



REMEDIATION AND REDEVELOPMENT DIVISION POLICY AND PROCEDURE

Leaking Underground Storage Tank (LUST) Site Classification System RRD-21

Original Effective Date: August 21, 2003

Revision Date: February 23, 2022

Distribution: All RRD Employees

PURPOSE

This document establishes the process for the classification of a LUST site. This supersedes previous direction provided by EGLE regarding the site classification process for LUST sites.

Section 21314a of Part 213, Leaking Underground Storage Tanks, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), requires LUST sites to be classified consistent with the process outlined in RBCA.

DEFINITIONS

All terms are the same as those defined in Part 213.

ACRONYMS:

EGLE – Michigan Department of Environment, Great Lakes, and Energy

FAVs – Part 31 Water Quality Standards Aquatic Life Final Acute Values

FESL – Flammability and Explosivity Level

GSI – Groundwater Surface Water Interface

LEL – Lower Explosive Limit

MIOSHA – Michigan Occupational Safety and Health Act

MIOSHA PELs – Permissible Exposure Limits

MIOSHA STELs – Short Term Exposure Limits

NAPL – Non-aqueous Phase Liquid – Sec. 21303(a)

Part 213 - Part 213, Leaking Underground Storage Tanks, of NREPA, 1994 PA 451, as amended

PSIC – Particulate Soil Inhalation Criteria

RBCA – ASTM Risk-Based Corrective Action - Sec. 21303(g)

RBSL – Risk-Based Screening Level – Sec. 21303(k)

RRD – Remediation and Redevelopment Division

SSTL – Site-Specific Target Level – Sec. 21303(o)

VIAC - Volatilization to Indoor Air Inhalation Criteria

VSIC – Volatile Soil Inhalation Criteria

POLICY

The site classification system, attached as Appendix A, is based on the current and projected degree of risk to the public and environment, i.e., 1) immediate, 2) short-term, 3) long-term, 4) no demonstrable long-term risk based on current uses, or 5) all appropriate Part 213 corrective actions to close a LUST release are completed. The classification system identifies the exposure pathways and example site scenarios representative of the degree of risk. Sites should be evaluated for all relevant exposure pathways. The classification selected must represent the greatest risk at the site. For example, if the

evaluation identifies any conditions in Class 1, then Class 1 is selected. The corrective actions listed in Appendix A represent potential responses to address the associated exposure pathways and scenarios and may not be appropriate for all sites. Initial response actions should be consistent with Part 213 Section 21307, appropriate for the selected site classification based on the conditions of a specific site, and the best response action to address any short-term health and safety concerns at the site, while the RBCA process progresses. Based on increased knowledge of site contamination or changed risk to receptors a site should be reclassified as appropriate. Class 1, 2, and 3 scenarios are dependent upon contamination concentrations at the site. Over time, the detected contaminant concentrations for any single monitoring event may not exceed the RBSLs or SSTLs. If available data indicates that monitoring is still necessary to evaluate the potential for risk, then additional monitoring must be conducted prior to changing the classification for that site. It is not appropriate to reclassify a site based on data from a single sample event.

The LUST Site Classification Form ([EQP4469](#)), was developed to help classify LUST sites consistently and accurately by working through the form. For each pathway the risk scenarios are listed from greatest to lowest risk. For each pathway check the scenario that applies based on adequate characterization and monitoring events. The Site Classification is determined by the applicable scenario with the greatest potential risk from all relevant pathways. Site evaluations may not be limited to the scenarios provided. If the site evaluation for a pathway does not fit any of the example scenarios for the pathway, then choose the classification that best represents the site's greatest risk condition for that pathway and add a comment describing the site's scenario for the pathway at the bottom of the form. The completed form is required to be submitted with all LUST reports pursuant to Part 213, Section 21316.

If a site has not been classified by the person submitting the LUST Report, or if the assigned site classification does not represent the risks posed by the site based on available data, RRD will assign the site an appropriate site classification until RRD is presented with evidence that either a higher or a lower site classification is more appropriate. If there is not enough information to assign a site classification, RRD will enter the site status as "unknown"; this status is reserved solely for RRD's use.

Site classification or re-classification requires risk-based analysis using Part 213, and the referenced RBCA ASTM International (ASTM) standards E1739-95, E2081-00, and E2531-06.

