

**OHIO VOLUNTARY ACTION PROGRAM  
PROPERTY-SPECIFIC RISK ASSESSMENT  
FORMER GM MANSFIELD STAMPING PLANT  
ONTARIO, RICHLAND COUNTY, OHIO**

**REVISED**

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## Ohio EPA RCRA AND VAP MOA Track: Property-Specific Risk Assessment

Required Information for Applicable Standards (if relying upon risk derived cleanup standards)	Yes or No (choose one)	Provide specific responses where indicated below and attach to this form (FORM #15) all supporting documentation. Please reference all information (including document name, section and page number(s)) where relevant information is located.
<p>1. The attached documentation must provide a demonstration of compliance with applicable standards for all pathways identified in accordance with rule 3745-300-07(F)(1). A table or a combination of tables summarizing the following information must be attached to this form (see Attachment I):</p> <ul style="list-style-type: none"> <li>• A summary of the identified areas and the media of concern within each identified area</li> <li>• A summary of the exposure pathways, receptors and any applicable points of compliance;</li> <li>• A summary of the concentrations of COCs in each identified area;</li> <li>• A summary of the applicable standards for each exposure pathway within each identified area;</li> <li>• An indication of the method used to determine the applicable standard for each COC (e.g., generic standard, property-specific standard, background level);</li> <li>• An indication of which pathways are being eliminated through engineering or institutional controls; and</li> <li>• An indication of whether the applicable standard is met or if remedial activities are required to meet applicable standards. Note: If remedial activities (including, but not limited to, engineering and institutional controls) are required, Form 16 must be completed.</li> </ul> <p>Note: the exposure pathways and receptors identified in this table must be consistent with those indicated in the table generated in answer to Question 3 of Form #13.</p>		<p>Document: PSRA Section: 1.2 Risk Assessment Scope and Technical Approach Page Number: 4</p> <div style="border: 2px solid black; padding: 10px; text-align: center;"> <p>Received AUG 06 2015 Division of Environmental Response &amp; Revitalization</p> </div>
<p>2. Was a human health risk assessment performed as part of this property-specific risk assessment? Note: Please follow instructions below. Use of Form #15 may not necessarily include a property-specific human health risk assessment. Questions 2a and 2b are answered only if generic numerical standards are being used without a property-specific human health risk assessment.</p> <p>If YES, go to Question 3.</p> <p>If NO, answer Questions 2a and 2b and then go to Question 7.</p>	<p>Yes <u>X</u> No <u>    </u></p>	
<p>2a. Were cumulative adjustments made to the generic</p>	<p>Yes <u>    </u></p>	<p>Document:</p>

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<p>numerical standards to achieve the risk goal(s) in accordance with rule 3745-300-08, because multiple noncarcinogenic COCs and/or multiple carcinogenic COCs exist?</p> <p>If YES, provide the location where the calculation(s) used to conduct all the cumulative adjustments are contained in the documentation. (See <u>Demonstrating Compliance with Generic Standards</u> - Attachment I of the OEPA/VAP NFA Form Section H - for clarification and guidance with respect to this question a copy of this guidance can be found at the following web address:  <a href="http://www.epa.ohio.gov/portals/30/vap/tgc/VA3000809-002.pdf">http://www.epa.ohio.gov/portals/30/vap/tgc/VA3000809-002.pdf</a></p> <p><b>Note:</b> Cumulative adjustments must be conducted when there are multiple COCs and/or multiple exposure pathways.</p>	No _____	<p>Section: Page Number:</p>
<p><b>2b.</b> Does the property conform with the exposure assumptions used to calculate generic numerical standards?</p> <p>After answering Question 2b, go to Question 7.</p> <p><b>Note:</b> If answer to above is no, be aware that problems may exist regarding the applicable standards applied to the property.</p>	<p>Yes _____ No _____</p>	<p>Document: Section: Page Number:</p>
<p><b>3.</b> Indicate where in the documentation the property-specific human health risk assessment is located.</p>		<p>Document: PSRA Section: 3.2 Potential Receptors and Exposure Pathways Page Number: 17</p>
<p><b>3.a.</b> Indicate whether the property-specific human health risk assessment was performed as an elective application or as a mandatory application.</p>		<p><b>Select One:</b>  <input type="checkbox"/> Mandatory Application  <input type="checkbox"/> Elective Application  <input checked="" type="checkbox"/> Combination (both mandatory and elective)</p>
		<p><b>Select all that are appropriate:</b></p> <p>_____ Alternative land use List the land use: _____</p> <p>_____ Property specific exposure assumptions are not in accordance with generic land use assumptions.</p> <p>_____ Alternative standards [i.e. standards developed due to the fact that they were not contained in the Generic Numeric Standards (GNS) tables in OAC 3745-300-08]. List chemicals for which the additional standards were</p>

