetation; below surface construction or utility activities).</i></p> <p><i>Note: Consideration needs to be given to vacant properties – O/O needs to consider potential for trespass and take the appropriate actions to prevent the trespass or prevent the potential exposure [Section 20107a(1)(c) or Section 21304c(1)(c)].</i></p>	
<i>Soil particulate inhalation pathway is complete</i>	<i>A person can inhale ambient air particulates from substances present in soils (with or without vegetation) via wind erosion of contaminated soils and vehicle traffic.</i>	
<i>Soil volatilization to ambient air pathway is complete</i>	<i>A person can inhale ambient air that contains vapors from volatile substances present in soil.</i>	
<i>Volatilization to indoor air pathway is complete</i>	<i>A person may inhale substances in indoor air from volatile substances present in soil or groundwater that may volatilize into buildings present on the property.</i>	
<i>Groundwater-Surface Water Interface Pathway is not complete</i>	<i>A person cannot come in contact with surface water on the property where groundwater is venting to the surface water with contaminants that would present human exposure concerns (e.g., pH exceedances).</i>	<i>No surface water exists at the property</i>

*It may be clear from the information provided in the property description and current and intended property use sections that certain pathways are or are not complete (and will not become complete) and further assessment of those pathways or further information within this ResAP regarding those pathways may not be necessary.*

*Examples could include:*

- Drinking water/drinking water protection – the property is serviced with municipal water and no well is present on the property;*
- GSI/GSI protection - there is no surface water present for human exposure.*

*For properties that may undergo redevelopment, the submitter has an obligation to be in compliance with their Section 20107a obligations throughout the development, not just for the end use. Most construction activities are not mitigation of unacceptable exposures and a construction plan should not be part of the ResAP to comply with Section 20107a(1)(b).*



## Resource Materials

*Note: If additional investigations are necessary to gather sufficient data to determine if the pathway is complete, or likely to become complete, a person seeking department approval of the investigation activities may submit a ResAP – Evaluation Plan.*

### 5.0 Assessment of Applicability of Generic Criteria

The determination of whether exposure pathways identified as complete or likely to become complete require any response activities to mitigate an unacceptable exposure<sup>2</sup> could be dependent on whether the generic criteria are applicable and can be used for comparison to the identified contaminant concentrations in soil or groundwater. There are no generic criteria or RBSLs for soil gas, and comparisons must be to Part 201 site-specific criteria.

*For petroleum, if there is a release, NAPL is considered by statute to be present, unless there are sufficient lines of evidence to indicate NAPL is not present<sup>3</sup>. Generic criteria are not appropriate for comparison when NAPL is present within the soil matrix, unless demonstrated otherwise. RRD Resource Materials [NAPL Characterization, Remediation, and Management for Petroleum Releases](#) provides additional information for this demonstration.*

*For non-petroleum contaminants, comparison to the soil saturation screening levels (C<sub>sat</sub>) to determine the presence of NAPL (LNAPL or DNAPL) is only appropriate when a single contaminant is present in soil. Comparison to C<sub>sat</sub> screening levels is not appropriate when the release and contamination is a mixture of volatile organic compounds or petroleum hydrocarbon mixtures (e.g., gasoline, diesel, etc.).*

*The generic volatilization to indoor air criteria has conditions<sup>4</sup> that when present do not allow the use of the generic criteria. Refer to Appendix C.1 – Checklist for Determining if the Generic Volatilization to Indoor Air Inhalation Criteria Apply, of the [2013 VI Guidance Document](#).*

- *The groundwater volatilization to indoor air inhalation criteria (GVIIC) are not applicable when the groundwater is shallower than 3 meters;*
- *The presence of a sump or sump-like structure in an existing or proposed building would not allow the use of the generic criteria for GVIIC and the soil volatilization to indoor air inhalation pathway (SVIIC);*
- *If acute toxicants are contaminants of concern, the chronic-based GVIIC and SVIIC do not address the acute exposures and do not apply.*

