INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.

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VIA CERTIFIED MAIL 7002 0510 0004 0411 6450 October 27, 2009

Mr. David Favero
Favero Geosciences
1210 South 5th Street
Springfield, IL 62703

Re: Response to June 3, 2009 GM Comments
Final RFI Report
Motors Liquidation Company
Dr. Martin Luther King Jr. Boulevard Facility
Anderson, Madison County
IND980700801

Dear Mr. Favero:

The Indiana Department of Environmental Management (IDEM) has received the submittal from General Motors Corporation (GM), now known as Motors Liquidation Company (MLC), dated June 3, 2009. The submittal provides GM's responses to IDEM's September 24, 2008 comments regarding the *Final RFI Report* for the Dr. Martin Luther King Jr. Boulevard Facility. IDEM staff have reviewed the submittal and their comments are enclosed.

The *Final RFI Report* includes a complex risk assessment in conjunction with years of analytical data points across many source areas. IDEM staff have made some good faith concessions within the enclosure to encourage and facilitate progress toward completion of an approved *Final RFI Report* for this facility. IDEM requests that MLC address the deficiencies noted in the enclosure via submittal of revised pages to the *Final RFI Report*. To help expedite review of the revisions, IDEM suggests their preparation in redline/strikeout format.

Within sixty (60) days of receipt of this letter, please submit one hard copy and one electronic copy (in .pdf format) of the revised portions of the *Final RFI Report* to this office for review and approval.

If you have any questions regarding this matter, please contact Mr. Robert Marshall of my office at 317/232-4534.

Sincerely,

Victor P. Windle, Chief
Hazardous Waste Permit Section
Permits Branch
Office of Land Quality

REM
Enclosure
cc: Mike Anderson, OLQ, IDEM (w/ enclosure)
Namrata Patel, OLQ, IDEM (w/ enclosure)
Harold Templin, OLQ, IDEM (w/ enclosure)
File 1B3b

Response to June 3, 2009 GM Comments
Final RFI Report
Motors Liquidation Company
Dr. Martin Luther King Jr. Boulevard Facility
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Introduction

IDEM and GM have been engaged in a series of comment/response cycles regarding the Final RFI document. During a teleconference with GM representatives on May 8, 2009, specific revisions were discussed that would adequately address these deficiencies if correctly implemented in the document. These changes were not fully implemented in the subject document. The deficiencies are addressed below.

Analysis

Vapor Intrusion (VI):

GM has proposed a methodology for evaluating the vapor intrusion pathway using soil gas measurements and site-specific soil parameters to calculate a site-specific attenuation factor to address potential for vapor intrusion. IDEM evaluated the referenced methodology in consultation with the Geological Services Section and members of the VI Workgroup. This approach may be utilized for the MLK facility, but the modeled results must be validated through comparison with paired subslab/indoor air monitoring (to validate the site-specific attenuation factor). For locations where no buildings are currently present, the default attenuation factor should be used since a site-specific attenuation factor cannot be calibrated with actual data.

Toxicity Criteria:

IDEM provided GM with a matrix of chemical compounds with associated toxicity criteria that was inconsistent with the 2003 hierarchy that GM identified as their source for these values. GM added information to the matrix in response to IDEM's comments. Generally, GM's information did not demonstrate that the hierarchy was utilized as described in the OSWER Directive 9285.7-53 dated December 5, 2003 (2003 hierarchy). Nonetheless, IDEM is satisfied with some of the responses indicating that a specific compound was not present in the RFI data, and therefore the issue regarding the appropriate toxicity criteria for that particular compound is moot. However, it is important to update the RFI to remove the toxicity references for these non-detect compounds so it doesn't appear they are part of the risk analysis. IDEM's response is specific to each compound as follows:

1. Acenaphthylene RfD_o (oral reference dose) – GM responds that the RfD_o for pyrene is more conservative than the RfD_o for acenaphthene, and is therefore protective. While the selection of pyrene as a surrogate is not supported by the 2003 hierarchy, IDEM agrees that the resulting risk would be biased higher, and is therefore more conservative. This information should be incorporated into the final RFI.

2. Acenaphthylene RfD_i (inhalation reference dose) – GM responds that this contaminant of concern (COC) was not detected (ND) in the data used for the final RFI risk assessment.

IDEM suggests that identification of an inhalation reference dose be removed from the RFI.

3. Anthracene RfD_i – GM responds that there is no available value in IRIS or PPRTV, that the compound is not volatile, and that using IDEM's value in the VI calculations would not change the risk assessment conclusions. The 2003 hierarchy is not limited to just IRIS and PPRTV. The unified USEPA regional screening tables (USEPA tables) identify this compound as volatile. While the USEPA tables offer no RfD_i for consideration, an RfD_i could be derived from other sources in the 2003 hierarchy, or the VI pathway could be addressed qualitatively. Unfortunately, the analysis using IDEM's toxicity value is unacceptable because the VI methodology GM used with this toxicity value has already been identified as unacceptable, therefore you cannot conclude that the risk assessment would not be affected if they used IDEM's value as part of that methodology.

4. Chloroethane SF_i (inhalation slope factor) – GM responds that EPA has not determined that this compound has a carcinogenic endpoint, and that using IDEM's value in the VI calculations would not change the risk assessment conclusions. IDEM notes that the unified regional screening tables do not address this compound as a carcinogen, and these tables were derived using the 2003 hierarchy, therefore IDEM will accept this determination. However, the conclusion that the risk assessment is not affected using IDEM's toxicity value is not accepted (see discussion in comment 3 above). As such, IDEM suggests that identification of an SF_i for this compound be removed from the risk assessment.

