



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 1

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

November 15, 1999

Ms. Lauren N. Levine  
C/O Pratt & Whitney  
400 Main St, M/S 124-26  
East Hartford, CT 06108

Re: RCRA Corrective Action  
Pratt & Whitney, Colt St. Facility  
EPA ID No. CTD000844399

RECORDS CLERK (copy)  
Pratt & Whitney  
CTD000844399  
R 13  
RDMS #1039

Dear Ms. Levine:

The United States Environmental Protection Agency (EPA) is pleased to inform you that EPA has determined that the Pratt & Whitney, Colt Street facility has achieved the federal goal of Stabilization.

EPA New England considers Stabilization as the achievement of the two Environmental Indicators (EI), *Current Human Exposures Under Control* and *Migration of Contaminated Groundwater Under Control*. These EI's were originally set forth in a July 29, 1994 memorandum by then Director of EPA's Office of Solid Waste, Michael Shapiro. This memorandum has been the subject of recent amendments; the most current amendment to the EI's is set forth in a February 5, 1999 Interim Final memorandum under Acting Director of EPA's Office of Solid Waste, Elizabeth Cotsworth.

Stabilization is an interim goal meaning that the environmental conditions at a given site/facility do not pose a current risk to human health. You should be aware, therefore, that any change in facility operations or land use which results in a human health exposure scenario would affect this determination.

Also, because Stabilization is an interim goal, facilities that achieve the goal of Stabilization should be aware that they will be expected to achieve the goal of a final remedy at some point in the future. Environmental actions intended for the purpose of achieving Stabilization should therefore be consistent with any anticipated final remedy. Facilities should be particularly careful when considering construction activities which could ultimately impact the ability to achieve a final remedy.

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Thank you for your continuing commitment to environmental excellence. If you have any questions, please do not hesitate to contact me at (617) 918-1238.

Sincerely,

A handwritten signature in black ink that reads "Aaron R. Gilbert". The signature is written in a cursive, slightly slanted style.

Aaron R. Gilbert,  
RCRA Corrective Action Section

cc: C. Casey EPA  
M. Hoagland EPA  
J. Perez EPA  
V. Riva P&W  
P. Sheridan P&W  
E. Waterman EPA

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**DOCUMENTATION OF  
ENVIRONMENTAL INDICATOR  
DETERMINATION  
CURRENT HUMAN EXPOSURES  
UNDER CONTROL**

**Pratt & Whitney  
Colt Street  
East Hartford, CT**

**March 1999  
Revised September 1999**

**Prepared for**

**PRATT & WHITNEY  
400 Main Street  
East Hartford, CT 06108**

**Prepared by**

**LOUREIRO ENGINEERING ASSOCIATES  
100 Northwest Drive  
Plainville, CT 06062**

**LEA Comm. # 68VB201**

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Pratt & Whitney Aircraft Group  
CT D-000 8-14-1997  
R 13  
RDMS # 1039

**RESPONSE TO EPA COMMENTS**  
**P&W Colt Street**  
**Environmental Indicator Evaluation for Human Exposures**  
**CA725**

The following are responses to the June 9, 1999 EPA comments. The response to each comment is provided in italics.

**General Comments**

1. EPA has reviewed the Surface Impoundment sampling data provided in Loureiro Engineering Associates, Inc. correspondence dated April 9, 1999. Although this information is helpful, it is not clear from the figures provided which direction the thickened sludge lagoon would have drained following the failure of the dike berm in June 1984.

This issue is of concern to EPA as it appears that sludge remaining in the surface impoundment (at the time of the flood) could have been released northward toward Willow Brook, or southwest toward the CT River. As a result, EPA is interested in reviewing any historical data that would document the scope of the release that occurred (e.g. photos, correspondence between CT DEP, etc.).

*Sampling locations were selected in the area most likely to have been impacted at the time of the breach. Additional data in the form of photographs are not available. Other historical information regarding the release has been provided to both the DEP and EPA in the closure documents for the former impoundments.*

Furthermore, a smaller scale map should be provided so that the topography from the north-western property boundary, along Willow Brook, to the CT River can be seen. This is necessary so that EPA can evaluate the likely flow path of any releases from the bermed areas.

*The Site Plan has been revised to show expanded coverage to the limit of topographic information available in the vicinity of the Colt Street site. A copy of the revised Site Plan has been submitted with the revised Documentation of EI Determination.*

2. After reviewing the 1998 RCRA Annual Groundwater Monitoring Report, Loureiro Engineering Associates, February 1999, it came to our attention that metals analysis was conducted on filtered samples. It is EPA New England – Region I policy that for risk assessment purposes metals analysis be conducted on unfiltered samples. As a result, please ensure that all future sampling of groundwater is conducted on unfiltered samples. Also, please refer to the U.S. EPA Region I Low Stress (low flow) Purging and Sampling Procedures for the Collection of Groundwater Samples From Monitoring Wells.

*In May of 1999, groundwater samples were collected from nine monitoring wells at the Colt Street Facility for risk assessment purposes. Both filtered and unfiltered metals samples were collected and analyzed. The unfiltered metals samples were collected for comparison to VCAP risk-based screening levels. The results of this sampling are presented in Attachment 3.*

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*Currently, RCRA groundwater monitoring samples are collected in accordance with the **Comprehensive Groundwater Monitoring Plan**, dated October 13, 1993, and approved by the Connecticut DEP. Section 7.1.2 of the Plan describes sample handling and collection. The Plan indicates that samples collected for dissolved metals and metalloid analysis will be filtered immediately after collection. The semi-annual groundwater sample collection is conducted in accordance with this plan.*

3. Re-screen the Colt Street data after Conceptual Site Model screening levels are finalized.

While it is not anticipated that comments on the Conceptual Site Model screening levels will have an impact on the EI evaluation for Colt Street, the data should be re-screened.