*When the GVIIC and/or SVIIC do not apply a site-specific evaluation, including site-specific criteria must be conducted. The 2020 Volatilization to Indoor Air Pathway (VIAP) Screening Levels, reinstated into the 2013 VI Guidance Document, may be proposed to be used as Part 201 SSVIAC for the VIAP. Documentation that site conditions are appropriate to apply the 2020 VIAP Screening Levels as SSVIAC must be included in the ResAP consistent with the checklist in Appendix C.7 in the [2013 VI Guidance Document](#).*

*If soil gas has been sampled, Part 201 SSVIAC are necessary to use for comparison to soil gas concentrations. The 2020 VIAP SLs contain soil gas screening levels and may be used in the same manner as described for soil and shallow groundwater above. If using sub-slab soil gas to evaluate the VIAP, sufficient seasonal data based on representative samples needs to have been collected in order to determine whether the concentrations represent an unacceptable VIAP exposure and require response activity.*

<sup>2</sup> An unacceptable exposure that requires mitigation and allows for the intended use of the property in a manner that protects public health and safety is defined as exceeding applicable generic criteria, or a site-specific evaluation (including Part 201 site specific criteria). Certain manufacturing facilities may rely on MIOSHA standards for this determination. [Rule 299.1013 and Sec. 20120a(18)]

<sup>3</sup> Section 21303(a) NAPL definition, and (i) Release definition

<sup>4</sup> Section 20120a(3), R 299.14(2), R 299.24(2), R 299.6(2), R 299.49(1)(C), R 299.28

## Resource Materials

*The Media-Specific Interim Action Screening Levels, Recommended Interim Action Screening Levels (RIASLs) or Time Sensitive RIASLs are not criteria and are not appropriate to determine there is an unacceptable exposure consistent with the Due Care Rules. Where a risk has been identified, these screening levels may be used by a person to assess the need for, and timing of necessary interim actions. The RIASLs and Time-Sensitive RIASLs are not used to demonstrate compliance with Section 20107a(1)(b) and should not be referenced in the report, should not appear on any data tables, etc.*

*Note: At properties where it may be demonstrated the generic SVIIC and/or GVIIC are appropriate for comparison to detected contaminant concentrations in the determination of an unacceptable exposure it may be prudent to further consider public health risks. EGLE has determined that concentrations that do not exceed the SVIIC and GVIIC may result in an unacceptable public health risk. In addition, a data sharing agreement exists between EGLE and the Department of Health and Human Services (DHHS) to ensure environmental contamination data is exchanged between the departments in order to protect public health. Upon receipt of a ResAP for review, EGLE is obligated to evaluate the detected concentrations for soil, groundwater, and soil gas and may need to report the property to DHHS. DHHS may determine there is a health risk and take action. The submitter of the ResAP should consider the option of using SSVIAC that better reflect the best available information regarding toxicity and exposure assumptions.*

*For a complete pathway, based on limited data a person may presume there is an unacceptable exposure and presumptively mitigate instead of conducting a comprehensive investigation of the property to provide data necessary to determine whether or not there is an unacceptable exposure that requires mitigation. For the department to approve presumptive mitigation for Section 20107a there must be sufficient information to assess the mitigation system is protective of public health, safety, welfare.*

- *Presumptive mitigation for direct contact if less than the entire property is proposed for mitigation requires sufficient data to document the extent of the necessary barrier(s);*
- *Presumptive mitigation of the volatilization to indoor air pathway requires sufficient data to know and understand the contaminants, maximum concentrations, and location relative to the structures that are proposed to be mitigated.*

### **6.0 Identification of the Category of Applicable Cleanup Criteria or Site-specific Volatilization to Indoor Air Criteria (SS VIAC)**

*If the evaluation conducted in Section 5.0 indicates that NAPL, depth to groundwater, etc. are not issues that prevent the use of the generic cleanup criteria, it must be demonstrated that the category of generic cleanup criteria relied upon for determining the need for response activities are appropriate to evaluate any potential unacceptable exposure for the identified use of the property.*

