



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 1

1 CONGRESS STREET, SUITE 1100  
BOSTON, MASSACHUSETTS 02114-2023

July 7, 2003

John C. Drobinski, P.G., LSP  
Environmental Resources Management  
399 Boylston Street, 6<sup>th</sup> Floor  
Boston, Massachusetts 02116

Re: Risk-Based Disposal Approval Application  
Former Raytheon Facility  
430 Boston Post Road  
Wayland, Massachusetts

Distribution:
REC'D JUL 08 2003 ERM Boston
Client/Location: (# if contract file)
File Folder:

Dear Mr. Drobinski:

This is written in response to your December 23, 2002 Application for a Risk-Based Disposal Approval (Application) for the former Raytheon Facility, located at 430 Boston Post Road, Wayland, Massachusetts (the Site). This Application was prepared and submitted by ERM on behalf of the Raytheon Company (Raytheon) to support a risk-based cleanup and disposal plan for PCB-contaminated materials on the Site under 40 CFR §761.61(c).

Additional documents were submitted in support of the Application, and include:

- Phase I, Initial Site Investigation, May 1996
- Phase II, Comprehensive Site Assessment, Vol I, November 28, 2001
- Phase II, Comprehensive Site Assessment, Vol II - Appendix A-E, November 27, 2001
- Phase II, Comprehensive Site Assessment, Vol III - Appendix F-G, November 27, 2001
- Phase II, Comprehensive Site Assessment, Vol IV - Appendix H, November 27, 2001
- Phase II, Comprehensive Site Assessment, Vol V - Appendix H, November 27, 2001
- Phase II, Comprehensive Site Assessment, Vol VI - Appendix I-J, November 27, 2001
- Phase III, Remedial Action Plan, November 28, 2001
- Phase IV, Remedy Implementation Plan, Vol 1, December 30, 2002
- Phase IV, Remedy Implementation Plan, Vol 2 - Appendix A-F, December 30, 2002
- Phase IV, Remedy Implementation Plan, Vol 3 - Appendix F-L, December 30, 2002
- Response to Public Comment, December 19, 2002
- Environmental Risk Characterization of the Wetlands Adjacent to the Former Raytheon Facility, Wayland, Massachusetts November 09, 2001
- Information Supplement - Application for Risk-Based Disposal Approval, April 3, 2003
- Second Information Supplement - Application for Risk-Based Disposal Approval, May 8, 2003

Toll Free • 1-888-372-7341

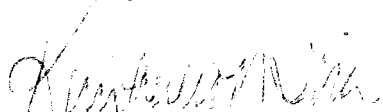
Internet Address (URL) • <http://www.epa.gov/region1>

Recycled/Recyclable • Printed with Vegetable Oil Based Inks on Recycled Paper (Minimum 30% Postconsumer)

The above documents with the December 23, 2002 Application shall be considered "the Application". EPA has conducted a review of the Human Health and Ecological Risk Assessments and provided comments on June 18, 2003. Additional comments on the ecological assessment are provided in the attached document. Please be aware that a final review of the dioxin study is ongoing and upon completion, additional comments may be forthcoming.

Should you have any questions, please feel free to contact me at (617) 918-1527.

Sincerely,



Kimberly N. Tisa, PCB Coordinator  
Office of Ecosystem Protection

cc: J. McTigue, ERM

**Ecological Review of Risk-Based Disposal Approval Application for Wetlands  
Adjacent to former Raytheon Facility (143.64-12/23/02)**

(Comments regarding PCB application)

**General Comments:**

1. Page 15, last paragraph. Text indicates that, in accordance with MCP guidance, an area of “readily apparent” environmental harm was not included in the stage II environmental risk characterization (ERC). EPA’s 1997 ecological risk assessment guidance does not preclude ecological evaluation for areas with “readily apparent” environmental harm.

Notably, the ecological risk characterization (ERC) report did evaluate the entire site including the “area of readily apparent harm” (ARAH), those results are provided in an appendix to the report. Those site-wide results should probably be discussed in the Disposal Approval Application as well as the current results for the area outside the Area of Readily Apparent Harm (ARAH). This would ensure that the risks from PCBs to ecological receptors site-wide would be adequately addressed.

2. Page 17, Assessment Endpoint #1. Protection of fish, amphibians and aquatic invertebrate communities from effects related to exposure to COPECs in surface water. Noted that evaluation of effects to aquatic receptors from exposure to sediment was not included as an assessment endpoint. Evaluation of effects to aquatic receptors from exposure to sediment should be considered, particularly for compounds like PCBs that partition to sediment in an aquatic environment.