PROCEDURE

Step	Who	Does What
1.	Liabe owner, liable operator, person submitting LUST Report under Section 21301b(3)	Classify LUST sites consistent with this policy and procedure. Enter the site classification on each LUST report coversheet form submitted to the department. Submit the completed Attachment B - LUST Classification Form (EQP4469) and explain within the submittal the reasons for the site classification determination. Reclassify site as appropriate based on increased knowledge of site contamination or changed risk to receptors.
2.	Project Manager (PM)	At a minimum, conduct a cursory review of the LUST Classification Form, LUST report, and cover sheet to determine if the site classification is appropriate for the site conditions. Review other available data, as necessary, to determine an appropriate site classification consistent with this policy and procedure. Reclassify site as appropriate based on increased knowledge of site contamination or changed risk to receptors.

Step	Who	Does What
3.	PM	If the site classification on a LUST report submitted under Part 213 is reclassified because it did not represent the risks posed by the site, inform the owner or operator who submitted the report.
4.	PM	Enter the appropriate classification for the site in the Remediation Information Data Exchange database.

LINKS TO ADDITIONAL INFORMATION

- [Environmental Contamination Response Activity](#) (RBSLs rules)
- [Cleanup Requirements for Response Activity](#) (Part 213 RBSLs Tables 1-3)
- [Flammability and Explosivity Screening Levels](#) (FESLs)
- [EGLE Guidance Document for the Vapor Intrusion Pathway](#)
 - Addendum 1 Addressing Acute Vapor Hazards under Part 213
 - Appendix C.1 Checklist for Determining if Generic VIAC Apply
 - Appendix D.3 Time-Sensitive Media Specific Recommended Interim Action Screening Levels
- [LUST Site Classification Form \(EQP4469\)](#)
- [Non-Aqueous Phase Liquid \(NAPL\) Characterization, Remediation, and Management for Petroleum Releases](#)
- [MIOSHA PELs and STELs](#)
- [Part 213, Leaking Underground Storage Tanks, of NREPA, 1994 PA 451, as amended](#)
- [Water Quality Standards - Final Acute Values \(FAV\)](#)

- **Risk-Based Corrective Action Standards (no link provided due to copyright)**
 - E1739-95 Standard Guide for Risk-Based Corrective Action Applied at Petroleum Release Sites
 - E2081-00 Standard Guide for Risk-Based Corrective Action
 - E2531-06 Standard Guide for Development of Conceptual Site Models and Remediation Strategies for Light Nonaqueous-Phase Liquids Released to the Subsurface

APPENDICES

Appendix A: Site Classification Table

APPROVING AUTHORITY

DIVISION DIRECTOR APPROVAL:

Mike Neller, Director
Remediation and Redevelopment Division

HISTORY

Policy No.	Action	Date	Title
USTD Operational Memorandum No. 5	Original	7/10/1995	Leaking Underground Storage Tank (LUST) Site Classification System
USTD Operational Memorandum No. 5	Reprinted	7/21/1997	Leaking Underground Storage Tank (LUST) Site Classification System
RRD Operational Memorandum No. 3	Revised	8/21/2003	Leaking Underground Storage Tank (LUST) Site Classification System
RRD Policy and Procedure, RRD-21	Revised	11/8/2013	Leaking Underground Storage Tank (LUST) Site Classification System
RRD Policy and Procedure, RRD-21	Revised	2/23/2022	Leaking Underground Storage Tank (LUST) Site Classification System

CONTACT/UPDATE RESPONSIBILITY

Any questions or concerns regarding this policy and procedure should be directed to EGLE-RRD@Michigan.gov.

A Department of Environment, Great Lakes and Energy (EGLE) policy and procedure cannot establish regulatory requirements for parties outside of EGLE. This document provides direction to EGLE staff regarding the implementation of rules and laws administered by EGLE. It is merely explanatory, does not affect the rights of or procedures and practices available to the public, and does not have the force and effect of law. EGLE staff shall follow the directions contained in this document.

**Leaking Underground Storage Tank (LUST) Site Classification System RRD-21
Appendix A**

CLASS 1

General Scenario:
Existing or immediate exposure or threat to human health, safety, welfare, environment, or sensitive environmental receptor.