*The report entitled "Conceptual Site Models and Screening Levels for Pratt & Whitney's VCAP Connecticut Facilities" was finalized on September 15, 1999. For the Colt Street Facility, the report identifies the applicable receptors, exposure media and pathways which require screening as follows: 1) grounds keepers, surface soil, by ingestion and dermal contact; 2) indoor workers, indoor air, inhalation; 3) off-site recreators, surface water, ingestion and dermal contact; and 4) off-site recreators, sediment, ingestion and dermal contact. The Colt Street data has been re-screened against the revised screening levels for surface soil and sediment. In addition, the results of analysis on unfiltered groundwater samples were screened against the criteria for groundwater protective of surface water. The results are as follows:*

#### ***Surface Soil***

*There is a single exceedance of the Soil Screening Levels Based on Soil Ingestion and Dermal Contact (Table 3-10 in the Gradient CSM report) for an On-Site Groundskeeper. The sample, CS-RSK-SS-09 was collected in March of 1998 and contains 11.2 mg/kg of arsenic. The arsenic soil screening level for a Groundskeeper is 8 mg/kg. However, the 95% upper confidence limit on the mean (UCLM) of the data set for arsenic in surface soil at Colt Street is 6.68 mg/kg. To arrive at this result, the arsenic data set was log-transformed to achieve a normal distribution that resulted in an average arsenic concentration of 3.65 mg/kg with a standard deviation of 2.05 mg/kg. Since the 95% UCLM for arsenic is below the screening level, arsenic is not expected pose an unacceptable human health risk to the Groundskeeper.*

#### ***Groundwater Protective of Surface Water***

*The only exceedances of the Groundwater Screening Levels Based on Surface Water Protection (Table 3-7) reported are for iron, and are based on the May 1999 groundwater sampling event. Iron was detected at 2.18 mg/L (CS-MW-03A) and at 1.70 mg/L (CS-MW-04A). The generic P&W Groundwater Screening Level listed in Table 3-7 is 1,000 ug/L, based on a PQL of 100 ug/L. The PQL was used in preparing Table 3-7 because a clean-up criterion for iron was not included in the Connecticut RSRs on which the screening levels*

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*were based. However, there is a USEPA Ambient Water Quality Criterion protective of chronic health for iron in freshwater of 1,000 ug/L. This criterion, which was published in 1992, is also expected to be protective of exposures to offsite recreators via incidental ingestion of and dermal contact with iron. Based on a dilution attenuation factor of 10, a conservative screening level of 10,000 ug/L should apply to iron in groundwater for surface water protection. No concentrations of iron were detected in groundwater above 10,000 ug/L. Therefore, no exceedances are reported to have occurred.*

***Sediment***

*Based on a review of analytical data for sediment samples, there are no exceedances of the Soil Screening Levels Based on Soil Ingestion and Dermal Contact (Table 3-10) for an Off-Site Recreator.*

**Specific Comments**

4. On page 1, P&W claims that all available information has been considered in making the Human Exposures Environmental Indicator (EI) determination. However, page 5 refers only to the last four years of groundwater monitoring data.

P&W should revise both the Human Exposures and Ground Water Releases EI's to include an evaluation of all existing data and to provide complete references to this data.

(Note: This older data is required to help interpret the significance, if any, of the recent exceedance of the chromium screening level.)

Furthermore, we found the database summary tables for 1994-98 data to be quite helpful. If all historical data is already in the database, please also include similar tables for this older data.

*The analytical data used in making the EI determination is that which is available in terms of being readily accessible. No analytical data prior to 1994 are available in the database, and therefore, were not considered. The EI determination is based on current site conditions. The review of historical data is to evaluate changes or significant fluctuations in the constituents present in the groundwater. The review of analytical data back to 1994 is adequate to make this assessment. The compilation of analytical data pre-1994 would be a cumbersome task which, in our opinion, would not provide additional relevant data on which to base the EI determination. In addition, analytical data from future sampling events will continue to be compared to historic data for identification of changes or fluctuations in concentrations of the constituents monitored.*

Also, please include summary tables for detects and for exceedances of relevant criteria. Although useful, it is not necessary to provide summary tables that include a complete list of

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the constituents that were included in the analyses (typically Table 1) if this information has been previously provided to EPA (e.g. quarterly monitoring reports) and is included in the EI determination by reference.

*The summary tables included in Attachment 3 are as follows:*

<i>Table 1</i>	<i>Summary of On-site Monitoring Wells</i>
<i>Table 2</i>	<i>Summary of Groundwater Analytical Results (including a complete list of constituents that were included in the analyses)</i>
<i>Table 3</i>	<i>Summary of Constituents Detected in Groundwater</i>
<i>Table 4(a)</i>	<i>Summary Table of Exceedances of Groundwater Screening Criteria Based on Surface Water</i>
<i>Table 4(b)</i>	<i>Summary Table of Exceedances of Soil Screening Levels for an On-site Groundskeeper</i>
<i>Table 5</i>	<i>Data Qualifiers Used in the Summary Tables</i>

5. Page 3, Item No. 2:

The Environmental Indicator Determination checklist did not anticipate a facility policy like the Design Process Review (which P&W still needs to define within the EI determination report) which control exposure to unknown conditions. Therefore, for each AOC/SWMU or exposure area please enter your answer as unknown (check “?” for each media where there is no data to support a “no” or “yes” answer. Do not follow the checklist directions to jump to item #6. Instead proceed to item #3 and describe here how the Design Process Review breaks the completion of any exposure pathways. This process should be completed for each AOC/SWMU or exposure area in order to develop a list of areas:

- 1) Where data exists;
- 2) Where there are exceedances of relevant criteria; and
- 3) Where additional data will need to be collected for final remedy decisions.

