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DOCUMENTATION OF DUE CARE COMPLIANCE CONTENT

This document was developed in order to promote a consistent and informed approach for the Michigan Department of Environment, Great Lakes, and Energy, Remediation and Redevelopment Division (RRD) regarding Documentation of Due Care Compliance. This document provides information to RRD staff, RRD Contractors, and owners or operators preparing Documentation of Due Care Compliance 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 Documentation of Due Care submittal will be made by applying the governing statutes and administrative rules to relevant facts.

Approved: 

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Remediation and Redevelopment Division
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DOCUMENTATION OF DUE CARE COMPLIANCE CONTENT

Background

A person may submit to the department documentation of due care compliance for a property under Part 201 and or Part 213[1]. The documentation of due care compliance (DDCC) must contain documentation of compliance with Section. 20107a or Section 21304c obligations and other information required by the department.

A DDCC is written specifically to, and for review by the department. It is not written for the owner or operator (O/O) as a document that explains how they should maintain compliance with their Section 20107a or Section 21304c obligations.

A DDCC is not a PLAN to come into compliance. A DDCC is a document that describes how and why the O/O *is in* compliance with the Section 20107a (and the Due Care Rules[2]) or Section 21304c obligations that are applicable to the property that is the subject of the DDCC, *at the time* the DDCC is submitted. The DDCC is based on the current conditions of the property, current use of the property, current complete pathways, and current criteria for all contaminants at the property.

Only the current O/O of contaminated property is required to be in compliance with their Section 20107a or Section 21304c obligations 24 hours a day/7 days a week/365 days a year and is the only person who can demonstrate the compliance. Only a current O/O of a property that has due care obligations may submit a DDCC and request the Remediation and Redevelopment Division (RRD) review of their documentation that demonstrates they are in compliance with the due care obligations applicable to the property at the time of submittal.

Within 45 business days after receipt of a DDCC RRD must, if the report contains sufficient information for the department to make a decision, approve or deny the DDCC report. Even though the option to approve with conditions is contained in the statute, when the purpose of the DDCC is to document an O/O is <u>in</u> compliance with their due care obligations, the department is unable to approve compliance based on actions that have not yet occurred. The DDCC is not approved by operation of law if RRD fails to provide a response within 45 business days.

The DDCC must provide sufficient information for the department to determine compliance with the due care obligations that are applicable to the property. The DDCC must provide sufficient information to address all contaminants and all pathways determined complete at the property.

The following outline contains the information that the department has determined is required to be contained within a DDCC to determine that an O/O has satisfied the Section 20107a (and Due Care Rules) or Section 21304c obligations that are applicable to the property. Use of the suggested format will assist in providing timely and consistent reviews by RRD.

[1] Part 201, Environmental Remediation and Part 213, Leaking Underground Storage Tanks, of the Natural Resources and Environmental Protection Act 1994 PA 451, as amended (NREPA) Section 20114g and Section 21323n.

[2] The Due Care Rules (R 299.51001 to R 299.51021) are not directly applicable to Part 213; however, they do provide relevant and appropriate requirements that must be evaluated.

DDCC CONTENT AND SUGGESTED FORMAT

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

1.0 INTRODUCTION

The introduction can be whatever the writer prefers, but it is not necessary to include a list of the Section 20107a(1) or Section 23104c(1) obligations.

- Identify the date the current O/O purchased or occupied the property;
- If the property is regulated under Part 213, indicate if the submitter is also a party liable for the contamination at the property.
  Note: If the O/O submitting the DDCC is liable under Part 213 Section 21323a for regulated substances that exist within a public highway (road right-of-way) adjacent to the property, above applicable risk-based screening levels (RBSLs) or site-specific target levels (SSTLs), they are required to be in compliance with subsection 1(a) to (f) of Section 21304c for the contamination that exists within the public highway[3].

2.0 DETAILED PROPERTY INFORMATION

2.1 Property Description

- 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 on the property including foundation construction;
  - Reference a figure (aerial photographs may be acceptable for this reference) that depicts all buildings within the property boundaries.
- Identify whether there are any 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;
- Identify whether there are any response activities or corrective actions being undertaken on the property by a liable or non-liable person;
  - If there are response activities or corrective actions being conducted at the property and there any land or resource use restrictions on the property, what is the O/O doing or not doing to assure effectiveness of the restrictions are not impeded (if any action is required).
- 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. 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.

