



**VIA ELECTRONIC MAIL**

November 1, 2018

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**Subject: Quarterly Progress Report No. 8  
Former Kop-Flex Facility Site, Hanover, Maryland  
Administrative Order on Consent, Docket No. RCRA-03-2016-0170 CA**

Dear Erich:

On behalf of EMERSUB 16, LLC, a subsidiary of Emerson Electric Co., WSP USA, Inc. (WSP) is submitting this quarterly progress report describing the activities conducted in the third quarter of calendar year 2018 (July 1 through September 30) as part of the corrective measures at the former Kop-Flex, Inc. facility property located at 7555 and 7565 Harmans Road (Site) in Hanover, Maryland. The Site is identical to the area described as the "Facility" in the Administrative Order on Consent, Docket No. RCRA-03-2016-0170 CA for the Site (Consent Order). The report also describes the activities planned for the fourth quarter of calendar year 2018 (October 1 through December 31).

This progress report is being submitted to the U.S. Environmental Protection Agency (EPA) pursuant to Section IV.C.3 of the Consent Order. Please note that, in addition to performing the work conducted under the Consent Order, EMERSUB 16 continues to fulfill its remedial obligations under the October 2015 RAP, including subsequent addenda, all of which have been approved by the Maryland Department of Environment (MDE) Voluntary Cleanup Program, and that EMERSUB 16 copies EPA on all submittals required under that program.

If you have any questions, please do not hesitate to contact us at 703-709-6500.

Kind regards,

Robert E. Johnson, PhD.  
Senior Technical Manager

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Encl.

cc: Mr. Stephen Clarke, EMERSUB 16 LLC  
Ms. Richelle Hanson, Maryland Department of the Environment  
Mr. Raymond Goins, Trammell Crow Company

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## CERTIFICATION

I certify that the information contained in or accompanying this quarterly progress report is true, accurate, and complete.

As to those portions of this quarterly progress report for which I cannot personally verify their accuracy, I certify under penalty of law that this quarterly report and all attachments were prepared in accordance with procedures designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, or the immediate supervisor of such person(s), the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

**Signature:**

  
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**Name:**

Stephen L. Clarke  
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**Title:**

President of EMERSUB 16, LLC  
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## Quarterly Progress Report No. 8

Former Kop-Flex Facility Site

July 2018 through September 2018

**Site Name:** Former Kop-Flex Facility  
**Site Address:** 7555 and 7565 Harmans Road  
Hanover, Maryland 21076

**Consultant:** WSP USA Inc.  
**Address:** 13530 Dulles Technology Drive, Suite 300  
Herndon, Virginia 20171  
**Phone No.:** (703) 709-6500

**Project Coordinator:** Eric Johnson  
**Alternate:** Lisa Bryda

## 1.0 ACTIVITIES COMPLETED DURING JULY 2018 – SEPTEMBER 2018 REPORTING PERIOD

### 1.1 REPORTING

- The EPA and MDE provided questions and comments with regards to the groundwater data provided in the 3<sup>rd</sup> Quarter 2018 Corrective Measures Progress Report. The questions and comments pertained to the sampling of new monitoring well MW-46D on the Verizon property and the potential of constituent migration eastward on to the Williams-Scotsman property within the surficial aquifer. Responses to these questions and comments were provided, via electronic mail, to MDE and EPA.

### 1.2 HYDRAULIC CONTAINMENT SYSTEM OPERATION

- The hydraulic containment system operated continuously from July 1, 2018 through September 30, 2018, except for a 3-day period (August 17<sup>th</sup> through 19<sup>th</sup>) due to a pH monitoring issue during treatment. For this shutdown, system monitoring detected a water pH value outside of the permitted range of 6.5 – 8.5 standard units on August 17, 2018. The operation and maintenance (O&M) contractor checked the system on August 19, 2018, and discovered the presence of a biofilm on the in-line pH probe. The probe was cleaned and placed back into service where it has been functioning properly following the mid-August shutdown. As a preventive measure, WSP has instructed the O&M contractor to check and clean the pH probe every 2 weeks.