*Section 3 of the EI Determination report has been modified to address Design Process Review.*

6. The one round of surface water sampling conducted in February 1999 is not adequate to make a determination regarding an upgradient source of chromium or the following volatile organic compounds: 1,1-dichloroethylene; cis-1, 2-dichloroethylene; 1,1,1-trichloroethane and trichloroethylene. As a result, P&W will need to perform additional surface water sampling to verify the statements made in the EI evaluation **and/or** provide references to documents that contain additional surface water data (e.g., P&W Main Street Facility) that support this claim. In addition, provide a text discussion that supports this claim by detailing what is known about the upgradient source.

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*Additional surface water data for the reach of Willow Brook adjacent to the Colt Street facility are not available. However, data have recently been collected from an upgradient reach of the process sewer that discharges to Willow Brook just upstream of the Colt Street facility. These data clearly identify the process sewer as the source of the chromium and VOCs detected in Willow Brook. This source (groundwater infiltrating the underground pipeline) was discovered during removal of accumulated sediment from the pipe. Upon removal of the sediment, it was observed that discolored groundwater was infiltrating the pipeline and this groundwater was sampled. The sample results indicate the presence of chromium and VOCs that, under normal operating conditions, are diluted by process water and stormwater prior to discharge to Willow Brook just upstream from Colt Street. Copies of the analytical results for the infiltrating groundwater are included in the back of Attachment 6.*

**Attachments**

7. Please provide definitions for the data qualifiers used in data summary tables.

*A table of data qualifiers is included as Table 5 in Attachment 3.*

8. The Attachment 2 figure should be revised to reflect the complete exposure area P&W used for evaluating the off-site recreator. Specifically, the figure should highlight the area along the banks of Willow Brook (Willow Brook should also be labeled on the map).

*The Attachment 2 figure has been revised*

9. Attachment 3, page 2, Section 4, Results:

Please verify and correct the information provided in this summary as necessary. The second paragraph contains incomplete information. Chromium was detected at a concentration of 0.193 mg/l in 1998, cis 1,2-DCE was also detected in CS-MW-05 in 1998, MEK was detected in MW-6 in 1998 and PCE was detected in CS-PZ-01 in 1997 at 5.1 ug/l (a concentration higher than that reported here).

*Attachment 3 has been replaced with a report titled **Groundwater Monitoring in Support of VCAP Risk Assessment (Step 2)**. This report includes the results of the most recent sampling, May of 1999. As with the previous report presented in Attachment 3, this report addresses VCAP sampling only. It does not summarize or discuss the other sampling events. However, Tables 2 and 3 included in Attachment 3 present all of the groundwater monitoring data from 1994 to May 1999.*

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**DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION**

Interim Final 2/5/99

**Current Human Exposures Under Control**

**Facility Name:** Pratt & Whitney, Colt Street Wastewater Treatment Facility  
**Facility Address:** Colt Street, East Hartford, Connecticut  
**Facility EPA ID #:** CTD000844399

1. Has all available relevant/significant information on known and reasonably suspected releases to soil, groundwater, surface water/sediments, and air, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been considered in this EI determination?

If yes - check here and continue with #2 below.

If no - re-evaluate existing data, or

if data are not available skip to #6 and enter "IN" (more information needed) status code.

**BACKGROUND**

**Definition of Environmental Indicators (for the RCRA Corrective Action)**

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

**Definition of "Current Human Exposures Under Control" EI**

A positive "Current Human Exposures Under Control" EI determination ("YE" status code) indicates that there are no "unacceptable" human exposures to "contamination" (i.e., contaminants in concentrations in excess of appropriate risk-based levels) that can be reasonably expected under current land- and groundwater-use conditions (for all "contamination" subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

**Relationship of EI to Final Remedies**

While Final remedies remain the long-term objective of the RCRA Corrective Action program

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the EI are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRA). The “Current Human Exposures Under Control” EI are for reasonably expected human exposures under current land- and groundwater-use conditions ONLY, and do not consider potential future land- or groundwater-use conditions or ecological receptors. The RCRA Corrective Action program’s overall mission to protect human health and the environment requires that Final remedies address these issues (i.e., potential future human exposure scenarios, future land and groundwater uses, and ecological receptors).

**Duration / Applicability of EI Determinations**

EI Determinations status codes should remain in RCRIS national database ONLY as long as they remain true (i.e., RCRIS status codes must be changed when the regulatory authorities become aware of contrary information).

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2. Are groundwater, soil, surface water, sediments, or air **media** known or reasonably suspected to be “contaminated” above appropriately protective risk-based “levels” (applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action (from SWMUs, RUs or AOCs)?

	<u>Yes</u>	<u>No</u>	<u>?</u>	<u>Rationale / Key Contaminants</u>
Groundwater	<u>   </u>	<u>  x  </u>	<u>   </u>	<u>Iron was detected above the CSM screening level for surface water protection that was derived based on 10 times the POL. However, the detected levels are significantly less than 10 times the federal ambient water quality criteria for iron. Consequently, appropriately protective risk-based levels are not exceeded.</u>
Air (indoors) <sup>2</sup>	<u>   </u>	<u>  x  </u>	<u>   </u>	
Surface Soil (e.g., <2 ft)	<u>   </u>	<u>  x  </u>	<u>   </u>	<u>Arsenic was detected at 11.2 mg/kg in surface soil sample CS-RSK-SS-09. However, the 95% UCL on the mean for arsenic in the surface soil data set is well below the screening level.</u>
Surface Water	<u>   </u>	<u>  x  </u>	<u>   </u>	
Sediment	<u>   </u>	<u>  x  </u>	<u>   </u>	
Subsurf. Soil (e.g., >2 ft)	<u>   </u>	<u>   </u>	<u>  x  </u>	<u>Exposure to subsurface soil is controlled through the Design Process Review, an institutional control, to ensure analytical data for subsurface soils are reviewed or generate/evaluated prior to exposure.</u>
Air (outdoors)	<u>   </u>	<u>   </u>	<u>  x  </u>	<u>Exposure to trench air (which can be construed as outdoor air) is considered applicable to excavating laborers and this exposure is limited through the implementation of an institutional control, the Design Process Review.</u>