[3] Section 21304c(7)

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.

- Identify whether there any containers at the property containing hazardous substances that are considered abandoned; and the O/O does not intend to remove them.
  Note: Regulated USTs and ASTs are not considered abandoned containers. The DDCC should contain sufficient information to document the appropriate notice (EQP4476 – Part 201 only) was sent to RRD.

2.2 Property Features

- A description and map of existing infrastructure features and conditions of the infrastructure (e.g., sewers and utilities);
  The location of the utilities and sewers should be depicted on a scaled site map (not aerial photographs) in relation to the contamination on the property.
  Note: This information is important to document the O/O's need to have complied with Rule 1013(6) and, when appropriate, to document the O/O has provided 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. The O/O is required to have provided the notices to the parties identified in the rule as soon as the situation requires.
- A description of water and waste flow pathways such as roof drains, storm sewers, floor drains, septic tanks, and tile fields;
- A description of any construction or demolition (e.g., earth moving, grading, drainage, dewatering, and modifications to utilities, sewers, or structures) conducted by the O/O.

2.3 Current Property Use

- A description of how all buildings on the property are used - this should include more information than simply the type of business (e.g., commercial business, office, etc.);
- A description of activities that occur on the property, how visitors, employees, etc. access and use the property;
- Identify the presence of conditions at the property that resulted in erosion of surface soils creating a risk to off-site properties;
  If present, documentation as to how the O/O has prevented or mitigated these exposures should be provided in Section 9.0.
- Identify the presence of conditions at the property that resulted in dispersion of particulate or volatile hazardous substances from surface soils creating a risk to off-site properties.
  If present, documentation as to how the O/O has prevented or mitigated these exposures should be provided in Section 9.0.

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3.0 Identification of Complete Exposure Pathways

The evaluation is based on exposure pathways that are complete based solely on the use of the property. An exposure pathway is the link between a contaminant source and a receptor. The elements of a 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.*

The factors associated with the use of the property that affect whether exposure pathways are 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 8.0.

Example Table:

COMPLETE PATHWAY?	***PERTINENT PROPERTY CONDITIONS***	***EXPLANATION, IF NOT COMPLETE***
Drinking water pathway is not complete	*A person cannot drink groundwater because groundwater is not being used on the property for any purpose.*	*Municipal water supply and no wells present on property.*
Direct contact pathway is complete	*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).* *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)].*	
Soil particulate inhalation pathway is complete	*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.*	
Soil volatilization to ambient air pathway is complete	*A person can inhale ambient air that contains vapors from volatile substances present in soil.*	
Volatilization to indoor air pathway is complete	*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.*	
Groundwater-Surface Water Interface Pathway is not complete	*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).*	*No surface water exists at the property*

It may be clear from the information provided in the property description and current 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 the DDCC regarding those pathways may not be necessary.

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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;*
- *Volatilization to Indoor Air - if at the time the DDCC is submitted the property is vacant (no buildings), the volatilization to indoor air inhalation pathway would not be considered complete. A building could be constructed in the future, but the DDCC complete pathway identification is based on the use of the property at the time the DDCC is submitted [current tense (what is), not future (what may be)].*

4.0 Historical Property Use

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

4.1 Historical Hazardous Substance 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, identified recognized environmental conditions (RECs) should be noted on a detailed site map. *Note: The existing contamination will be addressed in Section 8.0*

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

5.0 Property Geology/Hydrogeology/Topography

This section should identify the current and historically pertinent geologic and or hydrogeologic conditions at the property; a full geological history is rarely necessary.

- 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.

6.0 Assessment of Applicability of Part 201 Generic Criteria or Part 213 RBSLs

The determination of whether exposure pathways identified as complete require any response activities or corrective actions for due care[4] could be dependent on whether the generic criteria or RBSLs 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

[4] 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 or Part 213 SSTLs). Certain manufacturing facilities may rely on MIOSHA standards for this determination. [Rule 299.1013 and Sec, 20120a(18)]

comparisons must be to Part 201 site-specific criteria or Part 213 site-specific target levels (SSTLs).

