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RCRA Facility Investigation and CERCLA Removal Action

Progress Report 54 Third Quarter 2014

GM CET – Bedford Facility
105 GM Drive
Bedford, Indiana

EPA ID# IND006036099
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**Progress Report
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Section 1.0 Introduction

This Progress Report is submitted by General Motors LLC (GM) in accordance with the GM Bedford Castings, Engines, Transmissions (CET) Facility Resource Conservation and Recovery Act Administrative Order on Consent (AOC – United States Environmental Protection Agency [U.S. EPA] Docket No. RCRA-05-2014-0011), executed on August 4, 2014. This report covers the period of the third calendar quarter of 2014 for the RCRA Corrective Action (CA) Project at the GM Castings, Engines, and Transmissions (CET; formerly Powertrain) – Bedford Facility (Facility) and select surrounding properties (Site), Bedford, Indiana.

The next RCRA progress report covering the fourth Quarter of 2014 will be submitted on or before January 15, 2015.

Section 2.0 List of Completed Activities

The following activities took place and the following documents were prepared and distributed during this quarter:

- Maintenance of storm water and erosion controls continued on an as-needed basis.
 - Consistent with U.S. EPA's March 10, 2014 approval, the demobilization plan for the Spring 018 water collection and treatment system was initiated in March 2014 and was completed in this quarter.
 - Results for samples collected from Spring 018 during the quarter are presented in Table 2.1. Sample results for the monthly sampling were previously emailed to U.S. EPA and IDEM as they became available. As of the September 2014 sampling, the 12-month rolling average concentration of PCBs in the Spring 018 discharge is 0.18 micrograms per liter ($\mu\text{g/L}$). In addition to the regular monthly sampling in July, August and September, an opportunistic sample (required once per quarter following greater than 1" of rain in a 24 hour period) was collected on September 3 following 2.3" of rain on September 2.
 - The site source control collection systems/groundwater water treatment plant collected and treated 2,300,912 gallons of water this past quarter. Based on influent samples, the total PCB removal mass for the quarter for the groundwater collection systems was 0.062 pounds. A summary of the volumes and sample results used for this calculation are provided in Table 2.2. An estimated 0.56 pounds of PCBs have been removed over the past 12-month period through collection and treatment of the groundwater.
- The Annual Monitoring Report for the East Plant Area TSCA Vault for Calendar Year 2013 was submitted to the U.S. EPA on July 15, 2014.

- On September 18, 2014, GM submitted responses to U.S. EPA comments received on the GM Bedford Vault 2012 Annual Compliance Report, 2012 Vault Post Closure Plan, and East Plant Area Vault Construction Certification Report.
- On July 31, 2014 U.S. EPA provided one comment/question on the Construction Certification Report for Concrete Sealing – Spring 018 IM, which was originally submitted by GM on February 20, 2014. On behalf of GM, CRA responded to U.S. EPA's question via e-mail dated September 25, 2014.
- In July 2014, during a routine inspection of the concrete sealed area within the creek channel in proximity to Spring 018, some undercutting/erosion was noted along the margin of the concrete seal area adjacent to the hillside of the eastern bank of Baileys Branch Creek, just north of the confluence of Tributary 3. In order to improve drainage in this area, and mitigate the potential for future erosion, GM placed additional concrete (approximately 9 cubic yards) over a portion of the Spring 018 access road and down the hillside. This work was summarized in a Memo entitled "Spring 018 Area – Additional Erosion Control/Concrete Sealing", which was submitted to U.S. EPA on August 25, 2014.
 - An additional dye tracer study was conducted upstream of Spring 018 on Bailey's Branch Creek to determine if a potential water loss location in the creek was connected to Spring 018.
 - The work plan for the dye tracer study was submitted to the U.S EPA on August 18, 2014.
 - The study was conducted starting on August 26, 2014 in the pool/waterfall area upstream of the confluence of Tributaries 2 and 3 on Bailey's Branch.
 - The conclusion of this study is that the Pool #2 area is contributing to the discharge at Spring 018C. A memorandum with results of this study was submitted to the U.S. EPA on September 12, 2014.
- The third quarter 2014 EI CA750 monitoring of static groundwater levels was conducted in August 2014.
- The RCRA CA AOC for the Site was signed by the GM on July 28, 2014 and by U.S. EPA on August 4, 2014 (therefore, as defined in the Order, the effective date is August 4, 2014). Several deliverables required under the Order were provided to the U.S. EPA in the third quarter.
 - Notification was provided to U.S. EPA on August 14, 2014, designating Cheryl Hiatt as the GM Project Manager for the Corrective Action.
 - Copies of the Financial Assurance Mechanisms and Bond and Trust Agreement under the AOC were provided to the U.S. EPA Project Manager on September 11, 2014, with originals being mailed to appropriate U.S. EPA offices.