General Immediate Response:
Immediately notify the local units of government, e.g., fire department, local health department, the Michigan Department of Environment, Great Lakes, and Energy (EGLE); and immediately notify all affected and potentially affected parties, e.g., property owners, tenants, easement holders, and utility authorities. Implement initial response actions immediately to abate the risks to all applicable receptors. Follow Part 213 reporting and initial response actions/corrective action requirements, including conducting Risk-Based Corrective Action (RBCA) evaluations to determine or confirm risks to receptors. Reevaluate and reclassify site as appropriate based on continually increased knowledge of site contamination or changed risks to receptors resulting from implementation of corrective actions.

<u>Exposure Pathway</u>	<u>Scenario</u>	<u>Example Initial Response Actions and Corrective Actions</u>
<p>Evaluate Pathways in Relation to NAPL (see NAPL Guidance)</p>	<p>Presence of <u>migrating</u> non-aqueous phase liquid (<u>NAPL</u>).</p> <p>Presence of acute risks due to direct contact or inhalation exposures to <u>mobile or residual NAPL</u>. This includes contaminants with acute (short-term) exposures in contact with a structure (including foundation and footers).</p>	<p>Take action to prevent further release of the regulated substance into the environment. Prevent further NAPL migration by appropriate containment measures, institute NAPL recovery or abatement measures as required to eliminate acute exposures or conditions and restrict area access. Evaluate all pathways in relation to the presence of NAPL.</p>
<p>Fire and/or Explosion</p> <p><i>NOTE: Explosive levels are present when <u>vapor</u> concentrations are at or greater than 10 percent of the Lower Explosive Limit (LEL) for any regulated substance or a mixture of regulated substances.</i></p>	<p>Explosive <u>vapor</u> levels are <u>present in a residence or other structure</u>.</p> <p>Explosive <u>vapor</u> levels are <u>present in subsurface utility system(s)</u>.</p>	<p>Contact Fire Chief to evaluate whether occupants should be evacuated; begin abatement measures. Identify the source of the vapors and begin corrective actions to abate the source, e.g., empty leaking underground storage tank (LUST) systems, recover mobile NAPL, treat or remove contaminated soil and/or groundwater.</p> <p>Contact Fire Chief to evaluate whether to evacuate the immediate vicinity; begin abatement measures. Identify the source of the vapors and begin corrective actions to abate the source, e.g., empty LUST systems, recover mobile NAPL, treat or remove contaminated soil and/or groundwater.</p>

CLASS 1

<p>Drinking Water Ingestion</p>	<p>A public or private potable water supply well, or public surface water intake or public water supply line exceeds drinking water risk-based screening levels (RBSLs) or is immediately threatened.</p> <p>A potable water supply is “immediately threatened” if contaminants are documented in the drinking water but below drinking water RBSLs (or) no contaminants have yet been documented in the drinking water but contamination of the potable water supply is expected at any time due to the proximity of the well or surface water intake to groundwater or surface water contaminated above drinking water RBSLs</p>	<p>Notify user(s), provide alternate water supply, hydraulically control contaminated groundwater, or install point-of-use water treatment as an initial action while the RBCA process progresses.</p>
<p>Direct Contact</p> <p><i>(If RBSLs are not applicable, develop SSTLs.)</i></p>	<p><i>Evaluate applicability of RBSLs in relation to NAPL in the entire soil column. If RBSLs are not applicable, develop site-specific target levels (SSTLS).</i></p> <p>Contaminant concentrations in surficial soils (0-12 inches) exceed direct contact RBSLs (if applicable) or SSTLs.</p>	<p>Remove, cover, or reliably restrict access to the contaminated media.</p>
<p>Inhalation</p> <p><u>(see EGLE Guidance Document for the Vapor Intrusion Pathway)</u></p> <p><i>(If RBSLs are not applicable, develop SSTLs.)</i></p>	<p><i>RBSLs are not applicable for comparison to analytical results for acute (short-term) risk compounds. Acute (short-term) risk compounds are listed in Addendum 1 of EGLE Guidance Document for the Vapor Intrusion Pathway</i></p> <p>Concentrations of soil gas that could cause existing or immediate exposures are at levels above Time-Sensitive Media Specific Recommended Interim Action Screening Levels (TS MSSLs). TS MSSLs can be viewed at EGLE Guidance Document for The Vapor Intrusion Pathway, Appendix D.3.</p> <p>Concentrations of soil gas immediately adjacent to or directly beneath an occupied structure exceed the acute SSTLs.</p> <p>Concentrations in soil, NAPL, or groundwater in contact with a structure (including foundation and footers) exceed acute SSTLs.</p>	<p>Contact Fire Chief and/or local health department to evaluate whether to evacuate occupants. Conduct initial response actions to prevent acute vapors from entering or accumulating in a structure by employing an effective vapor mitigation strategy to make the structure occupiable. Conduct corrective actions to reduce or eliminate the source of the acute vapor hazard. <u>(Reference: Addendum 1 of EGLE Guidance Document for the Vapor Intrusion Pathway)</u></p>