*Example: A mixed-use building (commercial and residential) should use the generic residential criteria for comparison. Use of the generic nonresidential criteria would require a demonstration by the O/O they are appropriate for comparison.*

*Example: By statutory definition, a daycare may be considered a commercial (nonresidential) land use, but the generic nonresidential criteria would not be appropriate for comparison. The exposure assumptions used in the development of the nonresidential criteria do not address the presence of children and other sensitive populations on a regular basis. The residential criteria may be used for this evaluation, or site-specific criteria using different exposure assumptions may be developed.*



## Resource Materials

*Example:* By statutory definition, a recreational property (i.e., park or sports field) not contiguous to a residential property is defined as a nonresidential land use. The generic nonresidential criteria would have to be demonstrated to be appropriate for comparison because the nonresidential criteria do not address the presence of children on a regular basis. The residential criteria may be used for this evaluation, or site-specific criteria using different exposure assumptions may be developed.

*Example:* By statutory definition, a hotel may be considered a nonresidential land use. However, the exposure assumptions used in the development of the nonresidential criteria do not consider the presence of a live-in manager or children, which could stay at a hotel for an extended time. The residential criteria may be used for this evaluation, or site-specific criteria using different exposure assumptions may be developed.

### 7.0 CONTAMINANT INFORMATION

In evaluating the data for the identified contaminants and concentrations in soil, groundwater, and/or soil gas, comparison should be made to the appropriate criteria or SSVIAC as determined in Section 5.0, for the appropriate cleanup category (i.e., residential or nonresidential or site-specific) as determined in Section 6.0.

#### 7.1 Locations and Concentrations of Contaminants of Concern

##### 7.1.1 Soil

##### 7.1.2 Groundwater

##### 7.1.3 Soil Gas

As necessary and appropriate based on the RECs identified in Section 3.0, this section should include and reference the appropriate soil, groundwater or soil gas data tables and site maps for each media depicting the following:

- Locations of all soil borings, monitoring wells, and soil gas points relative to the property boundaries and all site features;
- Site map depicting the soil boring locations and corresponding sample contaminant concentrations;
- Site map depicting the groundwater monitoring well locations and corresponding sample contaminant concentrations;
- Site map depicting the soil gas point and/or sub-slab soil gas point locations and corresponding contaminant concentrations.

*Note:* The figures (site maps) should be scaled and detailed, not aerial photographs.

*Note:* If additional investigations are necessary to gather sufficient data to determine if an exposure pathway is complete or is likely to become complete requires response activity to mitigate an unacceptable exposure, a person seeking department approval of the investigation activities may submit a ResAP – Evaluation Plan.

### 8.0 IDENTIFICATION OF COMPLETE OR LIKELY TO BECOME COMPLETE EXPOSURE PATHWAYS REQUIRING RESPONSE ACTIVITIES (AS NECESSARY) TO MITIGATE UNACCEPTABLE EXPOSURES

*Note:* If a submitter is the current O/O and the data indicates there is a current potential unacceptable exposure, the submitter needs to have taken interim measures to mitigate unacceptable exposures.

This ResAP must address the mitigation of unacceptable exposure associated with the entire property(ies) for those pathways that were determined to be complete or likely to become complete. The determination or identification of the exposure pathways that are complete or

## Resource Materials

likely to become complete (or not identifying a pathway as complete) should be well supported by the information that comes before this section.

### Examples of Proposed Response Activities and Information Necessary to Support They Are Adequate to Mitigate the Unacceptable Exposure

*The following are examples of complete pathways and the information and documentation that would indicate response activities are necessary, what response activities will be undertaken, and support that the actions will be adequate to mitigate an unacceptable exposure. The details necessary to support that the actions are adequate will depend upon the type of actions proposed.*

#### 8.1 Direct Contact – Soil

*Example 1: The property is currently vacant (no structures or paved areas). The submitter is purchasing the property for redevelopment at some undetermined future date. To address their current Section 20107a(1)(b-c) obligations (upon purchase), the submitter is proposing to fence the entire property to prevent access or trespass to the property and contact with contaminated soils on the surface of the property. The submitter is proposing to maintain and monitor the fence.*