- Responses to U.S. EPA comments on the Parcels 400, 430 and 431 Work Plan were submitted as follows.
 - On July 8, 2014 CRA submitted a migration to groundwater pathway analysis to USEPA, outlining that this pathway was not applicable to Parcels 400, 430 and 431.
 - On August 1, 2014 U.S. EPA agreed that the migration to groundwater pathway is not applicable to Parcels 400, 430 and 431.
 - On August 22, 2014 ENVIRON, on behalf of GM, sent a response to USEPA's November 14, 2013 comments on the Parcels 400, 430 and 431 work plan.
 - On August 26, 2014 U.S. EPA sent GM an additional question/clarification on GM's August 22 response to comments.
 - On August 28, 2014 ENVIRON sent GM's response to the additional question.
 - On August 29, 2014 U.S. EPA agreed with GM's response to comments.
 - A conference call was held on September 10, 2014 to discuss U.S. EPA's updated risk-based regional screening levels (RSLs) and its newly recommended standard default exposure factors (OSWER directive 9200.1-120, February 2014). This change resulted in an increase of the U.S. EPA's industrial RSL for PCB from 7.4 mg/kg to 10 mg/kg. At that time U.S. EPA requested supplemental information regarding an estimate of anticipated excavation volumes for the Parcels using the existing available data at the proposed PCB limits of 30 mg/kg and 50 mg/kg and the surface soils in excess of 10 mg/kg. This information was provided to U.S. EPA via e-mail dated October 2, 2014.
- Maintenance work related to the establishment of the vegetated cover on the East Plant and West Plant, including additional planting, fertilizing, removal of invasive species, etc., was completed earlier in the year. The work was comprised of the application of herbicide to kill the weeds, followed by over-seeding in the spring of 2014. The cover continues to be monitored.
- The design of the Pilot perimeter groundwater collection trench is ongoing. GM has acquired properties on Barlow Lane for the installation of the groundwater collection trench. Demolition of several of the acquired houses located on Barlow Lane along the proposed groundwater collection trench alignment and elsewhere where the houses were in very poor condition has been completed.
- The remaining restoration of the properties west of Peerless Road was completed. This work included improvements/repairs to the erosion controls at the creek crossing on Parcel 40 and the placement of stone along an access road (outside of the remediation area) at the property owner's request.
- Conference calls were held with U.S. EPA and IDEM on July 31, August 19 and September 11 and 25, 2014, to discuss items related to the project.

- On-Site construction meetings for the reporting period have been held informally daily and formally as needed. Formal SES construction meetings were held the first Tuesday of the month on July 1, August 5, and September 2, 2014. Tailgate safety meetings are held daily for both the consultant and the contractor.
- The RCRA/CERCLA Quarterly Progress Report #53, covering the second Quarter of 2014, was submitted to the U.S. EPA and IDEM on July 11, 2014.

Section 3.0 Summaries of all Problems and Planned Resolutions

- Sometime between 2 AM and 8 AM on Sunday, July 27, 2014 a probable lightning strike during a severe thunderstorm knocked out the power and damaged the electrical components (relays, floats, etc.) at Wet Well #3. At the time of discovery water from the wet well was leaking out of the bottom of the control panel for the wet well. The operator started the diesel backup pump which stopped the leakage and lowered the level in the wet well to normal operating levels. GM's electrical subcontractor evaluated the damaged components on July 27th and replacement parts were obtained and installed on July 29, 2014. In the interim, the diesel backup pump was manned and operated on a 24-hour basis to maintain the level in the wet well.
- A release of untreated water from Wet Well #3 to the ground surface occurred on September 5, 2014 during routine maintenance procedures (pump replacement). Approximately 200 gallons of water was released from the HDPE force main when a butt-fusion welded section of the pipe partially cracked as the pipe was being moved. The water leaked onto the cover system (vegetation and topsoil) between 9:07 and 9:32 AM. The surficial soil was removed and the force main was repaired and put back into service the same day. The area was restored with clean imported topsoil and reseeded. Erosion controls were installed until the vegetation is reestablished. Samples were collected from the excavation in the area where impacted soil was removed, and from the excavated materials and submitted for PCB analyses. PCBs were not detected from either the excavation bottom or the excavated soil.

Section 4.0 Summaries of all Changes Made in the Corrective Action (CA) During the Reporting Period

The following changes were made to the CA during the reporting period:

- The RCRA Corrective Action Order for the Site was signed by the U.S. EPA on August 4, 2014.

Section 5.0 Community Relations

The telephone number for public contact is 812-277-8954 (Katie Kamm, Conestoga-Rovers & Associates [CRA]). Individual meetings can be arranged to discuss project progress with residents as requested.

The next neighborhood/public meeting and CLP meetings are tentatively scheduled for December 10, 2014. Presentations for past meetings are posted on the GM website at: www.bedfordpowertraincorrectiveaction.com

The document repository continues to be located at the Bedford Public Library, with relevant project related documents available on compact disc (CD) in PDF format. Information will be updated periodically, as new documents become available. All data located in the Library repository can also be found on the aforementioned website.

Section 6.0 Changes in Personnel During the Reporting Period

Oversight personnel for CRA and SES remain unchanged. The demobilization of SES's WTP commenced during the first quarter of 2014 and is on-going.