       If no (for all media) - skip to #6, and enter “YE,” status code after providing or citing appropriate “levels,” and referencing sufficient supporting documentation demonstrating that these “levels” are not exceeded.

       If yes (for any media) - continue after identifying key contaminants in

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each "contaminated" medium, citing appropriate "levels" (or provide an explanation for the determination that the medium could pose an unacceptable risk), and referencing supporting documentation.

X If unknown (for any media) - skip to #6 and enter "IN" status code.

— This is the best answer. Although it is unknown whether subsurface soil or air (outdoors) is contaminated, Pratt & Whitney relies on institutional controls (specifically, the Design Process Review) to prevent exposures. Supporting information follows & is also provided in the Conceptual Site Models & Screening Levels for Pratt & Whitney's VCAP CT Facilities (excerpt is attached).

Rationale and reference(s):

The Colt Street Facility is an industrial wastewater treatment facility constructed to provide for the treatment of wastewater generated at the Pratt & Whitney Main Plant at 400 Main Street, East Hartford, Connecticut. The Colt Street Facility was constructed with two Hazardous Waste Management Units (HWMUs) to temporarily store wastewater treatment sludge and filter cake (designated as hazardous waste under 40 CFR 261.3). These units have not been used since 1982. Samples of groundwater, indoor air, surface soil (i.e. those soils located at depths less than or equal to 2 feet below the ground surface), surface water, and sediment have been collected during the performance of investigation activities performed at the site.

A report entitled *Conceptual Site Models and Screening Levels for Pratt & Whitney's VCAP Connecticut Facilities* was prepared by Gradient Corporation (Gradient Report). This report was issued on December 19, 1997, revised on September 18, 1998 and finalized on September 15, 1999. A copy of applicable portions of this report, those portions addressing the Colt Street Facility, have been included as Attachment No. 1. For the Colt Street Facility, the Gradient Report provides a facility-specific conceptual site model, a description of facility-specific exposure media and exposure pathways, a description of potential receptors, a rationale and approach to screening analytical data generated for exposure media, and screening levels for exposure media. For the Colt Street Facility, the Gradient Report identifies the applicable receptors, exposure media and pathways which require screening as follows: 1) grounds keepers, surface soil, by ingestion and dermal contact; 2) indoor workers, indoor air, inhalation; 3) off-site recreators, surface water, ingestion and dermal contact; and 4) off-site recreators, sediment, ingestion and dermal contact. This documentation of environmental indicator determination is based on a review of all available relevant/significant data as it applies to these receptors for the identified exposure media and pathways. With the exception of those instances noted in the following paragraphs, the relevant/significant analytical data for specific media at the Colt Street Facility were compared to the tabulated screening levels in the Gradient Report. In addition, contaminants detected in surface water and sediment were reviewed and compared to the lists of potentially bioaccumulative compounds included in Appendix E of the Gradient report to evaluate whether the facility poses any risk of bioaccumulation of contaminants up the food chain.

**Conceptual Site Models and Screening  
Levels For Pratt & Whitney's  
VCAP Connecticut Facilities**

Prepared for  
Pratt & Whitney  
400 Main Street  
East Hartford, CT

Prepared by  
Gradient Corporation  
44 Brattle Street  
Cambridge, MA 02138

Issued: December 19, 1997  
Revision 1: September 18, 1998  
Revision 2: September 15, 1999

rivers. Regardless, recreators could potentially be exposed to surface water and sediment in these rivers (Figure 2-1). Recreator exposure *via* ingestion of fish (potentially affected by the P&W facilities) is not being considered at the screening stage because: 1) chemicals which typically bioaccumulate in fish tissue are generally not expected to be transported *via* groundwater, and 2) if chemicals with a potential to bioaccumulate are detected in on-site surface waters and sediments, fish ingestion will be evaluated in the Quantitative Risk Assessment. Contaminants detected in soil will also be evaluated if it appears that soil-related chemicals might have been transported into surface waters. As recommended by USEPA, the list of target analytes used for instituting Fish Advisories (Table 4-1 in Appendix E) and the list of chemicals typically analyzed in fish tissue for evaluating human health risks (Table 2 in Appendix E) will be used to determine whether a consistently detected chemical is bioaccumulative.

### 2.2.3 Off-Site Residents

Residential properties are adjacent to a number of the P&W facilities being evaluated in the VCAP. Since a majority of the areas at P&W facilities are paved and covered by buildings, there is no concern regarding downwind dust transport. All of the VCAP facilities are located in areas classified as non-drinking water areas (GB groundwater classification) or results of local well surveys have shown that there are no known active potable water wells near the facilities that could be impacted by contaminants at the facilities. Consequently, the only complete exposure pathway for Off-Site Residents is exposure to indoor air potentially affected by contaminant volatilization from groundwater beneath nearby homes (Figure 2-1).

## 2.3 Existing Institutional Controls

Since the VCAP permits the use of existing and or proposed institutional controls to control potential exposures, institutional controls that are currently being used at the VCAP facilities to control potential exposures are discussed in this subsection.