For petroleum, if there is a release, nonaqueous phase liquid (NAPL) is considered by statute to be present, unless there are sufficient lines of evidence to indicate NAPL is not present[5]. Generic soil criteria or RBSLs for the direct contact or volatilization to indoor air pathways 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 (Csat) to determine the presence of NAPL (LNAPL or DNAPL) is only appropriate when a single contaminant is present in soil. Comparison to Csat 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 or RBSLs have conditions[6] that when present do not allow their use. 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 (SLs), reinstated into the 2013 VI Guidance Document, may be proposed to be used as Part 201 SSVIAC or Part 213 SSTLs for the VIAP. Documentation that site conditions are appropriate to apply the 2020 VIAP SLs as SSVIAC or SSTLs must be included in the DDCC consistent with the checklist in Appendix C.7 in the 2013 VI Guidance Document.

If soil gas has been sampled, Part 201 SSVIAC or Part 213 SSTLs 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 or not the concentrations represent an unacceptable VIAP exposure and require response activity.

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 or Section 21304a and should not be referenced in the DDCC, should not appear on any data tables, etc.

[5] Section 21303(a) NAPL definition, and (i) Release definition
[6] Section 20120a(3), R 299.14(2), R 299.24(2), R 299.6(2), R 299.49(1)(C)

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Note: At properties where it may be demonstrated the generic SVIIC and/or GVIIC or RBSLs 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 DDCC 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 DDCC should consider the option of using SSVIAC or SSTLs that better reflect the best available information regarding toxicity and exposure assumptions.

For a complete pathway, based on limited data a person may choose to presume there is an unacceptable exposure and presumptively mitigate instead of conducting a comprehensive investigation of the property to produce 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 or Section 21304a *there must be sufficient information to assess if the mitigation 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 identify the contaminants, maximum concentrations, and location relative to the structures to design a mitigation system.*

7.0 Identification of the Category (Residential, Nonresidential, or Other) of Applicable Cleanup Criteria *and/or* SSVAIC *or* RBSLs *and/or* SSTLs

If the evaluation in Section 6.0 indicates that NAPL, depth to groundwater, etc. are not issues that prevent the use of the generic cleanup criteria or RBSLs, it must be demonstrated the category of generic cleanup criteria or RBSLs relied upon for due care compliance is 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 or RBSLs for comparison. Use of the generic nonresidential criteria or RBSLs 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 or RBSLs would not be appropriate for comparison. The exposure assumptions used in the development of the nonresidential criteria or RBSLs do not address the presence of children and other sensitive populations on a regular basis. The residential criteria or RBSLs may be used for this evaluation, or site-specific criteria or SSTLs using different exposure assumptions may be developed.

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 or RBSLs would have to be demonstrated to be appropriate for comparison because the nonresidential criteria or RBSLs do not address the presence of children and other sensitive populations on a regular basis. The residential criteria or RBSLs may be used for this evaluation, or site-specific criteria or SSTLs using different exposure assumptions may be developed.

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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 or RBSLs do not consider the presence of a live-in manager or children or other sensitive populations, which could stay at a hotel for extended time. The residential criteria or RBSLs may be used for this evaluation, or site-specific criteria or SSTLs using different exposure assumptions may be developed.*

8.0 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 RBSLs or SSVIAC or SSTL as determined in Section 6.0, for the appropriate cleanup category (i.e., residential or nonresidential) as determined in Section 7.0.

8.1 Contaminants of Concern, Locations, and Concentrations

8.1.1 Soil
8.1.2 Groundwater
8.1.3 Soil Gas

As necessary and appropriate based on the RECs identified in Section 4.0, 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

9.0 Complete Exposure Pathways & Response Activities or Corrective Actions that were Completed *(as necessary)* to Mitigate Unacceptable Exposures – Section 20107a(1)(b) or Section 21304c(1)(b)

The DDCC must address the entire property(ies) and only those exposure pathways that were determined to be complete based on the current use of the property. The identification of complete pathways (or not identifying a pathway as complete), the concentrations that represent an unacceptable exposure for a complete pathway, and the need for mitigation should be well supported by all the information that comes before this section.

The documentation of implemented actions that are determined necessary to mitigate all unacceptable exposure must be sufficient for RRD to conclude that they are appropriate to mitigate the exposure to public health, and will remain sufficient with any related operation, monitoring (inspections) and maintenance (OM&M), so long as there is no unexpected change in property conditions or uses.

Note: The compliance documentation will need to include records of installation of any exposure barrier or system, installed to mitigate an unacceptable exposure that demonstrates the materials and construction meet the proposed design. A copy of the exposure barrier or system 'as built' will need to be included. If OM&M has been implemented, documentation that it has been conducted appropriately as to not result in an unacceptable exposure needs to be provided.