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		<p>derived: _____</p> <p>_____</p> <p><input checked="" type="checkbox"/> Additional exposure pathways (i.e. those over and above the exposure pathways considered and utilized for the GNSs). List the additional exposure pathways <u>Sediments</u></p> <p>_____</p> <p>_____ Use of engineering controls at the property.</p> <p><input checked="" type="checkbox"/> Use of institutional controls (other than commercial and industrial deed restrictions) at the property.</p> <p>_____ Other (please describe below - attach additional sheets of paper behind this tabbed section if necessary).</p>
<p>3.c. When the <math>1 \times 10^{-4}</math> carcinogenic risk goal is used to assess the carcinogenic cumulative risk to on-property receptor populations in an industrial land use category, provide the location within the documentation of the explanation of how the <math>1 \times 10^{-5}</math> carcinogenic risk goal was met for off-property populations.</p> <p><b>Note:</b> Please see - <u>Guidance for Completing the Risk Assessment Report</u> Attachment II of the OEPA/VAP NFA Form Section H - for clarification and guidance with respect to this question. Available at <a href="http://www.epa.ohio.gov/portals/30/vap/tgc/TGC_Index.pdf">http://www.epa.ohio.gov/portals/30/vap/tgc/TGC_Index.pdf</a></p>		<p>Document: PSRA Section: 3.3 Exposure Quantification Page Number: 20</p>
<p>3.d. Were generic standards used in conjunction with a property-specific risk assessment?</p>	<p>Yes <input checked="" type="checkbox"/></p> <p>No _____</p>	<p>Document: PSRA Section: 3.2.1 Potential Contaminant Sources and Release Mechanisms Page Number: 16</p>
<p>3.e. Does the property-specific risk assessment rely upon institutional controls as a means of eliminating or</p>	<p>Yes <input checked="" type="checkbox"/></p> <p>No _____</p>	<p>Document: PSRA Section: 7.1 Risk Assessment Summary</p>