### 2.3.1 Design Process Review

The Design Process Review (DPR) is currently being used to manage construction and maintenance (*e.g.*, relocation of equipment, installation of new process lines, *etc.*) within the purview of

the P&W Environment, Health & Safety (EHS) management system. In the context of subsurface excavations, DPR is used to determine whether the work should be conducted by a general contractor or an environmental contractor, and to resolve other issues such as management of excavated soils. It is required that any maintenance or construction requiring subsurface work be reviewed by DPR prior to beginning the project. In general, the steps involved in the DPR are:

- A form explaining the nature of the proposed activity is completed and submitted to P&W's EHS personnel.
- Prior to approving the proposed work, P&W's EHS personnel review available data and may rely on facility knowledge to decide if further sampling is necessary to determine appropriate contractors, handling of soils, and/or disposal requirements.
- P&W also relies on Connecticut's Draft Contained-In Policy to help select appropriate contractors and disposal options. Letters obtained by P&W from CTDEP provide guidance for the handling and characterization of environmental media for each of the VCAP facilities. These letters (copy for one facility attached in Appendix A) rely on the CTDEP RSRs (soil and groundwater) and federal criteria (leaching potential using the TCLP procedure) to determine whether environmental media are hazardous or non-hazardous. Environmental contractors are used if concentrations exceed these Draft Contained-In Policy Criteria; otherwise general contractors are used. In some cases, a decision to default to hazardous waste contractors and disposal options may be made for overall project cost and time efficiency.
- Excavation may occur once P&W's EHS personnel have signed and returned the DPR form to the project proponents.

The DPR is an institutional control which ensures that subsurface work in contaminated areas is conducted by appropriately-trained professionals and potential exposure to general contractors is minimized. All subsurface work is required to go through DPR, even landscaping activities.

### 2.3.2 Security

As stated earlier, the DOD-level security (*i.e.*, fencing and camera surveillance) that is present at the active VCAP facilities, minimizes the likelihood of trespassing onto active portions of the facilities. Patrolling inactive portions of the facilities (*e.g.*, parking lots) during off-peak hours also reduces the likelihood of trespassing in these areas.

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**Groundwater**

Groundwater samples have been collected from groundwater monitoring wells installed at the Pratt & Whitney Colt Street Wastewater Treatment Facility as part of a RCRA groundwater monitoring since February 1982 and from a single well installed in October 1998 as part of the VCAP risk assessment activities. The well installed in October 1998 is identified as CS-MW-10. The initial RCRA groundwater monitoring well network was installed in 1981 and consisted of four groundwater monitoring wells (CS-MW-01 through CS-MW-04). In 1985, CS-MW-02 was replaced with well CS-MW-02A and two new wells were added (CS-MW-03A and CS-MW-04A) to augment the existing well network. In November 1991, four piezometers were installed to assist in the evaluation of groundwater flow (CS-PZ-01 through CS-PZ-04). In March 1992, additional wells (CS-MW-05 through CS-MW-09) were installed for possible inclusion in the RCRA groundwater monitoring network and to further assist in the evaluation of groundwater flow at the site. Currently, the RCRA groundwater monitoring well network consists of wells CS-MW-02A through CS-MW-04A, CS-MW-05 through CS-MW-07, CS-MW-09, and CS-PZ-01. Attachment No. 2 is a Site Plan depicting the location of each of the groundwater monitoring points. The site plan also presents groundwater contours generated from data collected during the October 1998 groundwater sampling event. Provided as Attachment No. 3 is a database listing of analytical data for groundwater samples collected during the period from March of 1994 through March 1999 and a summary of constituents detected in groundwater samples collected from onsite monitoring wells and piezometers for the same period.

The report entitled *1998 RCRA Annual Groundwater Monitoring Report Pratt & Whitney, Colt Street Facility East Hartford, Connecticut CTD 000844399* provides an evaluation of the last four years of analytical data for groundwater samples collected from the onsite groundwater monitoring wells which are included in the RCRA groundwater monitoring program. This report, which has been provided to the EPA and the Connecticut Department of Environmental Protection (DEP), indicates that concentrations in groundwater for constituents of concern for the site have shown no significant increasing or decreasing trend during the previous four years.

The groundwater data provided in the attachments has been compared to the numeric screening levels published in the Gradient Report. Specifically, the groundwater data have been compared to the numeric criteria published in Table 3-7 of the above-referenced report. The table is titled *Generic P&W Groundwater Screening Levels (SLs) Based on Surface Water Protection P&W VCAP, Connecticut Facilities*. The sampling network is determined adequate to assess the general groundwater quality at the site and the concentrations detected in groundwater are not increasing with time. With the exceptions noted below, constituents were not detected in groundwater at concentrations

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above the numeric criteria published in the above referenced table.

The first exception is for chromium, detected in a duplicate sample pair collected from location CS-PZ-01, at a maximum concentration of 0.193 mg/l in the March 1998 sampling event. Samples collected from CS-PZ-01 during the period from 1994 to September 1997 indicate an average concentration of chromium of 0.029 mg/l. The groundwater analytical data from the October 1998 sampling event for CS-PZ-01 indicates a concentration of chromium of 0.0149 mg/l. In addition, chromium was not detected in the groundwater sample collected from CS-PZ-01 during the March 1999 sampling event. It appears that the March 1998 chromium concentration detected at CS-PZ-01 represents an anomaly (it is nearly twice the next highest concentration detected at that location). In addition, the former data show no significant increasing or decreasing trends in concentrations of constituents in groundwater and the current data do not exceed appropriate screening criteria. Therefore, no further evaluation of groundwater data is necessary with regard to assessing potential exposures to offsite recreators for chromium.

