



October 12, 2018

Peter Ramanauskas
U.S.EPA Region 5
77 West Jackson Blvd.
Chicago, Illinois 60604-3590

Re: RCRA Corrective Action Administrative Order on Consent (AOC)
Progress Report 70, Third Quarter 2018
GM GPS – Bedford Facility, IND 006036099, Docket No. RCRA 05 2014 0011
Bedford, Indiana

Dear Mr. Ramanauskas:

Please find enclosed the Progress Report 70 (Third Quarter 2018) for the Resource Conservation and Recovery Act (RCRA) Corrective Action (CA) project at the GM Bedford Global Propulsion Systems (GPS) (formerly Castings, Engines, and Transmissions (CET) and formerly Powertrain) Facility (Facility) at 105 GM Drive in Bedford, Indiana, and select surrounding properties (Site). This report is being submitted in accordance with the Administrative Order on Consent, effective August 4, 2014 (United States Environmental Protection Agency (U.S. EPA) Docket No. RCRA-05 2014 011).

The next RCRA quarterly progress report covering the Fourth Quarter of 2018 will be submitted on or before January 15, 2019.

Should you have any questions regarding this document, please do not hesitate to contact me at (313) 510 4328.

Sincerely



Cheryl R. Hiatt
Project Coordinator
General Motors Remediation

YD/aj/178

Encl.

c.c.: See Attached Distribution List



GENERAL MOTORS

GM Bedford Distribution List

Peter Ramanauskas	U.S. EPA, Region 5
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GENERAL MOTORS



Third Quarter 2018 Progress Report 70

GM GPS – Bedford Facility
105 GM Drive
Bedford, Indiana
EPA ID# IND006036099
AOC Docket No. RCRA 05 2014 0011

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of Counsel

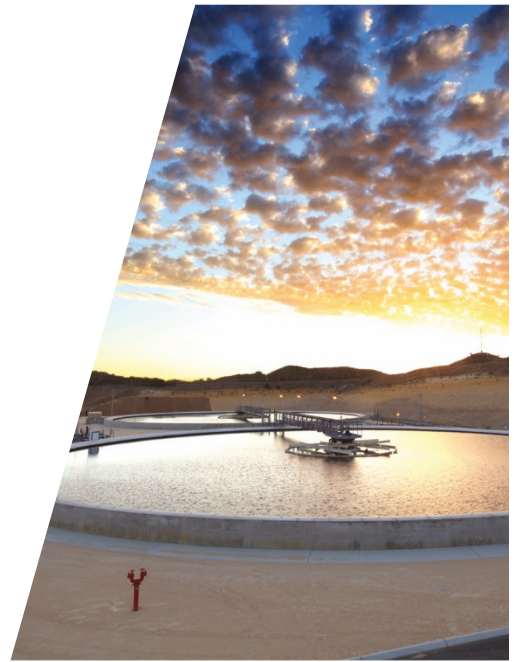




Table of Contents

1.	Introduction.....	1
2.	List of Completed Activities	1
3.	Summaries of Problems and Planned Resolutions.....	3
4.	Summaries of Changes Made in the Corrective Action (CA) During the Reporting Period.....	4
5.	Community Relations	4
6.	Changes in Personnel During the Reporting Period	4
7.	Projected Work for the Next Reporting Period	4
8.	Copies of Daily Reports, Inspection Reports, Laboratory/Monitoring Data	5

Table Index

Table 2.1	Spring 018 Sampling Results
Table 2.2	Storm Water and Groundwater Water Treatment Plant PCB Mass Removal Estimate



1. Introduction

This Progress Report is submitted by General Motors LLC (GM) in accordance with the GM Bedford Global Propulsion Systems (GPS) Facility Resource Conservation and Recovery Act (RCRA) 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 2018 for the RCRA Corrective Action (CA) Project at the GM GPS – Bedford Facility (Facility) and select surrounding properties (Site), Bedford, Indiana.