During the reporting period, a total of approximately 8.56 million gallons of volatile organic compound (VOC)-containing groundwater were recovered and treated by the system, with a combined average withdrawal rate of approximately 67 gallons per minute (GPM) from the shallow and deep recovery wells.

- During system operation, water samples were collected for chemical analysis to monitor and evaluate VOC concentrations in the treatment system influent (quarterly) and effluent (monthly). Concentrations of total VOCs (433 micrograms per liter [ $\mu\text{g}/\text{l}$ ]) and 1,4-dioxane (130  $\mu\text{g}/\text{l}$ ) for the system influent are similar to levels detected in samples from the previous reporting period. The influent VOC concentrations continued to evidence a very slight increasing trend, which appears to be the result of higher levels of 1,1-dichloroethene (DCE) in the groundwater extracted by the recovery well network, particularly RW-1D. Analysis of the treated water (i.e., effluent) indicated non-detect concentrations of VOCs. The concentrations of 1,4-dioxane in the treated effluent ranged from 1.6  $\mu\text{g}/\text{l}$  (August) to 4.8  $\mu\text{g}/\text{l}$  (September). As of the end of September 2018, a total of 170 pounds of chlorinated VOCs and 75 pounds of 1,4-dioxane had been recovered from the aquifer system during system operation.
- During September 2018, several samples were collected of the effluent from the lead resin vessel and the system effluent for 1,4-dioxane analysis. The additional system water sampling was performed to help evaluate the current treatment capacity of the resin and update the previously established breakthrough curve for the vessels. As indicated above, all treatment system effluent samples had 1,4-dioxane concentrations below the established discharge limit of 15  $\mu\text{g}/\text{l}$ . A more detailed discussion of the sampling data will be provided in the 2018 operation, maintenance, and monitoring (OM&M) report.



- Samples of the treated effluent were collected for chemical analysis in accordance with State Discharge Permit Number 15-DP-3442 and National Pollutant Discharge Elimination System (NPDES) Permit MD 0069094 (Permit) issued by the MDE. The analytical results indicate compliance with the effluent limitations specified in the Permit. As mentioned in the previous report, no additional Whole Effluent Toxicity (WET) testing was conducted on the treated effluent because adverse toxicity was not detected during the quarterly biomonitoring events for the first year of system operation.

### 1.3 GROUNDWATER MONITORING

- As indicated in the Groundwater Monitoring Plan for the response action, groundwater level monitoring to evaluate the head distribution in response to remedial pumping is to be conducted on a semi-annual basis, with the next measurement event scheduled for the fourth quarter 2018. No site-related or extraneous conditions occurred that warranted the collection of additional water level data from the unconfined or semi-confined portions of the Lower Patapsco aquifer during the third quarter of 2018.
- Long-term groundwater quality sampling to monitor changes in VOC concentrations in the unconfined (surficial) and semi-confined portions of the Lower Patapsco aquifer during system operation is also conducted semi-annually at the Site. The next sampling event for the groundwater recovery wells and onsite monitoring wells will be performed during the fourth quarter of 2018.

## 2.0 PLANNED ONSITE ACTIVITIES FOR THE REMAINDER OF 2018

- Continue with the operation and maintenance activities for the hydraulic containment system.
- Conduct the necessary effluent monitoring and reporting activities for the system discharge pursuant to the Permit.
- Collect a synoptic round of water level measurements and evaluate the data to assess the aquifer response to remedial pumping and capture of the VOC plumes in the unconfined and semi-confined portions of the aquifer.
- Conduct semi-annual sampling of the monitoring wells and recovery well discharge in early November 2018 pursuant to the approved Groundwater Monitoring Plan.
- Complete inspections of the soil cap in the western portion of the South Warehouse building and sub-slab venting systems in both warehouse buildings, and provide information on the integrity of these engineering controls pursuant to the Consent Order.
- Record the executed Environmental Covenant with the Anne Arundel County Land Records Department and provide copies to the designated agencies and stakeholders.
- Submit the annual update of the corrective measures cost estimate to EPA by October 30, 2018, in accordance with the Consent Order.
- Collect other data for inclusion in the system OM&M report required under the 2015 RAP and Consent Order.

## 3.0 KEY PERSONNEL/FACILITY CHANGES

There were no changes to key project personnel during the reporting period.