The other exception is for iron detected in unfiltered samples collected in May 1999. The total iron concentrations reported exceed the screening level for groundwater discharging to surface water that was derived by multiplying the PQL times a default dilution factor of 10. The PQL was used in preparing the screening level because a clean-up criterion for iron was not included in the Connecticut RSRs on which the screening levels were based. However, there is a federal chronic ambient water quality criterion for iron (1 ppm) which is also expected to be protective of incidental ingestion and dermal contact with surface water for offsite recreators. When the default dilution factor is applied, the screening level becomes 10 ppm, which is well in excess of the highest detected concentration of 2.18 mg/l. Therefore, no further evaluation of groundwater data is necessary with regard to assessing potential exposures to offsite recreators for iron.

**Indoor Air**

With respect to indoor air, a single duplicate sample pair of indoor air was collected in November 1998 in an effort to assess concentrations of volatile organic compounds present in indoor air at the control building, the only building at the Colt Street Facility. This sample pair, collected at the location identified as CS-RSK-AS-01 on the attached Site Plan, was collected as part of the comprehensive risk assessment sampling program to evaluate potential risks posed by the site. Provided as Attachment No. 4 is a database listing of analytical data for the duplicate sample pair of indoor air and a summary of constituents detected in the indoor air samples.

The indoor air sample data provided in the attachments has been compared to the numeric screening levels published in the Gradient Report. Specifically, the indoor air data have been compared to the numeric criteria published in Table 3-4 of the above-referenced

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report. The table is titled *Generic P&W Indoor Air Screening Levels (SLs) P&W VCAP, Connecticut Facilities*. The sampling is determined adequate to assess the general indoor air quality at the site and constituents were not detected in indoor air at concentrations above the numeric criteria published in the above referenced table. No further evaluation of indoor air quality data is necessary with regard to assessing potential exposures to indoor workers at the Colt Street Facility.

### **Surface Soil**

A total of 10 surface soil samples were collected during risk assessment sampling activities. These samples, identified as CS-RSK-SS-01 through CS-RSK-SS-10 were collected on March 18, 1998. The samples were analyzed for the presence of volatile organic and semi-volatile organic compounds, PCBs, metals, and total petroleum hydrocarbons. The samples were collected as part of the comprehensive risk assessment sampling program to evaluate potential exposure pathways at the site. The location of each sample is provided on the Site Plan provided as Attachment No. 2. Provided in Attachment No. 5 is a database listing of analytical data for the 10 surface soil samples and a summary of constituents detected in the surface soil samples.

The surface soil sample data provided in the attachments has been compared to the numeric screening levels published in the Gradient Report. Specifically, the surface soil data have been compared to the numeric criteria published in Table 3-10 of the above-referenced report. The table is titled *Generic P&W Soil Screening Levels (SSLs) based on Soil Ingestion and Dermal Contact (mg/kg) P&W VCAP, Connecticut Facilities*. The sampling is determined adequate to assess the quality of surface soils in those areas likely to be encountered by grounds keepers at the site. Constituents were not detected in surface soils at concentrations above the screening levels published in the above referenced table (8 mg/kg) with the exception of a single detection of arsenic at a concentration (11.7 mg/kg) slightly above the screening level. Arsenic occurs naturally in surficial soils at similar and even greater concentrations in this area of the country. In addition, arsenic is not a primary constituent of concern at this facility and the 95% UCL on the mean of the data set for arsenic in surficial soil (6.68 mg/kg) at the facility is below the screening level. To arrive at this result, the arsenic data set was log-transformed to achieve a normal distribution that resulted in an average arsenic concentration of 3.65 mg/kg with a standard deviation of 2.05 mg/kg.

### **Surface Water**

To assess surface water quality in the vicinity of the Colt Street Facility, surface water samples were collected at two locations within Willow Brook. The sample locations are identified on the Site Plan in Attachment No. 2 as CS-RSK-SW-01 and CS-RSK-SW-02. Surface water samples were collected from CS-RSK-SW-01 and CS-RSK-SW-02 on

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February 17, 1999 and February 25, 1999. The samples collected on February 17, 1999 were analyzed for the presence of volatile organic compounds and metals. The samples collected on February 25, 1999 were analyzed for hexavalent chromium. The samples collected from Willow Brook were collected as part of the comprehensive risk assessment sampling program to evaluate potential exposure pathways at the site. Provided as Attachment No. 6 is a database listing of analytical data for the surface water samples and a summary of constituents detected in the surface water samples. A few potentially bioaccumulative chemicals (e.g., mercury) were detected in the surface water samples. However, due to reasons presented in the sediment sub-section below, the detected compounds are not expected to pose a significant health risk to humans (via fish ingestion).

The surface water data provided in the attachments has been compared to the numeric screening levels published in the Gradient Report. Specifically, the surface water data have been compared to the numeric criteria published in Table 3-6 of the above-referenced report. The table is titled *Generic P&W Surface Water Screening Levels (SLs) P&W VCAP Facilities*. The surface water sampling network is determined adequate to assess the surface water quality in those areas likely to be encountered by offsite recreators at the site. With the exception of those constituents noted below, constituents were not detected in surface water at concentrations above the numeric criteria published in the above referenced table.

