Georgia Department of Natural Resources
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Mark Williams, Commissioner
Environmental Protection Division
Judson H. Turner, Director
Land Protection Branch
Keith M. Bentley, Chief

Reply To:
Response and Remediation Program
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Atlanta, Georgia 30334-9000
Office 404/657-8600 Fax 404-657-0807

June 5, 2012

VIA EMAIL & REGULAR MAIL

Avery Dennison
c/o Mr. Bruce Martin
7 Bishop Street
Framingham, MA 01702
508-383-3010

Re: December 23, 2011 Voluntary Remediation Plan Application
Avery Dennison, HSI #10578
Flowery Branch, Hall County, GA
Tax Parcel ID 08073 000003D

Dear Mr. Martin:

The Georgia Environmental Protection Division (EPD) has received the December 23, 2011, Voluntary Remediation Program application that has been submitted pursuant to the Georgia Voluntary Remediation Program Act (the Act) O.C.G.A. 12-8-100, by the Johnson Company on behalf of Avery Dennison. After completing its review of the application, EPD has prepared the following comments:

Conceptual Site Model (CSM):

1) Please note that the vapor extraction phase of the multi-phase extraction (MPE) corrective action must continue until such time that the subsurface impacts no longer represent a potential risk to the vapor intrusion pathway, i.e. indoor and subslab air quality as it relates directly to land use determinations. This may require an evaluation of the indoor vapor intrusion pathway at some point in the future in order to establish criteria for the completion of the noted corrective action. EPD recommends that the environmental covenant placed on the property incorporate the appropriate verbiage to address this particular concern.

2) Please note that the May 2010 Corrective Action Plan (CAP) for the site included plans for designing a full-scale application of a MPE/pump & treat corrective action for the southern/western source areas in order to achieve hydraulic containment of the groundwater plume, onsite active remediation & treatment, and permitted discharge. The VRP application did not clearly indicate if the VRP Status Update Report would include design plans for the installation of a groundwater pump & treat component of the Multi-Phase Extraction System to address the groundwater impacts in the western source area of the site. Please provide clarification as to whether or not this particular corrective action component will be included in the VRP remedial action plan, as it may influence the result of the aforementioned modeling and potential for impact(s) to the downgradient surface water feature.

3) Please include the evaluation of the exposure pathway for the utility worker/construction worker scenario during onsite/offsite subsurface activities, and if necessary develop an operation & maintenance (O&M) plan to protect the integrity of these areas and restrict future exposure.

4) According the data for the subject site, the downgradient creek is considered a discharge point for the impacted groundwater migrating from the subject site. While surface water data has been provided as part of the VRP Application to illustrate that there have been no impacts above the In-Stream Water Quality Standards (ISWQS), additional information must be provided to address concerns associated with this complete exposure pathway, including but not limited to the following:

   i. Sections 6 and 7 of the VRP Application indicated that a point of demonstration monitoring plan would be included as part of the Status Update Report. Please ensure that this plan establishes a clear Point of Exposure (POE) and associated Point of Demonstration (POD) for the surface water exposure pathway and associated groundwater contaminant plume.

   ii. In the event that the MPE system design plan does not incorporate a western source area pump & treat component, please provide a groundwater model to demonstrate the current and/or future potential for groundwater impacts to migrate to and potentially discharge to the stream at concentrations greater than the ISWQS for the constituents of concern. Long-term surface water monitoring at the POD/POE may be required should the modeling indicate continued exposure potential from a long-term remnant source area plume. These sampling requirements, if necessary, can be included as part of the environmental covenants for the site.

   iii. Please note that based on the below listed Ecological Screening Assessment comments associated with the downgradient stream, EPD does not currently agree that an exposure risk does not exist for the surface water exposure pathway and additional information will be required.

   iv. Please ensure that the environmental covenants that are to be placed on the qualifying property(ies) include a stipulation that the remedial goals and associated in-stream water quality for the downgradient stream will comply with the requirements and criteria established within the Georgia Rules for Water Quality Control (Rule 391-3-6) and associated Georgia Water Quality Act (O.C.G.A. 12-5-20, et seq.), and the 2004 Comprehensive State-wide Water Management Planning Act (O.C.G.A. 12-5-520 to 525) and associated local Watershed/River Basin Management Plan(s).

5) Within six months of detecting regulated substance(s) on a non-qualifying property, the participant must apply to EPD to include the affected property as a qualifying property under the Act or notify EPD that the non-qualifying property is not included under the Act. Consequently, please note that the currently available site information indicates that site related contaminants have been detected on the adjacent Wrigley property on the southwest border of the Avery Dennison property. Therefore, please ensure that the first semiannual progress report includes a description of this Wrigley property as an additional qualifying property, along with a supporting site figure that illustrates the extent of this leased property or notify EPD that the Wrigley property will not be included under the Act. Please note that confirmation and/or documentation that Wrigley has provided express permission to enter the property and perform any applicable corrective actions must be included in the event that Wrigley retains ownership of the impacted area(s) north of the stream. In addition, please provide a copy of the VRP Application and future VRP documentation to Wrigley for their records.