The next RCRA progress report covering the fourth quarter of 2018 will be submitted on or before January 15, 2019.

2. List of Completed Activities

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

- Results for sample collected from Spring 018 during this quarter are presented in Table 2.1. Sample results for the quarterly sampling were previously relayed to U.S. EPA and Indiana Department of Environmental Management (IDEM). As of the July 2018 sampling, the 12-month rolling average concentration of polychlorinated biphenyls (PCBs) in the Spring 018 discharge is 0.10 micrograms per liter ($\mu\text{g/L}$). The third quarterly sampling was conducted on July 11, 2018. The routine sample collected was non-detect for PCBs. The next quarterly sampling event is scheduled for October 10, 2018. Semi-annual sampling is scheduled to begin in 2019.
- The groundwater water treatment plant (GWTP) collected and treated approximately 5,000,657 gallons of water from the Pilot Trench, Vault sumps, and wet wells during the third quarter of 2018. An estimated 0.07 pounds of PCBs were removed during the quarter through collection and treatment of the groundwater. An estimated 0.35 pounds of PCBs have been removed over the last 12 months (October 2017 through September 2018). A summary of the volumes and sample results used for this calculation is provided in Table 2.2. DMRs have been submitted to the State of Indiana in conformance with the NPDES Permit Number IN0064424.
- The First Half 2018 EI CA750 static groundwater levels were completed during the week of March 5, 2018.
 - A summary memorandum of the findings groundwater levels and sampling results was submitted on August 22, 2018.
 - U.S. EPA provided comments on the memorandum by email dated September 21, 2018.
 - Responses to U.S. EPA comments on the results memorandum were submitted by email on September 25, 2018.
- The East Plant Area Vault Annual Report covering the Calendar Year of 2017 was submitted to the U.S. EPA on July 13, 2018.



- U.S. EPA provided comments on the Vault Annual report by email dated August 15, 2018 and are currently under review.
- The leachate collection system (LCS) pump and riser pipe were replaced the week of September 10, 2018.
- GM submitted the results of the statistical evaluation of replicate samples collected during the Incremental Sampling Plan implementation to the U.S. EPA on March 28, 2018.
 - Responses to U.S. EPA comments on the statistical evaluation were provided to U.S. EPA on June 22, 2018.
 - Additional comments were provided and responses were submitted to U.S. EPA on July 30, 2018.
- A request to terminate groundwater collection and monitoring of the Gravel Underdrain System (GUS) Sump was submitted by GM to U.S. EPA on January 18, 2017.
 - U.S. EPA responded with clarification questions on February 24, 2017.
 - GM provided a response letter to U.S. EPA's questions on March 21, 2017; letter is under review by U.S. EPA.
- GM and GHD have developed an interim groundwater monitoring program to monitor the impact of the Pilot Trench to groundwater flow.
 - The revised Pilot Trench Performance Monitoring Plan (PMP), incorporating agency-agreed upon responses to U.S. EPA comments on the initial plan, was submitted to U.S. EPA on June 20, 2018.
 - Additional U.S. EPA comments on the PMP were received by email dated August 6, 2018 and were responded to on October 9, 2018. Draft figures and tables have been sent to U.S. EPA for additional monitoring activities in response to EPA comments and will be discussed with U.S. EPA on October 15, 2018.
 - Pilot Trench monthly static groundwater monitoring was completed on July 31, August 31, and September 26, 2018.
 - Additional wells, to aid in Pilot Trench performance monitoring, were installed in July and August 2018.
- Responses to U.S. EPA comments on the RFI Report were submitted to U.S. EPA on May 17, 2018.
 - Additional comments on the RFI report were provided by U.S. EPA by email dated August 16, 2018 and are currently under review.
- AOI 8 NAPL Recovery system construction is completed.
 - GM is establishing a new waste profile for disposal of the future recovered oil.
 - GM is re-configuring road access to the solar sipper enclosure to improve safety during waste removal activities.
 - Solar sipper system began operation on October 4, 2018.