The exceptions are for zinc, hexavalent chromium, 1,1-dichloroethylene, cis-1,2-dichloroethylene, 1,1,1-trichloroethane, and trichloroethylene. With regard to zinc, a single sample collected at CS-RSK-SW-01 contained this constituent at a concentration of 0.055 mg/l in comparison to the screening level value of 0.020 mg/l in Table 3-6 of the Gradient Report. The screening level value in Table 3-6 of the Gradient Report is the higher of the project-specific practical quantitation limit and the aquatic life criteria protective of chronic health effects. However, in 1997, the DEP revised the aquatic life criteria for surface waters. As a result, the current aquatic life criteria protective of chronic health effects is 0.0582 mg/l, above the 0.020 project-specific practical quantitation limit and the 0.055 mg/l concentration detected in CS-RSK-SW-01. As the aquatic life criteria protective of chronic health effects is currently 0.0582 mg/l, this is the standard to which the surface water data has been compared. Since the concentration of zinc detected in CS-RSK-SW-01 does not exceed the current aquatic life criteria protective of chronic health effects, additional evaluation of the data is not necessary with regard to assessing potential exposures to offsite recreators at the Colt Street Facility.

With regard to hexavalent chromium, the sample collected at CS-RSK-SW-01 contained this constituent at a concentration of 0.020 mg/l in comparison to the screening level value of 0.010 mg/l in Table 3-6 of the Gradient Report. The sample collected at CS-RSK-SW-02, upstream of CS-RSK-SW-01, contained this constituent at a concentration

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of 0.031 mg/l. It should be noted that hexavalent chromium has been detected in samples collected at points located on the Pratt & Whitney Main Plant facility which discharge to Willow Brook at points upstream of the Colt Street Facility. Specifically, hexavalent chromium was detected in a sample collected from NPDES discharge (DSN 002) during a March 1997 sampling event at a concentration of 0.209 mg/l. This discharge is routed to Willow Brook upstream of the Colt Street facility. As the sample collected in the upstream portion of Willow Brook (CS-RSK-SW-02) contained a higher concentration of hexavalent chromium and hexavalent chromium has been detected in samples collected at points located on the Pratt & Whitney Main Plant facility which discharge to Willow Brook, it is concluded that the likely source of hexavalent chromium is upstream of the Colt Street Facility and additional evaluation of the data relative to the Colt Street Facility is not necessary.

With regard to the volatile organic compounds detected (1,1-dichloroethylene, cis-1,2-dichloroethylene, 1,1,1-trichloroethane, and trichloroethylene), each of the compounds was detected at nearly the same concentration in both surface water samples (Attachment No. 6). Groundwater analytical data for the Colt Street Facility indicates the presence of only cis-1,2-dichloroethylene, but at concentrations below that detected in surface water. None of the other volatile organic compounds detected in surface water have been detected in groundwater samples from the Colt Street Facility during the previous four years. From the data, it is concluded that the likely source of the VOCs is upstream of the Colt Street Facility.

### **Sediment**

As part of the comprehensive risk assessment sampling activities, a total of fifteen sediment samples have been collected. These samples were collected from ten locations (1 a duplicate pair) within Willow Brook and four locations along the bank northwest of the former impoundments. The four sediment samples collected along the bank of Willow Brook were selected to assess sediment quality in the area likely to have been impacted by a breach of the former impoundments which reportedly occurred in June 1984. The location of each sampling point is provided on the Site Plan in Attachment No. 2. The fifteen sediment samples, identified as CS-SD-60 through CS-SD-66, CS-RSK-SD-01 through CS-RSK-SD-04, and CS-RSK-SS-11 through CS-RSK-SS-14 were collected in two separate sampling events. Specifically, CS-SD-60 through CS-SD-66 were collected on January 15, 1998. Sediment samples CS-RSK-SD-01 through CS-RSK-SD-04 and CS-RSK-SS-11 through CS-RSK-SS-14 were collected on February 2, 1999. The sediment samples CS-SD-60 through CS-SD-66 were all analyzed for the presence of PCBs and a single sample (CS-SD-63) was also analyzed for the presence of volatile organic compounds. The samples CS-RSK-SD-01 through CS-RSK-SD-04 and CS-RSK-SS-11 through CS-RSK-SS-14 were analyzed for the presence of volatile organic and semi-volatile organic compounds, metals, and PCBs. The sampling in

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February 1999 was performed as part of the comprehensive risk assessment sampling program to evaluate potential exposure pathways at the site. The sediment sampling conducted in January 1998 was performed in an effort to determine the degree and extent of PCB contamination in Willow Pond and Willow Brook in response to a 1997 Notice of Violation (NOV Number PCB97-08) issued by the Connecticut Department of Environmental Protection to Pratt & Whitney. Provided as Attachment No. 7 is a database listing of analytical data for the sediment samples and a summary of constituents detected in the sediment samples.

Potentially bioaccumulative compounds (e.g., mercury and PCBs) were detected in sediment at relatively low concentrations (mercury -- 0.043 to 0.97 mg/kg with an average of 0.209 mg/kg; and PCBs -- 0.019 to 7.7 mg/kg with an average of 1.1 mg/kg). It should be noted that 16 samples (15 samples, one of which is a duplicate pair) were analyzed for the presence of PCBs, of these samples only one sample (CS-RSK-SD-03) contained PCBs at a concentration greater than 1 mg/kg. These detected concentrations (and bioaccumulative compounds detected in surface water) are not expected to pose significant risks to human health. Willow Brook is a small stream which is not likely to contain fish that would be attractive (i.e., of adequate size and appropriate specie) to humans for ingestion. Interviews conducted during the development of the conceptual site model for the facility confirmed that Willow Brook is not fished. In addition, general fish advisories are in-place in Connecticut restricting ingestion of fish in fresh water bodies due to the presence of elevated levels of "background" mercury. This further reduces the likelihood of fish ingestion. For these reasons, bioaccumulative chemicals present in surface water and sediments at the site are not expected to pose significant risks to human.