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The following are only examples, for identified complete pathways, of the information and documentation that may be considered sufficient to demonstrate compliance.

Examples Response Activities or Corrective Actions Conducted and Why They Are Adequate to Mitigate the Unacceptable Exposure

9.1 Drinking Water

Example: The groundwater used as a source of drinking water is contaminated. The O/O has connected to a municipal water source and abandoned the well on the property. Documentation must include records of the connection to municipal water and well abandonment.

9.2 Direct Contact – Soil

Example: Contaminants at concentrations above the applicable direct contact criteria are present in soils. The entire property is currently paved or covered with buildings; the property may have already been paved or the placement of the pavement was the response activity or corrective action to address the unacceptable exposure for this complete pathway. The O/O is using the existing pavement and building slab as an exposure barrier to prevent contact with soils.

Alternatively: The O/O does not have sufficient data from the entire property to know whether there are or are not contaminants in the soils that exceed the applicable direct contact criteria or RBSLs and does not choose to conduct any further investigations. The O/O is presumptively using and maintaining the pavement as an exposure barrier through the implementation of an inspection program and operations and maintenance plan. There are no areas with unacceptable exposures that are not paved.

Note: When soil sampling has not been conducted throughout the depth of the vadose zone[7], 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 are "clean". It must be demonstrated by the collection and analysis of soil samples throughout the vadose zone that an exposure barrier is or is not necessary.

Example: To address the direct contact exceedances (either known or presumptive) the O/O has placed an impenetrable and clearly distinguishable demarcation material over the soils and covered the demarcation material with documented clean soil or fill material and covered the clean soil with at least 6 inches of clean topsoil with sufficient organic material to support a healthy and sustainable vegetative cover. The required thickness of the clean soil or fill layer will be dependent on the use of the property and the activities that occur or may occur on the surface. The vegetative and soil cover and any paved surfaces have been maintained through the implementation of an inspection program and operations and maintenance actions.

Documentation regarding the barrier will need to include:

- *A site figure that clearly depicts the different types of exposure barriers on the property and their locations on the property (e.g., paved surfaces, buildings slab, greenspaces, etc.). If less than the entire property has been mitigated (presumptively or otherwise) to address unacceptable exposures, sufficient data will need to have been collected to document the extent of the necessary barrier(s). A*

[7] 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.

site figure that depicts the location of the detected concentrations used to determine the extent of the necessary barrier(s) must be provided;

- *Installation records that include documentation that any soil or fill materials and topsoil used are not contaminated;*
- *Dated, color photographs that document the installation of the demarcation material;*
- *Installation records with photographic evidence of actual measurements of the depth of the soil or fill materials and the depth of topsoil;*
- *Dated, color photographs of the placement, and of the established vegetative cover to hold the clean soil in place and prevent erosion;*
- *Dated, color photographs that document the current-day condition of the exposure barrier(s).*

Exposure Barrier Inspection and Maintenance

Depending on when the submitter became the O/O and the time frame from when the exposure barrier(s) was installed, records of inspection and maintenance should include:

- *Copies of the Inspection Form-Field Notes – conducted on dates or within the time frames indicated in the OM&M Plan;*
- *If damage was noted requiring repair, photographs, documentation of the repair, to include dates demonstrating the repairs had been made within the time frames specified in the OM&M Plan.*

Example: The property is currently vacant (no structures and/or structures are not occupied – any access is prohibited) and investigations indicate the concentrations of the contaminants in the surficial soils exceed both the appropriate residential and nonresidential cleanup criteria or RBSLs. The property is open to trespass. The O/O either:

- *Surrounds the property with a fence, at least 6' high. Any gates or entrances in the fence are appropriately locked to prevent access. An OM&M Plan and Inspection Schedule is developed and followed – the fence is visually inspected on some reoccurring basis and any breaches in the fence are noted and repaired within an appropriate time frame. The O/O maintains documentation of the inspections and any repairs;*
- *Places an exposure barrier on the surface of the property. The appropriate barrier thickness and OM&M would be determined by the activities likely to occur (e.g., open field in a residential neighborhood, kids may use it to play sports that may require additional cover and OM&M to assure the vegetative cover is not eroded).*

9.3 Volatilization to Indoor Air – Soil

Example 1: Based on contaminant concentrations detected in soils, a known or potential source of vapors is present. The O/O elected to further evaluate the pathway by conducting sub-slab soil gas sampling. The sampling indicated the concentrations in the soil gas are non-detect or below SSVIAC or SSTLs and the existing source of vapors do not pose an unacceptable exposure – the volatilization to indoor air pathway (VIAP) requires no response activities or corrective action.