CLASS 1

Inhalation continued	NAPL or groundwater contamination above acute SSTLs is present in a sump at concentrations above acute SSTLs.	Contact Fire Chief and/or local health department to evaluate whether to evacuate occupants. Seal and ventilate the sump. Take other actions to ensure the sump discharge is properly managed.
	Concentrations of vapors that cause existing or immediate exposures are at levels above MIOSHA PELs and/or STELs within the utilities or in subsurface utility corridor or construction trenches.	Install vapor barrier, remove source and/or reliably restrict access to affected area. Prevent off-property migration.
Soil Inhalation (Ambient Air)	Concentrations of acute toxicants are present in ambient air that exceed time sensitive acceptable air concentrations and can potentially result in an unacceptable exposure to human receptors via the particulate soil inhalation and volatile soil inhalation pathways.	Install vapor barrier, remove source and/or reliably restrict access to affected area. Prevent off-property migration.
Groundwater-Surface Water Interface (GSI)	Contaminated groundwater is discharging to a surface water body above the Water Quality Standards - Final Acute Values (FAV) or resulting in visible NAPL film or sheen present on surface water.	Institute containment measures to prevent further migration in or to the surface water body or implement treatment options to address the acute risk. Determine the extent of the effects of the contamination in the surface water body and/or storm sewers to determine if corrective action in surface water body, sediments, or storm sewers is necessary. Notify the local unit of government or appropriate owner of storm sewer if groundwater contamination is entering a storm sewer.
Sensitive Environmental Receptors	A sensitive habitat or sensitive resource (e.g., sport fish, economically important species, threatened or endangered species, wetland, etc.) may be exposed to contaminated media or measurable or observable harm may occur.	Minimize extent of the effects of the contamination by containment measures and implement habitat management to minimize exposure. Prevent further contaminant migration into the sensitive habitat or wetland.

CLASS 2

General Scenario:

Based on the site risk-based corrective action conceptual site model (RBCA CSM) and migration of contaminants, **there is a potential for an exposure or threat** to human health, environment, or sensitive environmental receptors in the short term. **For the purpose of classification, potential exposures or threats considered to be short term generally are from the present to 2 years.**

General Immediate Response:

As appropriate, notify the local units of government, e.g., fire department, local health department, EGLE, and all affected and potentially affected parties, e.g., property owners, tenants, easement holders, and utility authorities. As necessary, implement initial response actions to abate the risks to all applicable receptors. Follow Part 213 reporting and initial response actions and corrective action requirements, including conducting RBCA evaluations. Reevaluate and reclassify site as appropriate based on continually increased knowledge of site contamination or changed risks to receptors resulting from implementation of corrective actions.