Section 7.0 Projected Work For The Next Reporting Period

Work anticipated for the next reporting period includes:

- Continue monitoring Spring 018 on a monthly basis.
- Concrete filling of a water Pool #2 upstream of the confluence with Tributary 3 and Spring 018.
- Conduct groundwater monitoring and sampling activities related to the EI CA750.
- Submit the EI CA750 First Half 2014 Results Memorandum.
- Complete the fourth quarter EI CA750 groundwater level statics and second half EI CA750 groundwater sampling results.
- Complete final inspection of the road surface along the haul routes to determine if any final repairs are needed. GM will discuss the final inspection with the County Road Commission.
- Complete a work plan addendum to perform additional on-site soil sampling for the RCRA Facility Investigation Report and submit the Plan to U.S. EPA for review.

- Finalize the date and arrange a public meeting and Community Liaison Panel meeting for December 2014.

The following documents will be submitted in accordance with the schedule set out by the AOC:

- Submit West Plant Construction Certification Report by November 12, 2014.
- Submit pilot groundwater perimeter collection trench design report by December 2, 2014.
- Submit Downstream Parcels Construction Certification Report by December 2, 2014.
- Submit Downstream Parcels Monitoring and Maintenance Plan by December 2, 2014.

Section 8.0 Copies of Daily Reports, Inspection Reports, Laboratory/Monitoring Data

Table 2.1 presents the quarterly results from Spring 018 sampling. Table 2.2 presents the estimated PCB mass removal for the site source control systems for the past 12 months.

Additional packages of analytical data have been and will be submitted to U.S. EPA as the validated data becomes available.

TABLE 2.1

**SPRING 018 SAMPLING RESULTS - JULY/AUGUST/SEPTEMBER 2014
GM CET BEDFORD FACILITY
BEDFORD, INDIANA**

Area:		P015	P015	P015	P015	P015
Sample Location:		Spring 018C	Spring 018C	Spring 018C	Spring 018C	Spring 018C
Sample Identification:		SW-015-070914-GS-40033	SW-015-081314-GS-40040	SW-015-081314-GS-40041	SW-015-090314-GS-40044	SW-015-091014-GS-400046
Sample Date:		7/9/2014	8/13/2014	8/13/2014	9/3/2014	9/10/2014
	Units			Duplicate		
PCBs						
Aroclor-1016 (PCB-1016)	µg/L	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U
Aroclor-1221 (PCB-1221)	µg/L	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U
Aroclor-1232 (PCB-1232)	µg/L	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U
Aroclor-1242 (PCB-1242)	µg/L	0.27	0.19 U	0.20 U	0.19 U	0.13 J
Aroclor-1248 (PCB-1248)	µg/L	0.19 U	0.23	0.21	0.24	0.19 U
Aroclor-1254 (PCB-1254)	µg/L	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U
Aroclor-1260 (PCB-1260)	µg/L	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U
Total PCBs	µg/L	0.27	0.23	0.21	0.24	0.13 J
General Chemistry						
Total suspended solids (TSS)	µg/L	6000	4000 U	4000 U	5000	6000

Notes:

U - Not detected at the associated reporting limit.

J - Estimated concentration.

Twelve month average as of September 2014 - 0.18 µg/L PCBs

TABLE 2.2

**STORM WATER AND GROUNDWATER WATER TREATMENT PLANT PCB MASS REMOVAL ESTIMATE
GM BEDFORD CET FACILITY
BEDFORD, INDIANA**

	<i>Estimated SSC Treated Volume ⁽¹⁾ (gallon)</i>	<i>SSC Treated Volume (gallon)</i>	<i>Estimated PCB Influent Concentration ⁽²⁾ (µg/L)</i>	<i>PCB Influent Concentration (µg/L)</i>	<i>Mass PCB Treated (pound)</i>
October 2013	720,182	--	4.7	--	0.028
November 2013	1,088,098	--	4.7	--	0.043
December 2013	1,146,711	--	4.7	--	0.045
January 2014	1,394,952	--	4.7	--	0.055
February 2014	1,392,062	--	4.7	--	0.055
March 2014	2,150,655	--	4.7	--	0.084
April 2014	1,735,126	292,720	--	3.1	0.052
May 2014	--	2,020,660	--	2.6	0.044
June 2014	--	1,614,800	--	7.1	0.096
July 2014	--	440,460	--	4.4	0.016
August 2014	--	791,734	--	3.7	0.024
September 2014	--	1,068,718	--	2.4	0.021
Total Estimated Volume of Water Treated		15,856,878		Total Mass PCB Removed	0.56

Note:

⁽¹⁾ The groundwater treatment system was down from Oct. 2013-April 2014. During this time, groundwater was redirected to the storm water pond. Estimated treated volumes are estimated based on the treated volumes for the corresponding month for years 2008 - 2013.

⁽²⁾ Estimated PCB influent concentration calculated based on the average influent concentration for years 2008-2014