



## ENVIRONMENTAL PROTECTION DIVISION

**Richard E. Dunn, Director**

**Land Protection Branch**

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November 30, 2017

Via US MAIL and EMAIL

Ingersoll-Rand Company  
c/o Mr. Mike Goldstein, Global Remediation and Transaction Manager  
800-E Beaty Street  
Davidson, NC 28036

Re: Voluntary Remediation Program (VRP) Compliance Status Report (March 10, 2016), VRP Progress Report #10 (Appendix B of the CSR), Post-VRP CSR Monitoring Report (December 16, 2016), and Financial Assurance (FA) Instrument Update letter (May 1, 2017)  
Thermo King Corporation Site, Louisville, Jefferson County, Georgia  
HSI Site No. 10702, Tax Parcel 0090-024

Dear Mr. Goldstein:

The Georgia Environmental Protection Division (EPD) has reviewed the subject submittals prepared and submitted by Amec Foster Wheeler Environment & Infrastructure, Inc., (Amec), now Wood Group, PLC, on behalf of Thermo King Corporation (Thermo King) and/or Ingersoll-Rand Company (Ingersoll-Rand), the current owner of the property pursuant to the Georgia Voluntary Remediation Act (the Act) and the Georgia Hazardous Site Response Rules (the Rules) as they may apply. EPD has the following comments that need to be adequately addressed before concurring with the soil and groundwater certifications of compliance and approving the subject Compliance Status Report (CSR):

1. Please revise your certification of compliance statement in the subject CSR to be consistent with the requirements outlined in both the Rules and the Act.
  - a. Pursuant to §391-3-19-.07(9)(a) of the Rules, *"To comply with Type 4 standards, all source materials must be removed or decontaminated to Type 4 media criteria."* As two regulated substances impacting soil and one or more regulated substances impacting groundwater at concentrations exceeding approved Type 1 through 4 Risk Reduction Standards (RRS) will remain in place at the subject VRP site while relying on one or more engineering and/or institutional controls used to prevent unacceptable exposure to established potential receptors, compliance with Type 4 RRS cannot be certified for said substances in soil and groundwater. For those substances that exceed the Type 1 through 4 RRS that are to remain *in-situ* with engineering and/or institutional controls used to maintain compliance, certification to 5 RRS, as defined in §391-3-19-.07(10) of the Rules, is appropriate.
  - b. Based on Table 2.3-5 of the CSR and assuming the analytical detection limits referenced on the table are equal to or less than standard analytical method practical quantitation limits, soil is in compliance with residential (Type 1 and or Type 2) RRS for all detected regulated substances except for 1,4-dioxane and trichloroethene (TCE) for which Type 5 RRS are the

appropriate RRS for certification. Please submit the following with your revised soil certification statement:

- i. A revised Table 2.3-5 of the CSR with the "ND" term in the "*Maximum Detected Concentrations (mg/kg)*" column replaced with "<X.XX", where the X.XX is equivalent to the maximum detection limit reported by the laboratory.
- ii. A revised Figure 2.3-1 of the CSR separated into two figures with one representing surface soil conditions and the other representing subsurface soil conditions based on the following:
  - Analytical results should *not* be posted as total concentrations for "groups" of substances (*e.g.*, total VOCs, *etc.*). Please post the analytical results representing *each individual* detected regulated substance immediately adjacent to its relevant sampling location even if not detected. Non-detections should be represented as "X.XX" as referenced above. Results for substances not detected in any environmental matrix at the site should not be included on the figures.
  - Please construct and superimpose the following isoconcentration contour lines (isocons) on the revised figures: 1) one representative of the delineation standard (concentration) showing the aerial extent of each specific COC, 2) one representative of the general residential cleanup standard (the greater of Type 1 and Type 2 concentration), 3) one representing the concentration associated with the general non-residential (the greater concentration between Type 3 and Type 4) RRS, and 4) one that defines extent of the area(s) where compliance with Type 5 RRS will be maintained through the use of an engineered surface cap (see Comment #6.a.i).

*Note: Isocon locations may not be interpolated between sampling locations; rather they should be drawn to intersect those locations that represent analytical results that are less than or equal to applicable delineation (or cleanup) standards.*

- c. It should be noted that although Type 5 RRS may be used as the cleanup standards for groundwater at the site, several of the regulated substances detected in groundwater may be in compliance with non-residential (Type 3 or 4) RRS, or even residential (Type 1 or 2 RRS). EPD recommends that Ingersoll-Rand consider revising their groundwater compliance certification statement for said substances to reflect the most conservative RRS the substances are currently in compliance with and limit the extent of the implemented engineering and institutional controls used to maintain compliance with Type 5 RRS (see Part a of this Comment) to those substances not in compliance with *any* of the Type 1 through 4 RRS for groundwater. Please provide the following to justify your revised certification statement for groundwater:
  - i. A table similar to the requested revised Table 2.3-5 of the subject CSR (see Comment #1 above) that compares the approved Type 1 through 4 RRS values against the maximum concentrations of each *regulated* (do not include non-regulated) substance detected in groundwater over the time period referenced above. Each of the impacted aquifer zones should be addressed separately.
  - ii. Figures 2.3-2 and 2.3-3 should be revised to include isocons as described in the second bullet of Comment #1.b.ii above. Please note: Analytical results for groundwater samples collected from temporary monitoring locations such as soil borings or temporary monitoring wells (including DPT borings) cannot be used to demonstrate achievement of

delineation of the extent of contamination and/or compliance with cleanup standards as they cannot be replicated over time. Said results should not be posted on the referenced figures, nor should they be used in constructing the requested isocons.