<u>Exposure Pathway</u>	<u>Scenario</u>	<u>Example Initial Response Actions and Corrective Actions</u>
Evaluate Pathways in Relation to NAPL (see NAPL Guidance)	Presence of acute risks due to inhalation exposures from mobile or residual NAPL where contamination is not in contact with a structure	Evaluate all pathways in relation to the presence of NAPL. Conduct a NAPL recoverability analysis and determine whether removal is necessary to abate an unacceptable risk [Sections 21308a(1)(b)(xviii), 21309a(2)(a), and 21311a(1)(c)(iii)].
Fire and/or Explosion	There is the potential for explosive vapor levels to accumulate in a residence, other structure, or utility systems. A potential for explosive conditions exists when soil gas concentrations are at or greater than 10 percent of the LEL and/or groundwater concentrations are greater than Flammability and Explosivity Screening Levels (FESLs).	Assess the potential for vapor migration, through monitoring and modeling, and if necessary, remove the source or install appropriate mitigation system.
Drinking Water Ingestion	A non-potable water supply well exceeds drinking water RBSLs or is immediately threatened, e.g., irrigation wells, non-contact cooling water, stab wells for filling pools or other outside uses, etc.	Notify the owner and user(s), evaluate the need to abandon the well, install point-of-use water treatment, hydraulically control contaminated water, or provide an alternate water supply.
	Groundwater contamination exceeds drinking water RBSLs and a public or private potable water supply well that is producing from the contaminated aquifer, is located within two years groundwater travel time from the known extent of contaminants of concern.	Implement appropriate corrective actions to prevent contamination of the water supply well. Monitor water quality in monitoring wells and potentially contaminated water supply well that is at risk.
	Groundwater contamination exceeds drinking water RBSLs and public or private potable water supply wells, producing from a different interval of the aquifer, are located within two years groundwater travel time from the known extent of contaminants of concern.	Monitor the quality of the water supply wells. Determine if the contaminant plume is within the capture zone of the water supply or wellhead protection area. Evaluate if control is necessary to prevent vertical migration to the supply well. Implement appropriate corrective actions to prevent contamination of the water supply well.

CLASS 2

<p>Direct Contact</p> <p><i>(If RBSLs are not applicable, develop SSTLs.)</i></p>	<p><i>Evaluate applicability of RBSLs in relation to NAPL in the entire soil column.</i></p> <p>Soil contamination that could typically be encountered by the public or by landscaping activities (generally at ≤ 3 feet below ground surface) exceeds the direct contact RBSLs (if applicable) or SSTLs.</p>	<p>Reliably restrict access to the soil, treat or remove contaminated soil. Determine if other exposure pathways are affected and follow initial response and corrective actions. Determine whether land use restrictions are feasible and appropriate during the RBCA evaluation.</p>
<p>Inhalation</p> <p><i>(see EGLE Guidance Document for the Vapor Intrusion Pathway)</i></p> <p><i>(If RBSLs are not applicable, develop SSTLs.)</i></p>	<p><i>Evaluate applicability of RBSLs (reference “Appendix C.1 Checklist for Determining if Generic VIAC Apply” EGLE Guidance Document for the Vapor Intrusion Pathway).</i></p> <p><i>RBSLs are not applicable for comparison to analytical results for acute (short-term) risk compounds. Acute (short-term) risk compounds are listed in the EGLE Guidance Document for The Vapor Intrusion Pathway, Addendum 1.</i></p> <p><i>If RBSLs are not applicable, a site-specific evaluation is necessary, including developing SSTLs.</i></p> <p>Concentrations in soil or groundwater not in contact with a structure (including foundation and footers) exceed acute SSTLs, or concentrations in soil gas within the lateral inclusion zone exceed acute SSTLs.</p> <p>Concentrations of soil gas are present immediately adjacent to or directly beneath an occupied structure exceed chronic SSTLs</p> <p>Groundwater contamination is in contact with a structure (including foundation and footers) at concentrations above chronic SSTLs.</p> <p>Groundwater contamination is present in a sump at concentrations above chronic SSTLs.</p> <p>Concentrations of vapors are present within the utilities or in subsurface utility corridor or construction trenches above chronic SSTLs.</p>	<p>Conduct appropriate vapor investigations. <i>EGLE Guidance Document for The Vapor Intrusion Pathway, Addendum 1</i> provides information regarding a process to identify acute vapor hazards, assess the need to mitigate using representative vapor sampling data, or establish a successful demonstration that mitigation is not warranted.</p> <p>Limit exposure to vapors. Conduct all corrective actions necessary to reduce or eliminate the source of vapors to achieve closure.</p> <p>Conduct appropriate vapor investigations, and if necessary, conduct appropriate mitigation measures to eliminate exposure. If investigation is not feasible conduct appropriate mitigation measures to eliminate exposure. Limit exposure to vapors.</p> <p>Seal and ventilate the sump. Take other actions to ensure the sump discharge is properly managed.</p> <p>Ventilate subsurface utilities or trenches. Prevent further vapor migration into these areas by identifying and eliminating the source of the vapors.</p>
<p>Soil Inhalation (Ambient Air)</p>	<p>Soil contamination present in soil ≤3 feet below the ground surface exceeds the chronic particulate soil inhalation criteria (PSIC RBSL).</p>	<p>Conduct appropriate investigations. A person may elect to remove the source or presumptively mitigate by installing engineering barriers (e.g., capping).</p>