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mitigating exposures to any or all receptor populations as described in 3745-300-09(D)(2)(c)?		Page Number: 45
3.f. Does the property-specific risk assessment rely upon engineering controls as a means of eliminating exposures to any or all receptor populations as described in 3745-300-09(D)(2)(d)?	Yes ___ No <u>X</u>	Document: Section: Page Number:
3.g. If YES to 3.f, is the engineering control effective at performing its invoked functions as described 3745-300-09 (D)(2)(d), in accordance with 3745-300-09(I)(2)?	Yes ___ No ___	Document: Section: Page Number:
3.h. If YES to 3.g., is the engineering control memorialized in an Operation & Maintenance Plan in accordance with Rule 3745-300-11 (A)(4)(a)?	Yes ___ No ___	Document: Section: Page Number:
3.i. Does the property-specific risk assessment demonstrate compliance with the risk goals and applicable standards identified as determined in accordance with Rule 3745-300-09 (B) or (H) for all receptor populations exposed to chemicals of concern on and off the property during inspection and repair of the engineering control when the engineering control is breached or compromised? Please note that if construction of an engineering control is anticipated after the issuance of the NFA Letter a demonstration of compliance with risk goals and applicable standards is required for that activity.	Yes <u>X</u> No ___	Document: PSRA Section: 7.1 Risk Assessment Summary Page Number: 45
3.j. If NO to 3.i., does the Operation & Maintenance Plan otherwise provide for the protection of receptor populations exposed to chemicals of concern on and off the property during the inspection and repair of the engineering control when the engineering control is breached or compromised such that the property will not exceed the risk goals and applicable standards identified and determined in accordance with Rule 3745-300-09 (B), (F) or (H)? (For example; A Health & Safety Plan included within the O&M Plan)	Yes ___ No ___	Document: Section: Page Number:
3.k. Cumulative considerations must be made to achieve the risk goals under OAC 3745-300-09 (B), when multiple noncarcinogenic COCs and/or multiple carcinogenic COCs and/or multiple exposure pathways exist. Provide the location where the calculation(s) used to conduct the cumulative adjustments are contained in the documentation.		Document: PSRA Section: 5.0 Risk and Hazard Characterization Page Number: 30
4. Are Risk Derived Unrestricted Potable Use standards derived within the Property Specific Risk Assessment?  If YES, list the COC in the column to the right.	Yes ___ No <u>X</u>	Document: Section: Page Number:

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Note: If Form #14 was not completed due to the need for determining risk-derived UPUS, a completed copy of Form #14 must be attached to this form.		List COCs:
<p>5. Does the property conform with the exposure assumptions used to calculate either property-specific applicable standards and/or generic applicable standards, where appropriate?</p> <p>Note: If answer to above is no, be aware that problems may exist regarding the applicable standards applied to the property.</p>	<p>Yes <u>X</u></p> <p>No <u>    </u></p>	<p>Document: PSRA</p> <p>Section: 3.3 Exposure Quantification</p> <p>Page Number: 20</p>
<p>6. If property-specific point values or probability distributions were developed for certain exposure assumptions, please provide the location within the documentation where the following information is provided:</p>		
* a list of the property-specific point values or probability distributions used		<p>Document: PSRA</p> <p>Section: 3.3.1 EPC Calculations</p> <p>Page Number: 21</p>
* a description of how the property-specific data were collected and how the point values or probability distributions were derived. The statistical methodology(ies) used to arrive at the point values/probability distributions must also be provided in the documentation.		<p>Document: PSRA</p> <p>Section: 2.0 Data Evaluation and Identification of COCs</p> <p>Page Number: 10</p>
<p>7. Was a property-specific ecological risk assessment performed under OAC 3745-300-09(E)? If yes, go to question 9. If no, go to question 8.</p>	<p>Yes <u>X</u></p> <p>No <u>    </u></p>	<p>Document: PSRA</p> <p>Section: 5.1 Ecological Risks</p> <p>Page Number: 33</p>
<p>8. Indicate where the justification for not conducting an ecological risk assessment is contained within the accompanying documentation and then proceed to Question 11.</p>		<p>Document:</p> <p>Section:</p> <p>Page Number:</p>
<p>9. Indicate where the following information concerning the ecological risk assessment is provided in the documentation.</p>		
i) the chemical(s) of concern assessed in the ecological risk assessment;		<p>Document: PSRA</p> <p>Section: 5.4 Ecological Risk Characterization</p> <p>Page Number: 42</p>
ii) the important ecological resources assessed in the ecological risk assessment;		<p>Document: PSRA</p> <p>Section: 5.4 Ecological Risk Characterization</p> <p>Page Number: 42</p>