5. Di-n-butylphthalate RfD_i – GM responds that IRIS indicates there is insufficient information to derive an inhalation toxicity value, that this compound has low volatility, and that using IDEM's value in the VI calculations would not change the risk assessment conclusions. The 2003 hierarchy provides for sources other than IRIS, so this hierarchy was not followed for this compound. The analysis using IDEM's value is not acceptable for reasons previously stated. However, IDEM agrees that there is reasonable doubt regarding the volatility of this compound, so IDEM suggests that identification of an RfD_i for this compound be removed from the risk assessment.

6. Di-n-octylphthalate RfD_i
   Hexachlorobenzene RfD_i
   Hexachlorobutadiene RfD_i – GM responds that these chemicals were not detected in the data used in the final RFI risk assessment. IDEM suggests that identification of an inhalation reference dose for each of these compounds be removed from the RFI (text, tables and maps).

7. 4-methyl-2-pentanone RfD_o – GM responds that this compound was detected in soil but not ground water, and for oral exposures they used the region 9 PRG which used the same RfD_o as IDEM. However, in the final RFI document GM indicated that "inadequate data exist to derive a toxicity value", and they provided no analysis of oral exposures for this compound. IDEM suggests that the appropriate tables be updated to

incorporate this information in the risk assessment, and requests that MLC provide an analysis of the risk.

8. Tetrachloroethene SF_i – GM responds that they used a provisional NCEA value because USEPA has not established an IRIS value or provided a PPRTV, and that using IDEM's value in the VI calculations would not change the risk assessment conclusions. The USEPA unified regional tables utilize an IUR of 5.9 E^{-6} based upon a CalEPA reference. The regional tables incorporate the 2003 hierarchy for selection of toxicity criteria, which includes CalEPA as a resource. The SF_i used by GM is more than an order of magnitude smaller than the corresponding SF_i derived from USEPA's IUR (3.6 E^{-3} vs 2.1 E^{-2}). Using the smaller slope factor results in a risk assessment that is biased low, and may not be protective. Also, the analysis using IDEM's value is not acceptable for reasons previously stated. IDEM believes the value used in the regional tables reflects the most appropriate value available per the 2003 hierarchy, and suggests that MLC revise the risk assessment accordingly.

9. 1,2,4-Trichlorobenzene RfD_i – GM responds that this chemical was not detected in the data used in the final RFI risk assessment. IDEM suggests that identification of an inhalation reference dose for this compound be removed from the RFI.

10. Trichloroethene SF_o (oral slope factor) – GM responds that USEPA issued a memo on 1/15/09 that the CalEPA slope factor should be used because it is consistent with the 2003 hierarchy. This memo was subsequently withdrawn by USEPA on 4/09/09 so the content of that memo can no longer be cited. GM also states that since cancer risk estimates are reported with one significant digit, the two values are essentially the same. IDEM notes that the toxicity value cited in the unified regional tables are reported to two significant digits. However, IDEM agrees that the CalEPA slope factor should be used, and finds that acceptable. The value used by GM is not this value, but a slightly higher value from a 1995 NCEA source that was subsequently withdrawn. IDEM believes the appropriate value to use is the 1.3 E^{-2} slope factor cited by CalEPA, not the 1.1 E^{-2} value used by GM from a withdrawn source. However, in the interest of trying to move this document forward, IDEM is willing to accept this slightly less conservative slope factor for use in the final RFI at this facility only.

11. Trichloroethene SF_i – GM responds with the same reasoning offered for the SF_o for this compound above. Again, the memo cited by GM was subsequently withdrawn by USEPA on 4/09/09 so the content of that memo can no longer be cited. GM also states that since cancer risk estimates are reported with one significant digit, the two values are essentially the same. IDEM notes that the toxicity value cited in the unified regional tables are reported to two significant digits. However, IDEM agrees that the CalEPA slope factor of 7 E^{-3} should be used, and finds that acceptable. The value used by GM is not this value, but a slightly lower value (6 E^{-3}) from a 1995 NCEA source that was subsequently withdrawn. IDEM believes the appropriate value to use is the 7 E^{-3} slope factor cited by CalEPA, not the value used by GM from a withdrawn source. However, in the interest of trying to move this document forward, IDEM is willing to accept this slightly less conservative slope factor for use in the final RFI at this facility only.

12. Trichloroethene RfD_o – GM responds with the same reasoning offered for the SF_o and SF_i above. Again, the memo cited by GM was subsequently withdrawn by USEPA on 4/09/09 so the content of that memo can no longer be cited. GM incorporated a value of 6 E^{-3} versus the IDEM value of 3 E^{-4}. However, IDEM believes that the carcinogenic endpoint is the limiting factor for chronic exposures to this compound, so in the interest of trying to move this document forward, IDEM is willing to accept this less conservative RfD_o for use in the final RFI at this facility only.

13. Trichloroethene RfD_i – GM responds with the same reasoning offered for the SF_o, SF_i and RfD_o above. Again, the memo cited by GM was subsequently withdrawn by USEPA on 4/09/09 so the content of that memo can no longer be cited. GM does not evaluate the RfD_i for this compound in the RFI. The unified regional tables do not route-extrapolate an RfD_i for this compound. However, IDEM believes that the carcinogenic endpoint is the limiting factor for chronic inhalation exposures to this compound, so in the interest of trying to move this document forward, IDEM is willing to accept just the carcinogenic endpoint (SF_i) for evaluation of chronic inhalation exposure in the final RFI at this facility only.