CLASS 2

Groundwater-Surface Water Interface (GSI)	The <u>groundwater</u> contaminant plume exceeds GSI RBSLs, and the leading edge of the contaminated groundwater plume is located within two years groundwater travel time of a surface water body or the plume is entering a storm sewer and the contamination will reach the outfall of the storm sewer within two years travel time.	Determine whether corrective actions are necessary to intercept and treat the groundwater plume before it reaches the surface water body, outfall of the storm sewer or drainage way. Evaluate options for complying with GSI, including those options presented in Section 20120e. Assure compliance with Part 31 of the NREPA. Notify the local unit of government or appropriate owner of storm sewer if groundwater contamination is entering a storm sewer.
Sensitive Environmental Receptors	The leading edge of the <u>groundwater</u> contaminant plume is located within two years groundwater travel time distance of a sensitive habitat or resources (e.g., sport fish, economically important species, threatened or endangered species, wetlands, etc.).	Intercept and treat, or treat in-situ, the contaminant plume before it reaches the sensitive habitat or resources.

CLASS 3

General Scenario:

Based on the site risk-based corrective action conceptual site model and migration of contaminants, **there is a potential for exposure or threat** to human health, safety, or welfare, or to the environment, or sensitive environmental receptors in the long term. **For the purpose of classification, potential exposures or threats considered to be long term generally are greater than 2 years.**

General Immediate Response:

As appropriate, notify the local units of government, e.g., fire department, local health department, EGLE, and all affected and potentially affected parties, e.g., property owners, tenants, easement holders, and utility authorities. As necessary, implement initial response actions to abate the risks to all applicable receptors. Follow Part 213 reporting and initial response actions and corrective action requirements, including conducting RBCA evaluations. Reevaluate and reclassify site as appropriate based on continually increased knowledge of site contamination or changed risks to receptors resulting from implementation of corrective actions.

<u>Exposure Pathway</u>	<u>Scenario</u>	<u>Example Initial Response Actions and Corrective Actions</u>
Evaluate Pathways in Relation to NAPL (see NAPL Guidance)	Presence of long-term (chronic) risks due to direct contact or inhalation from mobile or residual NAPL .	Evaluate all pathways in relation to the presence of NAPL. Conduct a NAPL recoverability analysis and determine whether removal is necessary to abate an unacceptable risk (Sections 21308a(1)(b)(xviii), 21309a(2)(a), and 21311a(1)(c)(iii)).
Fire and/or Explosion	Soil gas concentrations are less than 10 percent of the LEL and/or groundwater concentrations are at levels that are unlikely to become potentially flammable or explosive (concentrations are lower than FESLs).	Continue to monitor site conditions as corrective action progress for fire or explosion hazards to assure conditions remain unlikely to increase concentrations.
Drinking Water Ingestion	<p>Soil is contaminated above the leaching to groundwater RBSLs, or groundwater is contaminated above drinking water RBSLs, and potable wells producing from the contaminated aquifer are located more than two years groundwater travel time from the known extent of the contaminants of concern.</p> <p>Groundwater contamination exceeds drinking water RBSLs and non-potable water supply wells, producing from a different interval of the aquifer, are located within the known extent of the contaminants of concern.</p> <p>A non-potable well supply does <u>not</u> exceed drinking water RBSLs or is <u>not</u> immediately threatened.</p>	Monitor groundwater contamination to determine plume stability and degradation (natural attenuation). Assure potential unacceptable exposures to potable and non-potable water wells are controlled or eliminated.
Direct Contact (If RBSLs are not applicable, develop SSTLs.)	<p><i>Evaluate applicability of RBSLs in relation to NAPL in the entire soil column.</i></p> <p>Soil contamination at > 3 feet below ground surface exceeds the direct contact RBSLs (if applicable) or SSTLs.</p>	Evaluate and implement corrective actions to address direct contact risks, e.g., engineered barriers, deed restrictions, remediation of soil, monitored natural attenuation, etc.