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iii) the candidate assessment endpoints determined for the ecological risk assessment;		Document: PSRA Section: 7.1.2 Ecological Receptors Page Number: 49
iv) the measurement endpoints assessed in the ecological risk assessment;		Document: PSRA Section: 7.1.2 Ecological Receptors Page Number: 49
10. Indicate the location, in the accompanying documentation of a summary of the results of the ecological risk assessment, including how applicable ecological risk goals described in 3745-300-09(E) are achieved.		Document: PSRA Section: 7.2 Risk Assessment Conclusions Page Number: 49
11. Are sediments located on or adjacent to the voluntary property?  If YES, go to question 12.  If NO, go to question 21.	Yes <u>X</u> No <u>    </u>	Document: PSRA Section: 2.1.1 Data Collection Page Number: 10
12. Were sediments evaluated per OAC 3745-300-09(F)?  If YES, go to question 13.  If NO, indicate where, in the documentation, an explanation of why sediments on or adjacent to the voluntary property were not assessed (e.g., no reason to believe sediments were affected by releases of hazardous substances or petroleum) then go to question 21.  Note: Questions 13 through 20 address sediment assessment for pathways to ecological receptors only. For complete pathways of COCs in sediment to human receptors, applicable standards must be determined by a property-specific risk assessment for human health in accordance with paragraph (D) of OAC 3745-300-09. However, in lieu of a property-specific risk assessment the human health pathway may be considered to be protected if the concentration of COCs in the sediment meets direct contact soil standards.	Yes <u>    </u> No <u>    </u>	Document: Section: Page Number:
13. Have the concentrations of all COCs in the sediments as a result of the analyses performed under 3745-300-07-(F)(5)(b) been compared to the appropriate sediment benchmarks? (See sediment benchmark rule requirements under OAC 3745-300-09 (F) for further clarification).	Yes <u>    </u> No <u>    </u>	Document: Section: Page Number:
14. If answer to question 13 is no, indicate where in the documentation an explanation of why the COC concentrations were not compared to sediment benchmarks and where a		Document: Section: Page Number:

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description of how sediments have been characterized and addressed is located.		
15. If the answer to question 13 is <b>yes</b> , have the sediment benchmarks been exceeded?	Yes ____ No ____	
<p>16a If the answer to 15 is <b>no</b>, go to question 21.</p> <p>If the answer to 15 is <b>yes</b>, list in the response column, all COCs for which benchmarks have been exceeded. (Note: If COCs found in the sediments <b>do not</b> have a benchmark listed in the sediment benchmark documents referenced in OAC 3745-300-09(F)(2)(b), rule requirements under OAC 3745-300-09(F)(2)(c) must be followed.)</p> <p>Note: If a volunteer chooses to implement a remedy at this point rather than conduct further biocriteria /bioassay investigation, a remedial plan must be submitted (see FORM #16) which details the remedy that will be implemented to ensure that the sediments will meet applicable standards.</p>		COCs for which sediment benchmarks have been exceeded (if applicable):
<p>16b Has it been determined, and <b>been demonstrated</b>, that the sediment contamination which has caused the applicable standards for the sediment to fail is entirely the result of migration of contamination from off property sources?</p> <p>If NO, go to question 17.</p> <p>If YES, applicable standards for sediment are met for ecological pathways. Include and note the location within the NFA documentation where that determination and demonstration has been made. Go to question 21.</p> <p>(Note: Even if applicable standards for sediment are met for ecological pathways through this demonstration, human health pathways must still be addressed).</p>	Yes ____ No ____	Document: Section: Page Number:
<p>17. Does the water body containing the sediments have an aquatic life use designation of warm water, exceptional warm water, modified warm water, limited warm water or cold water habitat?</p> <p>If YES, biocriteria testing must be conducted - provide the name of the individual certified by Ohio EPA who conducted the biocriteria testing and go to Question 18.</p> <p>If NO (e.g., lake, pond, wetland, etc.), bioassays must be conducted - go to Question 19.</p> <p>(Note: If the water body is a stream with no use designation assigned, a volunteer may conduct a use attainability analysis following Ohio EPA guidance. It is</p>	Yes ____ No ____	<p>Name of individual certified to conduct biocriteria testing:</p> <p>Expiration date of individual's biocriteria certification (mo/day/yr):</p>