**Specific Comments:**

1. Page 15, 2<sup>nd</sup> bullet; the term “readily apparent” in the second line is missing the last quotation mark.
2. Page 15, 3<sup>rd</sup> bullet; should reword sentence to “Determine which complete exposure pathways require further evaluation in the Stage II ERC.”
3. Page 15, last paragraph. The statement regarding isolated surface pools that are not hydraulically connected to the river may require further clarification (i.e., based on flow data, other field observations, etc.).
4. Page 17, Table - *Summary of COPEC Concentrations in Wetland Soil/Sediment*. Based on comparison with the Environmental Risk Characterization Report, the concentrations in this table appear to be for the entire site, not just the area outside the ARAH. The text should state that the concentrations in the table reflect site-wide concentrations to avoid confusion.

## Review of Environmental Risk Characterization (ERC) of the Wetlands Adjacent to the Former Raytheon Facility, Entrix Inc. 2001.

### Comments:

1. Pages 6-6 and 6-8, Tables 6-3 and 6-5. Based on the tables, no PCB surface water data were available outside the area of readily apparent harm (ARAH). Noted that PCBs were not carried forward in the analysis, presumably because there were no site data to compare to the benchmark value for PCBs. The lack of PCB surface water data for the area outside ARAH should be addressed as a source of uncertainty in the report with regard to evaluating exposure from PCBs.
2. Pages 6-9 through 6-10, Section 6.2.4.1. Text states that certain chemicals were excluded from the evaluation when the arithmetic mean concentration was below the screening value or less than background. This is not consistent with EPA's 1997 ecological risk assessment guidance which recommends that the highest measured or estimated on-site contaminant concentration be used to estimate exposure for the screening-level ecological evaluation.
3. Page 7-15, last paragraph. Text discusses rationale as to why benthic invertebrates were not evaluated in the assessment. Benthic invertebrates should, however, be included in the evaluation because they represent a link to higher-level aquatic receptors (e.g. fish and piscivorous wildlife) and their evaluation is needed to account for the effects of PCBs and other compounds that partition to sediment in the aquatic environment. Rationale provided in other sections of the report (e.g., 8.2.1, 1<sup>st</sup> paragraph) regarding the limited potential for aquatic receptors to contact sediment is important and should be discussed in the report, but the sediment pathway should still be evaluated.
4. Page 8-5, Table 8-4 *Exposure point concentrations of COPECs in wetland soil and vegetation outside the "Area of Readily Apparent Harm."* The concentrations of PCBs for cattail roots and buttonbush seeds in this table were not consistent with the vegetation concentrations given in Table 4-17 (cattail roots outside ARAH) and Table 4-19 (buttonbush seeds outside ARAH). Either the PCB concentrations in Tables 4-17 and 4-19 should have been reported as ug/kg dry weight or the vegetation EPC values for PCBs in Table 8-4 are off by approximately 3 orders of magnitude.

Also, the values in Table 8-4 appear to have been adjusted by a factor of 0.85 for the dry weight to wet weight conversion. For a dry to wet-weight conversion (assuming 84.9% moisture), the conversion factor is:  $1 - 0.849 = 0.151$ . Therefore, the values in Table 8-4 should be based on the values in Tables 4-17 and 4-19 adjusted by 0.151 rather than 0.85.

5. Page 8-6, Table 8-6. *Concentrations of COPECs in small mammals collected and analyzed by USFWS.* The PCB concentration reported for small mammals of 0.005 mg/kg, ww does not appear to be consistent with the PCB concentration listed in Section 4.2.1 (page 4-2, last paragraph) which reported the PCB concentration as non-detectable with a detection limit of 0.05 mg/kg. Unless an adjustment factor was used, the concentrations in Table 8-6 should be modified to be consistent with the USFWS data.
6. Page 10-7, Table 10-5. *Comparison of plant tissue concentrations from outside the "Area of Readily Apparent Harm" to screening benchmarks for phytotoxicity.* Noted that benchmark concentrations for PCBs were not available. This data gap should be addressed in the uncertainty section regarding evaluating risks to wetland plants from exposure to PCBs.
7. Page 10-14, 1<sup>st</sup> paragraph. Second sentence should be reworded as "HQs for each of the avian receptors are presented (Tables 10-11 and 10-12)."
8. Page 10-14, Section 10.6.2. With regard to evaluation of PCBs, the limited size of the sample set for small mammals (2 samples) used to estimate dietary exposure for the hawk at the site should be discussed in the uncertainty section of the report.