CLASS 3

<p>Inhalation</p> <p>(see EGLE Guidance Document for the Vapor Intrusion Pathway)</p> <p>(If RBSLs are not applicable, develop SSTLs.)</p>	<p><i>Evaluate applicability of RBSLs (reference “Appendix C.1 Checklist for Determining if Generic VIAC Apply” EGLE Guidance Document for the Vapor Intrusion Pathway).</i></p> <p><i>If RBSLs are not applicable, a site-specific evaluation is necessary, including developing SSTLs.</i></p> <p>Concentrations of contaminants in soil or groundwater above RBSLs or SSTLs that may pose a chronic health risk are present.</p> <p>Soil gas not immediately adjacent to or directly beneath an occupied structure within the lateral inclusion zone exceeds chronic SSTLs.</p>	<p>Conduct appropriate vapor investigations. Conduct vapor mitigation, as necessary. Conduct all corrective actions necessary to eliminate the chronic risks.</p>
	<p>NAPL or groundwater contamination is not in a sump or in contact with a structure (including foundation and footers).</p>	
	<p>Concentrations of vapors detected within the utilities or in subsurface utility corridor or construction trenches below SSTLs, but additional sampling required to verify concentrations.</p>	<p>Conduct additional sampling to verify concentrations. Prevent further vapor migration into these areas by identifying and eliminating the source of the vapors.</p>
<p>Soil Inhalation (Ambient Air)</p>	<p>Soil contamination present in soil >3 feet below the ground surface exceeds the chronic particulate soil inhalation criteria (PSIC RBSL) or exceeds chronic volatilization soil inhalation criteria (VSIC RBSL) at any depth.</p>	<p>Conduct appropriate investigations. A person may elect to remove the source or presumptively mitigate by installing engineering barriers (e.g., capping).</p>
<p>Groundwater-Surface Water Interface (GSI)</p>	<p>The groundwater contaminant plume exceeds GSI RBSLs, and the leading edge of the contaminated groundwater plume is located more than two years groundwater travel time from a surface water body, or the plume is entering a storm sewer and the contamination will reach the outfall of the storm sewer in more than two years.</p>	<p>Determine whether corrective actions are necessary to intercept and treat the groundwater plume before it reaches the surface water body, outfall of the storm sewer or drainage way. Evaluate options for complying with GSI, including those options presented in Part 20120e. Assure compliance with Part 31 of the NREPA. Notify the local unit of government or appropriate owner of storm sewer if groundwater contamination is entering an MS4 class storm sewer.</p>
<p>Sensitive Environmental Receptors</p>	<p>The leading edge of the groundwater contamination is located more than two years groundwater travel time from a sensitive habitat or resources (e.g., sport fish, economically important species, threatened or endangered species, wetlands, etc.).</p>	<p>Determine whether corrective actions are necessary to intercept and treat the groundwater plume before it reaches the sensitive habitat or resources.</p>

CLASS 4

General Scenario:

There is **no short or long-term effect** to human health, safety or welfare or sensitive environmental receptors, based on current conditions.

An unacceptable exposure to contamination is not anticipated **based on implemented initial response actions and current uses**. This includes the operations, monitoring & maintenance for any implemented initial response actions employed to control current risks (e.g., vapor mitigation system), there are no other potential unacceptable exposures and corrective actions are underway that will achieve closure.

Data for a single sampling event (groundwater or soil gas) below an applicable RBSL or SSTL is not sufficient to demonstrate risks are adequately abated and monitoring is still necessary to conclude there is not a risk for a relevant pathway(s) for current uses. The classification that best represents the site's greatest potential risk condition for that pathway(s) should be used (not Class 4).

Class 4 scenarios encompass all other conditions not described in Class 1, 2, 3, and 5 and that are consistent with the scenario description given above.

General Immediate Response:

If conditions change as corrective actions continue, notify the local units of government, e.g., fire department, local health department, EGLE, and all affected and potentially affected parties, e.g., property owners, tenants, easement holders, and utility authorities.

Follow Part 213 reporting and corrective action requirements, including conducting RBCA evaluations. Reevaluate and reclassify site as appropriate based on continually increased knowledge of site contamination or changed risks to receptors resulting from implementation of corrective actions.

Continue operations, monitoring and maintenance of initial actions, and corrective actions that will achieve closure.

Follow Part 213 reporting requirements.