2. “Background levels” are acceptable criteria for determining contaminant delineation standards for impacted soil and groundwater at the site; however, Ingersoll-Rand may wish to re-evaluate their choice of background concentrations as the criteria for selecting said standards. Alternative criteria defined in §12-8-108(1) of the Act and §391-3-19-.06(3)(b)2 and 3 of the Rules, may result in higher standards for one or more of the regulated substances released to soil and groundwater at the site.
3. Please revise Tables 2.3-1, 2.3-2 and 2.3-3 of the CSR to:
  - a. Include numeric concentration values representative of background concentrations (or alternative delineation standards) *and* cleanup standards for each of the detected regulated substances.
  - b. Replace the “ND” notations as referenced in Comment #1.b.i above. Laboratory reporting limits are not always the same as standard practical quantitation limits (the Rule-defined detection limits) for the analytical method used [see §391-3-19-.2(2)(d) of the Rules],
  - c. Remove references to non-regulated substances (not listed in Appendix I of the Rules). Analytical results for detected non-regulated substances may be summarized on a separate table if Ingersoll-Rand wishes to report them, and
  - d. Group groundwater analytical results (Tables 2.3-2 and 2.3-3) according to the separate aquifer zones represented rather than by sampling location ID numbers, as was done on Figures 2.3-2 and 2.3-3 of the CSR.
4. Please revise Figures 2.3-2 and 2.3-3 of the CSR in accordance with Comment #3.a above. Only the most recent (within the last two to three years of monitoring) analytical results should be posted.
5. Although EPD does not necessarily concur with how each model input parameter was derived, etc., we can concur that the model results demonstrate that groundwater does not pose an unacceptable threat to the applicable receptors.
6. **Proposed Future Actions:**
  - a. **Concrete/Asphalt Cap:** A preliminary review by EPD of the soil analytical results currently available and posted on Figure 2.3-1 of the CSR does not support limiting the surface cap area subject to inspection and used to demonstrate compliance with Type 5 RRS for soil to that area shown on the Site Plan in the December 16, 2016 Post-VRP CSR Monitoring Report. It appears that the area subject to engineering controls should extend beyond the walls of the main building in at least one direction. Ingersoll-Rand may choose to: 1) increase the areal extent of the “paved” area used as an “engineered” cap, to be inspected on a regular basis, to match the area justified by the requested isocon/posted soil analytical results on the referenced



CSR figure (see Comment #1.b.ii), or 2) acquire additional soil analytical data to justify the aerial extent of the currently proposed inspection area as shown in the December 16, 2016 submittal.

- b. **Seep Monitoring:** Please continue with seep and surface water monitoring as proposed in Section 6.4 of the VRP CSR.
  - c. **Groundwater Monitoring (Section 3.1 of Post-VRP CSR Monitoring Report):** EPD concurs with Ingersoll-Rand's request to cease groundwater monitoring at the site. Please proceed with decommissioning of existing monitoring wells associated with the site in accordance with the Georgia Water Well Standards Act of 1985. EPD prefers that decommissioning procedures be conducted in accordance with Section 2.8 of the United States Environmental Protection Agency, Region 4, Science and Ecosystem Support Division Guidance SESDGUID-101-R1 (*Guidance: Design and Installation of Monitoring Wells*, Effective January 29, 2013)<sup>1</sup>. The regularly scheduled annual inspection and monitoring report for the site due on or before December 31, 2017 should include either the documentation of monitoring well decommissioning activities or a proposed schedule for conducting said activities and submittal of a report documenting said activities.
7. Based on the type of proposed future actions and the cost estimate provided in the May 1, 2017 Financial Assurance (FA) Instrument Update Letter, EPD will not require that a financial assurance instrument be maintained for corrective action at the subject site. Therefore, Ingersoll-Rand may cancel the current instrument. The Director will return EPD's copy of the current instrument, to Ingersoll-Rand under separate cover. The issuer of the FA instrument must also notify the Director of EPD in writing, care of Ms. Amy Mussler at the letterhead address, of their intent to cancel the instrument.

EPD expects to receive your responses to these comments, along with the revised certifications of compliance and any necessary supporting tables and figures by no later than January 31, 2018. A complete revised CSR is not necessary or desired and your responses to these comments will be evaluated as a CSR Addendum. Please contact Carolyn L. Daniels, P.G. of my office *via* telephone at 404-657-8646 or email at [carolyn.daniels@dnr.ga.gov](mailto:carolyn.daniels@dnr.ga.gov) if you have any questions regarding these comments.

Sincerely,



David Brownlee  
Unit Coordinator  
Response and Remediation Program

c: Rhonda Quinn and Gregory Wrenn, Wood Group, PLC (email)

File: 199-0010 (VRP File)

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<sup>1</sup> The referenced guidance document may be accessed via the worldwide web at: [https://www.epa.gov/sites/production/files/2016-01/documents/design\\_and\\_installation\\_of\\_monitoring\\_wells.pdf](https://www.epa.gov/sites/production/files/2016-01/documents/design_and_installation_of_monitoring_wells.pdf).