

Georgia Department of Natural Resources

2 Martin Luther King, Jr. Dr. S.E., Suite 1462 East, Atlanta, Georgia 30334
Mark Williams, Commissioner
Environmental Protection Division
F. Allen Barnes, Director
Hazardous Waste Management Branch
404-657-8600

March 10, 2011

VIA E-MAIL AND REGULAR MAIL

Thermo King Corporation
c/o Mr. David A. Kolb, ESH and Facility Manager
1430 Highway 24 East
Louisville, Georgia 30434

Re: Addendum to Voluntary Remediation Program Application, December 22, 2010
Thermo King Corporation Site, HSI Site No. 10702
Louisville, Jefferson County, Georgia
Tax Parcel 0090-024

Dear Mr. Kolb:

The Georgia Environmental Protection Division (EPD) has reviewed the December 22, 2010, Addendum to Voluntary Remediation Program Application [now referred to as the Voluntary Investigation and Remediation Plan (VIRP)] submitted pursuant to the Georgia Voluntary Remediation Program Act (the Act). EPD has the following comments:

Groundwater Sampling:

1. Passive diffusion bag samplers (PDBs) have been used to collect groundwater samples at a subset of monitoring wells at the Thermo King site. Of that subset, groundwater samples were also collected at six monitoring wells using low flow sampling techniques for comparison. For most of the monitoring wells, the results show concentrations detected in groundwater samples collected using low flow techniques were higher than concentrations detected in the PDB samples. TCE concentration in the low flow groundwater sample collected from MW-19 (5800 µg/L) was three times the concentration of TCE in the PDB sample (1700 µg/L). Therefore, EPD requests low flow sampling techniques are used to collect groundwater samples for wells where data is used for modeling purposes, to confirm delineation points, and to certify to Risk Reduction Standards (RRS).

Groundwater Fate and Transport Modeling of the Intermediate Water-Bearing Zone:

2. EPD requests the model be calibrated with historical data (since 2003) for monitoring wells MW-14, MW-20, and MW-22. EPD recommends the location of MW-25 be plotted on the Distance vs. Concentration plot to compare the projected concentration of MW-25 for year 2010 versus the actual data to determine how well the model is calibrated.
3. The model projects the plume forward for a period of approximately 50 years. The concentration versus distance plots show the plume continues to migrate. EPD requests to continue projecting the model forward in time until the model shows the maximum distance the plume is expected to travel and then continue to project forward until the plume demonstrates it is retreating. EPD also recommends generating concentration versus distance plots for future sampling events and compare the model prediction to actual field data.
4. An appropriate leaching model must be used to estimate the ongoing contribution of the

existing 1,4-dioxane contamination in the subsurface to groundwater. That contribution must be included in the fate and transport modeling in addition to the existing groundwater contamination.

Groundwater Fate and Transport Modeling of the Shallow Water-Bearing Zone:

5. EPD requests Thermo King conduct fate and transport modeling of the shallow water-bearing zone using monitoring wells MW-5, MW-19, and MW-27 to demonstrate the highest concentrations of contaminants expected at MW-27 to ensure the maximum allowed concentrations calculated using the simple mixing model will not be exceeded.
6. EPD recommends including the location of Manson Branch on the Distance vs. Concentration plot to estimate a maximum discharge groundwater concentration to compare to Instream Water Quality Standards (ISWQS).
7. EPD recommends generating concentration versus distance plots for future sampling events and compare the model prediction to actual field data.
8. An appropriate leaching model must be used to estimate the ongoing contribution of the existing 1,4-dioxane and TCE soil contamination to groundwater. That contribution must be included in the fate and transport modeling in addition to the existing groundwater contamination.

Risk Reduction Standard (RRS) Comments

9. **1,4-Dioxane** – EPD accepts the updated toxicity values for 1,4-Dioxane, which are in agreement with the values listed in the Regional Screenings Level (RSL) Table. Please note however that 1,4-Dioxane is not a volatile organic compound (VOC), and therefore the volatilization factor (VF) does not apply. As a result, the inhalation pathway can be removed in the RAGS equations 1 and 2, and the VF term can be eliminated from RAGS equation 6 and 7. Please revise the risk-based RRS values for 1,4-Dioxane for soil and groundwater. The soil Type 2 and 4 leachability values will also need to be revised, based on the revised groundwater RRS value.
10. **cis-1,2-Dichloroethylene** – The toxicity value for cis-1,2-Dichloroethylene was updated in the RSL table in November 2010 which is not reflected in this report. Please use the updated toxicity value for this substance to revise all soil and groundwater RRS values and leachability values.
11. **Chloroform (Table 6.1)** – Please revise the “reference” for Type 3 surface RRS for Chloroform to “risk-based”, because the value 4.9 mg/kg is based on the cancer risk, not GWx100.
12. EPD conducted an ecological assessment review of Tables 5.1 and 5.13. The revisions are acceptable.

Engineering/Environmental Covenant:

13. EPD requests the rip-rap remedy be engineered such that Seep Manson Branch #2 (1.7 mg/L TCE) and Seep H (trend of increasing TCE concentrations) are accessible for continued monitoring.
14. Please add Georgia Power to the Environmental Covenant as a party with interest in the property.
15. “<” and “>” symbols may be removed from the environmental covenant as appropriate. The signatory section of the environmental covenant should specify Thermo King Corporation as the “Grantor” and “Holder” above the appropriate signatures.

16. Adjacent property owners: All properties across Highway 24 need to be included. The State of Georgia should also be included, as owner of Highway 24.

Miscellaneous:

17. Thermo King has chosen preexisting well MW-22 (installed 2003) as the point of demonstration (POD) well. MW-22 is approximately 520 feet from the eastern property boundary. Thermo King needs to state what/where the point of exposure will be. If the point of exposure is off property (i.e. private drinking water well), then it may be subject to restrictions. Thermo King needs to state their point of exposure is before the property line to avoid such restrictions.

Thermo King must address these comments 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 Thermo King. However, failure of EPD to respond to a submittal within any timeframe does not relieve Thermo King from complying with the provisions, purposes, standards and policies of the Act.

If you have any questions, please contact Kristen Ritter Rivera of the Response and Remediation Program at (404) 657-8600.

Sincerely,



Alexandra Y. Cleary
Program Manager
Response and Remediation Program

c: David Sordi, Ingersoll Rand
Greg Wrenn, MACTEC
File: 10702