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Documentation for this situation must include:

- *Justification for soil gas or sub-slab soil gas points and why they are adequate (both in number and location) to evaluate the pathway.*
- *Description or information regarding the soil gas point installation and sampling – the data is only as good as the installation of the points and acceptable sample collection.*
- *Copies of field notes, analytical data, and chain-of-custody documents.*

Note: One or two sampling events does not provide sufficient information to allow for the determination that an unacceptable VIAP exposure does not exist if a source of vapors (contaminated soil and/or groundwater) exists within the lateral inclusion zone. In this instance, the VIAP would not be adequately evaluated and the submittal of a DDCC would not be appropriate until sufficient representative sampling events have been conducted to address seasonal variability. With sufficient site characterization (soil and/or groundwater) a single soil gas sample event representative of the source, with concentrations that document an unacceptable exposure can allow design of an appropriate mitigation system. A soil gas exceedance is an unacceptable exposure that requires mitigation by some means. However, if sufficient site characterization has not been conducted and soil gas concentrations from limited events are used for the design of a passive or active VIAP mitigation system, this often leads to deficiencies in the system design and may affect confirmation of the system's effectiveness including time delays.

<u>Example 2</u>: The O/O (based on data or presumptively) decided mitigation was necessary or more cost effective than additional investigation and installed a passive or active mitigation system.
This section of the text of the DDCC may briefly describe the mitigation system and its' installation, but the DDCC should include an appendix that contains the following, at a minimum:

- *The specifics of the mitigation system "as-built" (system components, photographs, etc.). Need to provide information sufficient to document the system was installed in accordance or in compliance with the manufacturers requirements and/or as proposed and approved by RRD, if requested and reviewed by RRD prior to installation via submittal of a Response Activity Plan (Part 201 only).*
- *Information regarding the performance objectives for the system and documentation the performance objectives have been met and the system is effectively abating any risk from unacceptable exposures from the intrusion of vapors to the indoor air.*

- *Depending on when DDCC is submitted versus the date the submitter became the O/O and the date the system was installed, documentation the Operations, Maintenance and Monitoring (OM&M) Plan and Inspection Schedule has been complied with, which indicates the system is operating as designed and meeting the performance objectives.*

(Checklists identifying needed information for mitigation system design, startup, long-term OM&M, etc. are underdevelopment and will be included in the 2013 VI Guidance Document)

9.4 Volatilization to Indoor Air – Groundwater

See examples for soil volatilization to indoor air.

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9.5 Soil-Inhalation of Volatile or Particulate Hazardous Substances in Ambient Air

Example: Hazardous substances in soil represent an unacceptable exposure for these pathways and to mitigate the exposure the O/O relies on the presence of paved areas and establishes an adequate surface cover over the area that represents the unacceptable exposures. If soils across the entire property are not covered, it must be demonstrated by the collection and analysis of soil samples where an adequate surface cover is not necessary. Cover installation and documentation requirements would be similar to a direct contact barrier example,

Operation Maintenance & Monitoring for Response Activities or Corrective Action Conducted that Include Exposure Barriers or Mitigation Systems for a Complete Exposure Pathway:

When mitigation is necessary for a complete 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);
- Identify who or what entity is responsible and implementing the OM&M activities;
- Where in the DDCC a complete copy of the OM&M Plan is located. *The OM&M Plan, Inspection Schedule, and Inspection Form(s) are included in the DDCC for reference, to support the type of documentation the O/O should have and should be included in the DDCC to demonstrate they are maintaining compliance.*

10.0 Demonstration of Compliance with Section 20107a or Section 21304c Obligations Applicable to the Subject Property Based on Current Use

10.1 Exacerbation [Section 20107a(1)(a) or Section 2134c(1)(a)]

This section should identify the steps taken by the O/O to prevent exacerbation during the current use of the property and how those steps are successful.