Included as part of the VRP Application submittal was a November 23, 2011, "Response to EPD June 30, 2011 Comments on March 2010 Compliance Status Report," which responded to a number of EPD comments associated with the calculated risk reduction standards for the subject site. EPD's comments regarding the proposed RRS for the site, and Avery's associated comment responses, are included as follows:

Risk Reduction Standards (RRS):

6) The responses to Comments 5 & 6 are acceptable.

7) Comment 7:

   i. The response is acceptable and the necessary revisions have been made.
   ii. Please note that the correct Type 2 for Arsenic is 5.6E-4mg/L (based on adult cancer risk). This value is however produced correctly in Table 7-5.
   iii. The correct Type 4 RRS for cis-1,2-Dichloroethylene and Chromium (III) is 0.2mg/L and 153mg/L respectively. Please revise Table 7-3.

8) Comment 8: Response is noted. However, please note that EPD stated the Type 1 soils for Fluorotrichloromethane, Vinyl Chloride, Carbon Tetrachloride and 1,4-Dichlorobenzene are based on '100xApp III' value. Please revise based on this value. The RAGS equation values for these constituents in Table 7-4 could not be reproduced and are incorrect. Also note that the Type 1 RRS for Carbon Disulfide, Xylenes, are also based on the '100xApp III' value. Please revise Table 7-4.

9) The responses to Comments 9 and 10 are acceptable.

10) The response to Comments 11 is acceptable however, Table 7-7 will need to be revised based on comment 8(iii). In addition, please revise the "Selected GW RRS" in the leachability calculations for soil screening level (SSL) values. Please also note that for Chromium (VI), the higher of the Type 3 and Type 4 RRS was not selected. The higher value should be the Type 1 RRS for Chromium. Please revise SSL calculations for Chromium (VI).

Additional Screening Level Ecological Risk Assessment Comments:

11) Table 5: COPEC Selection in Sediment:

   i. As was done with the selection of COPECs in Surface Water, Maximum Detected Concentrations (MDCs) should be compared to appropriate screening values. If any of the MDCs exceed their respective screening values that regulated substance needs to be carried forward into the refinement step.

   ii. In the refinement step alternate screening values and refined exposure concentrations equal to 95% Upper Confidence Levels (UCLs) of the means can be used for comparative purposes, rather than Arithmetic Means of Detects. Please include the input and output data for the 95% UCL calculations for review, as these values will need to be verified by EPD. Please re-screen the regulated substances using the aforementioned method and revise the table as necessary.

iii. Dutch Target and Intervention Values: EPD finds these values to be inappropriate for use for sites in Georgia. Please consult the Oak Ridge National Laboratory's1 Risk Assessment Information System for additional sediment screening values.

12) Table 7: COPEC Selection in Groundwater-Surface Water Transition Zone:

i. As was done with the selection of COPECs in Surface Water, Maximum Detected Concentrations (MDCs) should be compared to appropriate screening values. If any of the MDCs exceed their respective screening values that regulated substance needs to be carried forward into the refinement step.

ii. In the refinement step alternate screening values and refined exposure concentrations can be used for comparative purposes, rather than 30% of MDCs. The refined exposure concentrations should be derived using a methodology (i.e., modeling) that can be justified.

13) Table 8: Screening Risk Calculation and Initial Refinement:

i. Surface Water: Please provide the input and output data for the 95% UCL calculations for review, as these values will need to be verified by EPD. Additionally, the "Refined Hazard Quotient based on UCL" values may need to be revised. From the information provided it appears that exposure to surface water does not currently pose a risk to ecological receptors, however additional justification must be provided for the use of a Dilution Factor of 30% of the 95% UCL to demonstrate that future groundwater discharges will not negatively impact surface water.

ii. Groundwater-Surface Water Transition: From the information provided it is difficult for EPD to verify that groundwater will not have future negative impacts to surface water. EPD needs a demonstration (i.e., model results) to show that as groundwater continues to discharge to surface water that negative impacts to surface water will not be seen. Please provide this information to EPD for review.

14) Table 9: Refined Screening Level Risk Calculation for the Groundwater-Surface Transition Zone: Please revise the table based on aforementioned comments.

The above comments must be addressed to EPD's satisfaction in order to demonstrate compliance with the provisions, purposes, standards and policies of the Act. EPD may, at its sole discretion, review and comment on documents submitted by Avery. However, failure of EPD to respond to a submittal within any timeframe does not relieve Avery from complying with the provisions, purposes, standards, and policies of the Act.

1 http://rais.ornl.gov/.

Should you have any additional questions or concerns please contact Mr. Kevin Collins of the Response and Remediation Program at (404) 657-0488.

Sincerely,

David Brownlee
Acting Program Manager
Response and Remediation Program

c: Glen Kirkpatrick, The Johnson Company

File: VRP Application 937335292 – Avery Dennison Site #10578

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