<u>Exposure Pathway</u>	<u>Scenario</u>	<u>Example Initial Response Actions and Corrective Actions</u>
Evaluate Pathways in Relation to NAPL (see NAPL Guidance)	Mobile and residual NAPL are not present.	No action necessary.
	Mobile and residual NAPL is present and delineated, and risks are abated or managed.	If NAPL must be managed for <u>future</u> uses, conduct corrective actions that will achieve closure e.g., restrictions, source removal.
Fire and/or Explosion	No flammable or explosive vapor concentrations are present.	No action necessary.
Drinking Water Ingestion	Groundwater contamination is not groundwater in an aquifer.	No action necessary.
	There is no groundwater contamination that exceeds drinking water RBSLs There are no current groundwater uses for drinking water or other uses that may have a long-term effect on human health, safety, or welfare.	If groundwater must be managed for <u>future</u> uses, conduct corrective actions that will achieve closure e.g., restrictions, source removal.

CLASS 4

Direct Contact <i>(If RBSLs are not applicable, develop SSTLs.)</i>	<i>Evaluate applicability of RBSLs in relation to NAPL in the entire soil column.</i> Soil contamination does not exceed direct contact RBSLs (if applicable) or SSTLs;	No action necessary.
	Soil contamination is adequately covered and managed for current uses .	If soil must be managed for future uses, conduct corrective actions that will achieve closure e.g., restrictions, source removal.
Inhalation <i>(see EGLE Guidance Document for the Vapor Intrusion Pathway)</i> <i>(If RBSLs are not applicable, develop SSTLs.)</i>	No long-term threat to human health, safety and welfare is present based on any of the following: Volatile contaminants are not present. Soil, groundwater, and soil gas concentrations do not exceed acute or chronic RBSLs or SSTLs Representative soil gas concentrations demonstrate compliance. The vapor source is defined, and there are no structures within the lateral inclusion zone.	No action necessary.
	No long-term threat to human health, safety and welfare is present due to a vapor mitigation system that has been installed and demonstrated to be operating effectively.	Continue operations, monitoring and maintenance on mitigation system. Conduct corrective actions that will achieve closure e.g., restrictions, source removal.
	NAPL or groundwater contamination is not present in a sump or not in contact with a structure (including foundation and footers). No vapors present within the utilities or in subsurface utility corridor or construction trenches.	No action necessary.
	Soil contamination does not exceed acute or chronic VSIC or PSIC RBSLs	No action necessary.
Soil Inhalation (Ambient Air)	Soil contamination is adequately covered with an exposure barrier.	If cover must be managed for future uses, conduct corrective actions that will achieve closure e.g., restrictions, source removal.
	Groundwater contamination is reasonably not expected to vent to surface waters or does not exceed GSI RBSLs.	No action necessary.
Groundwater-Surface Water Interface (GSI)	Groundwater contamination does not exceed mixing-zone GSI screening levels established by EGLE.	Finalize approval to use GSI mixing-zone GSI screening levels.
	No sensitive habitat or resources exist on or near the site.	No action necessary.
Sensitive Environmental Receptors	No sensitive habitat or resources exist on or near the site.	No action necessary.

CLASS 5 – Part 213 Closure

General Scenario:

There is **no short or long-term effect** to human health, safety or welfare or sensitive environmental receptors. An unacceptable risk from contamination is not anticipated **based on current and reasonably foreseeable land use**.

All appropriate Part 213 corrective actions to close a LUST release are completed. This includes all appropriate restrictions and an approved Part 213 Closure Report.

General Response:

All appropriate Part 213 corrective actions to close a Leaking Underground Storage Tank release have been completed.

UNKNOWN CLASS

*****RRD Internal Use Only*****

General Scenario:

A confirmed release has been reported and the risks posed by the release are unknown.

General Response:

All exposure pathways need to be evaluated. Follow Part 213 reporting and corrective action requirements, including conducting RBCA evaluations. Reevaluate and reclassify site as appropriate based on continually increased knowledge of site contamination or changed risks to receptors resulting from implementation of corrective actions.

NO LONGER A FACILITY

*****RRD Internal Use Only*****

General Scenario:

Due to approved completed Part 213 corrective actions that are reported to satisfy criteria for an unrestricted residential closure, the RIDE location is not a facility for the Facility Inventory.
Or the location is not a facility because criteria have changed, legislative changes have occurred, or upon additional review there is a determination that there is not data to demonstrate the location is a facility.

General Response:

No additional response is necessary unless new information confirms a new release or provides data for the RRD to determine a closed release should be re-opened.