

# Georgia Department of Natural Resources

## Environmental Protection Division-Land Protection Branch

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Judson H. Turner, Director

### Reply To:

Response and Remediation Program  
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May 25, 2016

### VIA EMAIL & REGULAR MAIL

David Shelley, CFO  
Southern States, LLC  
30 Georgia Avenue  
Hampton, GA 30028

Re: VRP Progress Reports 1 and 2  
October 15, 2015 Response to Comments  
Southern States Site, HSI # 10141  
Hampton, Henry County, GA

Mr. Shelley

The Georgia Environmental Protection Division (EPD) has received and reviewed the October 15, 2015 Voluntary Remediation Program (VRP) Semi-Annual Progress Report #1 and the April 15, 2016 VRP Progress Report #2 along with Southern States' (SS) responses to EPD's comments dated October 15, 2015. EPD provides the following comments and responses:

### Response to Comments

- [Comment 12] EPD will defer further comments associated with the fate and transport modeling pending the results of the in-situ chemical oxidation (ISCO) corrective action.
- [Comment 13] The Response indicated that SS will develop the risk reduction standards (RRS) criteria following the ISCO corrective action. While the development of RRS may not be required prior to the implementation of the ISCO corrective action, the development of the RRS are required in accordance with the schedule dictated in Section 5 of the VRP Application Form and Checklist. Please ensure that acceptable RRS are developed within the required timeframe.
- [Comment 16] SS has not proposed to complete the delineation of groundwater impacts to the south of TP-2 and MW-21 at this time. EPD will defer further comments regarding the delineation requirements for this portion of site pending the results of the proposed ISCO corrective action.

### Comments on the VRP Semi-Annual Progress Reports #1 and #2

1. According to the VRP Progress Report, ISCO is to be used to reduce the existing groundwater contamination to levels at or below the Type 4 RRS. Please establish a Point of Exposure for groundwater and an associated Point of Demonstration (Section 12-8-108 of the Act), and utilize these compliance locations to evaluate the effectiveness of the proposed treatment technology.
2. Please perform the following monitoring activities at locations throughout the pilot test area(s) to evaluate the effectiveness of the ISCO corrective action:

*C. J. H. Turner*

- a. Establish a sufficient amount of monitoring locations that can be used to determine the estimated radius of influence at each injection point, which in turn should be used to support the established injection point spacing intervals. Should a sufficient amount of locations not be present, additional monitoring locations/piezometers may be required.
  - b. Provide the injection pressures and the influence of these pressures on the aquifer and associated contaminant migration vectors (i.e., demonstrate that the delivery methodologies are not displacing the contaminants outside of the established treatment zone).
  - c. Monitor for and identify any dissolved oxygen fluctuations.
  - d. The oxidative environment caused by ISCO treatment may increase the solubility, mobility, and total groundwater concentrations of redox sensitive and exchangeable sorbed metals, including the oxidation and mobilization of trivalent chromium to hexavalent chromium. Although literature suggests that metals mobilized by ISCO treatment may return to their normal state and re-entrain in soil after the oxidant is consumed, or upon migration outside the oxidative treatment zone, please be aware that EPD will require an assessment of total metals concentrations in groundwater both inside and outside the treatment zone as part of this VRP CAP implementation.
  - e. Include additional surface water monitoring locations along Little Bear Creek to monitor the effects of the ISCO Pilot Test in relation to this particular exposure pathway.
  - f. Indicate the specific injection sequencing and specific injection depth intervals within each pilot test area.
  - g. Determine the anticipated residency time of the injectant within the treatment zone.
3. Based on the data provided within the VRP Application and the above referenced Progress Reports, the downgradient bedrock monitoring location MW-32 exceeds the applicable risk reduction standard (RRS) for trichloroethene (TCE). While delineation to the default Type 1 RRS is required in accordance with Section 12-8-108 of the Act, EPD will accept a demonstration of vertical delineation to the extent that will be influential to the established Remedial Action Objectives and any associated potentially complete exposure pathway.
  4. In addition to VOC concentrations, please provide a figure similar to Figure 7 of the VRP Progress Report #1 with individual constituents such as TCE as it is the major concern of constituent in groundwater at the site. The big size paper such as A1 may be used to map those numbers clearly on the figure.
  5. The total VOC line for the MW-39 trend graph in Appendix B of Report #2 appears incorrect. The total VOC line should be above the TCE line as it is with the other trend graphs.
  6. Please show the location of SED-4 and SB-7 in future figures of sediment contamination.
  7. EPD does not concur that an ecological risk assessment (EA) is no longer warranted. PCBs have been detected in sediment samples at several locations and various depths in Little Bear Creek. In fact, the statement in Report #1 that "PCB impact is sporadic in the sediment" indicates that additional systematic sampling of the sediments is required to define the areas of impact. However, EPD does agree that the proposed enclosure of the creek within a pipe should be delayed until the EA is completed as the enclosure of the creek may prevent other remedial actions needed for the sediments in Little Bear Creek. The EA is also necessary to establish a remedial goal for the sediments since the proposed criteria of the Type 1 RRS (1.55mg/kg) is higher than USEPA's current ecological screening value for PCBs.

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Please address the above comments in your next Semi-Annual Progress Report due October 15, 2016.  
Should you have questions regarding this matter, please contact Mr. Yue Han at 404-657-8678.

Sincerely,



David Brownlee  
Unit Coordinator  
Response and Remediation Program

c: John O. Schwaller, Environmental Management Associates, LLC

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