Note: The DDCC is not about what the O/O will do if exacerbation occurs in the future, but what the O/O has done to be in compliance to prevent exacerbation. Per Rule 1007, exacerbation is twofold (1) an action or activity undertaken by the O/O of the property the causes contamination to migrate beyond the boundaries of the property and (2) there is change (increase) in response activity costs. UNLESS (1) the increase is small in relation to the overall costs or (2) the activity provides environmental or public health benefits.

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10.2 Mitigate or Prevent Unacceptable Exposures [Section 20107a(1)(b) or Section 21304c(1)(b)]

Additional information beyond that provided in Section 9.0 may not be necessary, except for Part 201 properties to document compliance with the applicable Due Care Rules. A simple reference to Section 9.0 may be sufficient for the complete pathway discussions.

Based on the current use of the property this section lists each of the pathways that are identified as complete that required response activity or corrective actions and/or the applicable Due Care Rules that are identified as part of compliance with Section 20107a(1)(b) [Rule 1013(1)(c)]. This section speaks to how and why the O/O is in compliance for each complete pathway and applicable rules and provides supporting documentation as the demonstration.

10.2.1 Demonstration of Compliance with Due Care Rules Applicable to the Subject Property Based on Current Use

For a Part 201 facility, as part of the documentation for compliance with Section 20107a(1)(b) there must be documentation of compliance with Rule 1005, Rule 1009, Rule 1011, Rule 1013(6), Rule 1015, Rule 1107, and Rule 1019 with regard to conditions at the property. Information to determine which rules may be applicable to the property conditions should be available from Section 2.0 and simple reference to that information may be sufficient.

- 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);
- Rule 1015 Notice to department of discarded or abandoned containers;
- 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));
- Rule 1019 Notice of fire or explosion hazard to the local fire department, mitigation or elimination within 7 days or notification to the department;
- 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.

When notices are required, a copy of the notice and proof of receipt of the notices should be included in an appendix to the DDCC.

10.3 Reasonable Precautions [Section 20107a(1)(c) or Section 21304c(1)(c)]

Omit if there has not been a documented need for response activities to address the acts or omissions of third parties.

The O/O does have an obligation to consider and account for trespass on both vacant and developed property.

Third parties are essentially everyone (including employees), but the O/O. An O/O does not have an obligation to notify their employees under Section 20107a or Section 21304c as long as the anticipated employee activities will not result in their exposure to hazardous substances. However, the employer may have an obligation to notify their employees under MIOSHA.

10.4 Cooperation, Assistance, and Access [Section 20107a(1)(d) or Section 21304c(1)(d)]

Based on the information included in Section 2, omit if there has been no request for access to the property.

If a person authorized to conduct response activities or corrective actions at the property has asked for access, provide information indicating who asked, when and how the O/O complied with the request or did not and why.

10.5 Compliance with Land Use Restrictions and Institutional Controls [Section 20107a or Section 21304c(1)(e)]

Based on the information included in Section 2, omit if no land or resource use restrictions or institutional controls are currently being relied upon or established on the property.

If land or resource use restrictions are relied upon or established on the property :

- Provide a copy of the land or resource use restriction(s) document;
- Provide a brief description of the restrictions;
- Indicate how the O/O is in compliance and how the O/O complies with the restrictions.

10.6 Not impede the effectiveness or integrity of land or resource use restrictions [Section 20107a(1)(f) or Section 21304c(1)(f)]

Based on the information included in Section 2, omit if there are no land or resource use restrictions and/or there are no remedial actions or corrective actions being conducted on the property.

- If there are actions being conducted, or land or resource use restrictions. Describe the response activities or corrective actions being conducted;
- Describe the activities or absence of activity the O/O has and is conducting to assure they do not impede the effectiveness.

10.7 Subsection (1)(a) to (f), applicable to Part 213 liable O/O, obligation to address the presence of regulated substances within a public highway [21304c(7)]

Based on the information included in Section 2, omit if contamination on and or within a public highway is regulated under Part 201 or the submitter of the DDCC is not liable under Section 21323a for the contamination that exists within the public highway.

If the submitter is a liable party under Section 21323a and the information in Section 8.0 indicates contamination exists within a public highway that requires compliance with Section 21304c(7).

- Identify the subsections of (1)(a) to (f) that are applicable;
- Describe the corrective actions conducted to achieve and demonstrate compliance.

11.0 Signatures

12.0 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).
- As indicated in Section 9.2.1, the description and/or information regarding the 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.