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<i>highly recommended that you contact a VAP technical representative if you intend to undertake such an action).</i>		
18. Indicate where, within the documentation, the quantitative results of the Biocriteria testing (i.e. IBI, ICI, QHEI) are located.		Document: Section: Page Number:
19. Indicate where, within the documentation, the results of the <i>Hyalella azteca</i> and <i>Chironomus tentans</i> bioassays are located.		Document: Section: Page Number:
20. If the results of the biocriteria testing indicated that the aquatic life use designation is not being attained or either bioassay failed a remedial plan must be submitted (see FORM #16) which details the remedy that will be implemented to ensure that the sediments will meet applicable standards unless it can be demonstrated that the sediment contamination is caused by off property sources (see Note below).  Note: If it has been determined, and can be demonstrated, that the sediment contamination that has caused either the biocriteria testing or sediment bioassay(s) to fail is entirely the result of migration of contamination from off property sources, note the location within the documentation where that determination and demonstration has been made.		Document: Section: Page Number:
21. Have surface waters been identified in the Phase 2 as a potentially affected or affected medium?  If YES, go to Question 22.  If NO, go to Question 23.	Yes____ No____	Document: Section: Page Number:
22. Have any point source, or other regulated discharges to surface waters determined in the Phase 2, been evaluated to determine if they comply with the applicable standards as described in OAC 3745-300-08 (E)?  Please indicate where in the documentation those evaluations are detailed including how the applicable standards for the regulated discharges have been met.	Yes____ No____	Document: Section: Page Number:
23. A risk assessment report must be completed in accordance with OAC 3745-300-09(I) whenever a risk assessment has been conducted.		Document: Section: Page Number:
END OF FORM #15		

## MOA TRACK FORM #15 - ATTACHMENT I

## Exposure Pathway / COC Table

Complete Exposure Pathway Direct Contact Pathway for Soils

IA	Exposure/Contact Medium	COC/Concentration Pre Remedy/GNS (mg/kg)	Transporting/Source Medium	Route of Exposure	Pathway Completion Status	Type
4	Soil	benzo(a)anthracene-230*/58**/1,200*** benzo(a)pyrene-190*/5.8**/120*** benzo(b)fluoranthene-210*/58**/1,200*** dibenz(a,h)anthracene-34*/5.8**/120*** indeno(1,2,3-cd)pyrene-93*/58**/1,200***	Soil/Direct Contact	Direct Contact	<b>COMPLETE</b> - Soil at IA4-3 exceeds VAP Generic Direct Contact for Soils Standards above 2 feet bgs.  <b>Action</b> – Excavation and removal to five feet bgs.	Human

\* = Maximum Concentration Detected

\*\* = Commercial Industrial GNS

\*\*\* = Construction Excavation GNS

Complete Exposure Pathway Direct Contact Pathway for Groundwater

IA	Exposure/Contact Medium	COC/Concentration Pre Remedy/GNS (µg/L)	Transporting/Source Medium	Route of Exposure	Pathway Completion Status	Type
2	Groundwater	Arsenic - 38.3 / 10	Groundwater Potable Use on Site	Ingestion	<b>COMPLETE</b> - Requires Remedy in the form of Institutional Control <b>Action</b> - GW Deed Restriction	Human
5	Groundwater	TCE - 11 / 5 Arsenic - 46.5 / 10	Groundwater Potable Use on Site	Ingestion	<b>COMPLETE</b> - Requires Remedy in the form of Institutional Control <b>Action</b> - GW Deed Restriction	Human
10	Groundwater	Selenium - 105 / 50	Groundwater Potable Use On Site	Ingestion	<b>COMPLETE</b> - Requires Remedy in the form of Institutional Control <b>Action</b> - GW Deed Restriction	Human