- AOI 8 clarifier area investigation is on-going.
 - Final draft of the memorandum summarizing the IWTP clarifier area (former Lagoons 1-3) initial sampling and outlining well installation was sent to U.S. EPA on March 28, 2018.
 - U.S. EPA provided comments on the clarifier memo on April 12, 2018.
 - Responses to comments are currently under review.
- AOI 8 liner repairs are complete.
 - On April 4, 2018, field personnel identified a tear in the AOI 8 liner, following rupture of a buried, compressed air line.
 - GM permanently removed the buried airline from service by May 2, 2018. Liner repairs were completed on June 22, 2018.
 - A memorandum summarizing the liner repairs was submitted to U.S. EPA on August 22, 2018.
- Cleanout inspections are on-going.
 - A memorandum summarizing results of the Vault and Trench cleanout video inspections was submitted to U.S. EPA on August 10, 2018.
 - U.S. EPA provided comments on the memorandum by email dated August 10, 2018.
 - Responses to comments were submitted to U.S. EPA on August 15, 2018.
- The southern East Plant Area fence preparation began on September 24, 2018 with utility locates and brush grubbing. The second phase of fence installation began on October 3, 2018.
- Conference calls were held with U.S. EPA and IDEM on July 12, 26, August 10, and September 6, 2018, to discuss items related to the project.
- On-Site tailgate meetings for the reporting period were held daily to discuss safety topics related to on-going maintenance activities.
- RCRA Quarterly Progress Report #69, covering the second quarter of 2018, was submitted to the U.S. EPA and IDEM on July 12, 2018.
 - U.S. EPA provided comments on the quarterly progress report. Clarification was submitted to U.S. EPA on September 2, 2018.

3. Summaries of Problems and Planned Resolutions

Plant personnel noted two depressed areas in the West Plant asphalt cover. Voids, approximately 1 ½ inches in depth, were found just beneath the asphalt where the gravel sub-base had been displaced. The west depression is believed to have been the result of a fire hydrant leak. The hydrant leak has been repaired. The east depression is believed to be a result of the water introduced into an abandoned storm sewer line, which eroded or displaced the grout plug. A grout mix has been identified to fill the void. Load restrictions are being evaluated to ensure the repair is consistent with the design parameters.



4. Summaries of Changes Made in the Corrective Action (CA) During the Reporting Period

The following changes made to the CA during the reporting period.

- Response letter regarding the request to terminate groundwater collection and monitoring of the GUS submitted to U.S. EPA on March 21, 2017.
- The RCRA Quarterly Progress Report # 69, covering the second quarter of 2018, submitted to U.S. EPA and IDEM on July 12, 2018.
- The East Plant Area Vault Annual Report covering the Calendar Year of 2017 was submitted to the U.S. EPA on July 13, 2018.
- The First Half 2018 EI CA750 groundwater quality results memorandum was submitted to U.S. EPA on August 22, 2018.

5. Community Relations

The telephone number for public contact is 812-277-8954 (Katie Kamm, GHD). Individual meetings can be arranged to discuss project progress with residents as requested.

A public meeting was held on July 18, 2018 at the GHD trailers to the update the public on the status of the clean-up efforts. The next neighborhood/public meeting will be scheduled for early December 2018. Presentations for the July 2018 meeting and 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. Data located in the Library repository can also be found on the aforementioned website.

6. Changes in Personnel During the Reporting Period

No changes to report for this quarter.