*Note: The O/O would also need to be in compliance with all other provisions, Rule 1013(1)(b) or also be proposing the necessary response activities to comply with the applicable provisions.*

*Example 2: For the proposed end use of the property, direct contact is a complete pathway. The submitter is proposing to undertake response activities that include the installation of an exposure barrier. The barrier may consist of an impenetrable and clearly distinguishable demarcation layer (or surveyed elevations), covered with a layer of clean soil or fill and at least 6 inches of clean topsoil with sufficient organic material to a healthy and sustainable vegetative cover, and/or pavement, and/or the presence of the building slabs to prevent any contact with the contaminated soils. If an exposure barrier is proposed, the design details regarding a demarcation material or surveys for elevations, and cover material (e.g., clean soil or fill material) and vegetative cover must be included. The adequacy of the thickness of the clean soil or fill layer beneath the topsoil will be dependent on the use of the property and the activities that occur or may occur on the surface. For future documentation of compliance, record of the installation of the exposure barrier will need to demonstrate that the materials and construction meet the proposed design. The soil and vegetative cover and any paved surfaces will need to be maintained thru the implementation of an inspection program and operations and maintenance, and monitoring (OM&M) actions. The OM&M must be sufficient to assure the barrier does not allow an unacceptable exposure.*

*Note: When soil sampling has not been conducted throughout the depth of the vadose zone<sup>5</sup>, and either only surficial samples or samples at deeper intervals have been collected with contaminants detected in excess of the appropriate direct contact criteria or RBSLs, it cannot be assumed that all soils in all intervals (above and below the sample location) are “clean”. It must be demonstrated by*

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<sup>5</sup> R 299.20(5) To demonstrate compliance with generic direct contact criteria, that criteria shall be applied without regard to the depth of the contamination.

## Resource Materials

*the collection and analysis of soil samples throughout the vadose zone that an exposure barrier is or is not necessary.*

### 8.2 Volatilization to Indoor Air – Soil and/or Groundwater

*Example: The submitter (based on data or presumptively) has decided to mitigate and is proposing to install a vapor mitigation system.*

- *The ResAP must contain the mitigation system design and performance objectives.*

*Note: If additional investigations are necessary to gather sufficient data to determine an appropriate mitigation system design to address this complete pathway, a person seeking department approval of the investigation activities may submit a ResAP – Evaluation Plan.*

### 8.3 Drinking Water

*Example: If the groundwater is used as a source of drinking water, the ResAP will need to propose to provide an alternate source (e.g., bottled water, hookup to a municipal drinking water source).*

## Operations, Maintenance and Monitoring (OM&M) Plan for Response Activities that Include an Exposure Barrier or Mitigation Systems

When mitigation is necessary for a complete or likely to become complete exposure pathway, provisions for monitoring, operation, maintenance, and oversight are necessary to assure the effectiveness and integrity of the exposure barrier or mitigation system. Contents of an OM&M Plan, appropriate to the barrier or system, includes as built drawings, performance objectives, an inspection schedule for monitoring and instructions necessary for operation and maintenance with standards, protocols, and timeframes. The basic components of the OM&M Plan for each complete pathway need be provided as part of the information for this section, including:

- The performance objectives the O/O has established to demonstrate the mitigation measures are and will continue to be adequate to prevent unacceptable exposures;
- The activities and schedule to assess the performance objectives (i.e., the activities and time frames necessary to assure an exposure barrier or mitigation system remains effective to eliminate or reduce the exposure so there will be no unacceptable exposure);
- Identification of who or what entity will be responsible and implementing the OM&M activities.

## 9.0 Proposed Response Activities to Comply with Applicable Due Care Rules

Response activities necessary under Section 20107a(1)(b) also include compliance with Rule 1005, Rule 1009, Rule 1011, Rule 1015, Rule 1017 and Rule 1019 with regard to conditions at the property. The provisions of these rules should be evaluated to determine if response activities may need to be undertaken. They evaluation may be a simple reference to previous information that documents that the conditions at the property do not require any action to comply.