7. Projected Work for the Next Reporting Period

Work anticipated for the next reporting period includes:

- Monitor Spring 018 in accordance with the revised schedule
- Continue OMM for the GWTP
- Collect quarterly groundwater static levels
- Complete the southern perimeter fence



- Select a contractor for installation of the balance of the perimeter fence
- Inspect the Vault and Pilot Trench cleanouts
- Fill the voids identified beneath the West Plant asphalt cover
- Prepare for and conduct the Pilot Trench thermal study and dye trace study
- Install remaining wells proposed for Trench monitoring study
- Install proposed monitoring wells in the clarifier area
- Collect follow-up soil samples (grab) from the incremental soil sampling program
- Complete outstanding responses to comments for the RFI Report, PMP, and Construction Certification Report for the Pilot Trench
- Conduct a public meeting in early December 2018
- Continue bi-weekly and Pilot Trench monitoring meetings with U.S. EPA
- Conduct semi-annual formal monitoring of the East Plant, West Plant and Vault cover systems

8. 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 SSC systems for the past 12 months.

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

Table 2.1

**Spring 018 Sampling Results - Third Quarter 2018
GM GPS Bedford Facility
Bedford, Indiana**

Area		P015
Sample Location:		Spring 018C
Sample Identification:		SW-015-071118-MC-41004
Sample Date:		7/11/2018
Parameters	Units	
PCBs		
Aroclor-1016 (PCB-1016)	ug/L	0.19 U
Aroclor-1221 (PCB-1221)	ug/L	0.19 U
Aroclor-1232 (PCB-1232)	ug/L	0.19 U
Aroclor-1242 (PCB-1242)	ug/L	0.19 U
Aroclor-1248 (PCB-1248)	ug/L	0.19 U
Aroclor-1254 (PCB-1254)	ug/L	0.19 UJ
Aroclor-1260 (PCB-1260)	ug/L	0.19 UJ
Total PCBs	ug/L	ND
Wet		
Total suspended solids (TSS)	ug/L	3300

Notes:

U - Not detected at the associated reporting limit.

J - Estimated concentration.

UJ - Not detected; associated reporting limit is estimated.

ND - Non-Detect for total PCBs

Table 2.2

**GWTP PCB Mass Removal Estimate
GM Bedford GPS Facility
Bedford, Indiana**

	Groundwater Treatment Plant (GWTP) Treated Volume (gallon)	PCB Influent Concentration (µg/L)	Mass PCB Treated (pound)
July 2017 ¹	1,618,000	0.055 ¹	0.001
August 2017	395,000	1.5	0.005
September 2017 ^{2,3}	459,483	0.055 ¹	0.000
October 2017 ⁴	833,154	1.6	0.011
November 2017	1,627,974	0.74	0.010
December 2017	1,525,264	1.7	0.022
January 2018 ⁴	3,120,854	1.6	0.040
February 2018	4,425,851	2.2	0.081
March 2018	3,850,599	1.5	0.048
April 2018	4,000,022	0.99	0.033
May 2018 ⁴	1,442,112	2.3	0.028
June 2018 ⁴	1,944,773	1.5	0.024
July 2018 ⁴	1,205,563	1.55	0.016
August 2018 ⁴	1,029,510	1.75	0.015
September 2018	2,765,584	1.6	0.037
Total Estimated Volume of Water Treated, Second Quarter 2018 (gallons)			5,000,657
Total Estimated Mass of PCB Treated, Third Quarter 2018 (pounds)			0.07
Total Estimated Mass of PCB Treated, Since July 2017 (pounds)			0.37

Notes:

- ¹ Sample results were non-detect. Half of the quantitation limit (max of 0.11 µg/L for both samples) is used to calculate the mass of PCB treated.
- ² Estimate based on average daily flow rate for first fourteen days (6 days operation) of September, projected for a total of 13 days of operation consistent with August treatment.
- ³ PCB concentration based on one value instead of average of two monthly samples.
- ⁴ PCB concentration based on an average of parent and duplicate sample



about GHD

GHD is one of the world's leading professional services companies operating in the global markets of water, energy and resources, environment, property and buildings, and transportation. We provide engineering, environmental, and construction services to private and public sector clients.

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