- Rule 1005 Compliance with other laws and regulations applicable to hazardous substances;
- Rule 1009 Discarded or abandoned aboveground containers;  
*Certain ASTs are regulated under the NFPA, Flammable and Combustible Liquids Rules and like regulated USTs, are not considered abandoned. ASTs that are out of service for 12 months or more are required to be emptied, cleaned, disconnected from any piping and safeguarded against trespass.*
- Rule 1011 Belowground containers (regulated USTs are not considered “belowground containers” as the term is used here);

## Resource Materials

*NOTE: Regulated USTs must be addressed under Part 211 and if not emptied, this ResAP should indicate the O/O will empty them and indicate that will occur within the 45 days of taking ownership as required by Part 211.*

- Rule 1013(1)(b) Presence of conditions at the property that are or could result in erosion of surface soils creating a risk to off-site properties or conditions that are or could result in dispersion of particulate or volatile hazardous substances in surface soils at the property creating a risk to off-site properties;  
*If the condition(s) exist, this ResAP will need to identify the response activities a prospective O/O intends to take to stop or prevent the erosion and mitigate risks to off-site properties and/or prevent or mitigate the risks to off-site properties from the dispersion of particulate or volatile hazardous substances in surface soils.*
- Rule 1013(6) Notices to utility workers or other persons conducting activities at the property in an easement, under the terms of a utility franchise, or pursuant to severed subsurface mineral rights or severed subsurface formations;  
*If applicable to the property, the prospective owner or operator will be required to submit these notices upon becoming the O/O. This ResAP will need to indicate the prospective O/O plans to provide the notices to the necessary parties (identify the parties) within a certain number of days of becoming the O/O.*
- Rule 1015 Notice to department of discarded or abandoned containers;  
*If the condition exists, this ResAP will need to indicate the prospective O/O will submit the notice not later than 45 days after becoming the O/O, in compliance with the rule.*  
*NOTE: Regulated USTs and ASTs are not by law considered abandoned – the owner of the property is considered the owner of the tanks.*
- Rule 1017 Notice to department and to affected adjacent property owners of contamination migrating beyond the boundaries of the property (also associated with Section 20114(1)(b)(ii));  
*If applicable to the conditions at the property, this ResAP will need to indicate the prospective O/O will submit the notice not later than 45 days after becoming the O/O, in compliance with the rule.*
- Rule 1019 Notice of fire or explosion hazard to the local fire department, mitigation or elimination within 7 days or notification to the department.  
*An O/O of contaminated property has an obligation to mitigate a fire and explosion hazard. Any fire and explosion hazard should have been addressed prior to purchase of the property; it should be a rare circumstance that a prospective owner or operator should have to mitigate a fire and explosion hazard upon becoming the owner or operator. However, if such a condition is identified to exist on the property, the submitter should identify it in Sections 1.0 and/or 2.0, and this ResAP should identify the activities the prospective owner will immediately undertake to mitigate or eliminate the hazard.*

### 10.0 Signatures

### 11.0 References

## Resource Materials

### Required Attachments

- Phase I ESA – PLEASE do not include the EDR or similar report that is generally included in the Phase I ESA but do include site photographs in color. If a Phase I ESA was not conducted, the information used to identify the RECs that would be standard appendixes for a Phase I ESA needs to be provided.
- Phase II ESA or whatever report or reports detail the investigations that were conducted to generate the data used in the evaluation. Should include copies of the soil boring logs, analytical data sheets and chain-of-custody documents. If copies of analytical data sheets and chain-of-custody documents are available in a file in the possession of RRD, indicate in what file or document the information can be found, otherwise the information should also be appended.
- Site figures as indicated above (not aerial photographs).
- A description and/or information regarding any soil gas well and or sub-slab soil gas point installation and sampling. Copies of field notes, analytical data, and chain-of-custody documents. Include the required information if a modified method was used for the collection and analyses of any soil gas samples.