The sediment data provided in the attachments have been compared to the numeric screening levels published in the Gradient report. Specifically, the sediment data have been compared to the numeric criteria published in Table 3-10 of the above-referenced report. The table is titled *Generic P&W Soil Screening Levels (SSLs) based on Soil Ingestion and Dermal Contact (mg/kg) P&W VCAP, Connecticut Facilities*. The sampling is determined adequate to assess the quality of sediment in those areas likely to be encountered by an offsite recreator and constituents were not detected in sediment in Willow Brook or in the four samples collected from the bank northwest of the former impoundments at concentrations above the numeric criteria published in the above referenced table.

Footnotes:

<sup>1</sup> "Contamination" and "contaminated" describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriately protective risk-based "levels" (for the media, that identify risks within the acceptable risk range).

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<sup>2</sup> Recent evidence (from the Colorado Dept. of Public Health and Environment, and others) suggest that unacceptable indoor air concentrations are more common in structures above groundwater with volatile contaminants than previously believed. This is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration necessary to be reasonably certain that indoor air (in structures located above (and adjacent to) groundwater with volatile contaminants) does not present unacceptable risks.

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3. Are there **complete pathways** between “contamination” and human receptors such that exposures can be reasonably expected under the current (land- and groundwater-use) conditions?

Summary Exposure Pathway Evaluation Table

Potential Human Receptors (Under Current Conditions)

<u>“Contaminated” Media</u>	Residents	Workers	Day-Care	Construction	Trespassers	Recreation	Food <sup>3</sup>
Soil (subsurface e.g., >2 ft)	<u>No</u>	<u>No</u>	<u>No</u>	<u>No</u>	<u>No</u>	<u>No</u>	<u>No</u>
Air (outdoors)	<u>No</u>	<u>No</u>	<u>No</u>	<u>No</u>	<u>No</u>	<u>No</u>	<u>No</u>

Instructions for Summary Exposure Pathway Evaluation Table:

1. Strike-out specific Media including Human Receptors’ spaces for Media which are not “contaminated” as identified in #2 above.
2. enter “yes” or “no” for potential “completeness” under each “Contaminated” Media -- Human Receptor combination (Pathway).

Note: In order to focus the evaluation to the most probable combinations some potential “Contaminated” Media - Human Receptor combinations (Pathways) do not have check spaces (“\_\_\_”). While these combinations may not be probable in most situations they may be possible in some settings and should be added as necessary.

  X   If no (pathways are not complete for any contaminated media-receptor combination) - skip to #6, and enter “YE” status code, after explaining and/or referencing condition(s) in-place, whether natural or man-made, preventing a complete exposure pathway from each contaminated medium (e.g., use optional Pathway Evaluation Work Sheet to analyze major pathways).

       If yes (pathways are complete for any “Contaminated” Media - Human Receptor combination) - continue after providing supporting explanation.

       If unknown (for any “Contaminated” Media - Human Receptor combination) - skip to #6 and enter “IN” status code

Rationale and Reference(s):

Design Process Review (DPR) controls the exposure to contaminants in both subsurface soil and trench air. A DPR is completed prior to any activity that results in the

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excavation of soil (the potential source of exposure to constituents in subsurface soil and air, due to soil movement). The DPR includes an assessment of available analytical data for soil in the area where the proposed activity will occur. If no data are available, or if existing data are incomplete, samples are collected. The data for the areas are compared to the screening criteria. If there are exceedances, all subsurface work in the area is conducted by personnel who have received appropriate health and safety training.

<sup>3</sup> Indirect Pathway/Receptor (e.g., vegetables, fruits, crops, meat and dairy products, fish, shellfish, etc.)





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6. Check the appropriate RCRIS status codes for the Current Human Exposures Under Control EI event code (CA725), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (and attach appropriate supporting documentation as well as a map of the facility):

YE - Yes, "Current Human Exposures Under Control" has been verified. Based on a review of the information contained in this EI Determination, "Current Human Exposures" are expected to be "Under Control" at the Pratt & Whitney Colt Street Wastewater Treatment Facility, EPA ID #CTD000844399, located at Colt Street, East Hartford, Connecticut under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.

NO - "Current Human Exposures" are NOT "Under Control."

IN - More information is needed to make a determination.

Completed by (signature) Aaron R. Gilbert Date 7/24/99 EW  
(print) Aaron R. Gilbert 9-24-99  
(title) Env. Eng., EPA, RCRA C.A.

Supervisor (signature) Matthew R. Hayward Date 11/10/99  
(print) Matthew R. Hayward  
(title) Section Chief  
(EPA Region or State) Region I

Locations where References may be found:

USEPA Records Center (Region I)  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Contact telephone and e-mail numbers

(name) Aaron Gilbert  
(phone #) 617-918-1238  
(e-mail) gilbert.aaron@epa.gov

**FINAL NOTE: THE HUMAN EXPOSURES EI IS A QUALITATIVE SCREENING OF EXPOSURES AND THE DETERMINATIONS WITHIN THIS DOCUMENT SHOULD NOT BE USED AS THE SOLE BASIS FOR RESTRICTING THE SCOPE OF MORE DETAILED (E.G., SITE-SPECIFIC) ASSESSMENTS OF RISK.**

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**Attachment No. 1**

**Copies of Applicable Sections  
*Conceptual Site Models and Screening Levels*  
For  
*Pratt & Whitney's VCAP Connecticut Facilities*  
Gradient Corporation, Issued December 19, 1997  
Revised on September 18, 1998  
Revised on September 15, 1999**

## 5 East Hartford Colt Street Facility

A facility-specific CSM for the East Hartford Colt Street facility is developed in this chapter based on the activities undertaken at the facility. The generic P&W screening levels developed in Chapter 3 are evaluated for their applicability to facility-specific exposure conditions.

### 5.1 Introduction

The Colt Street facility in East Hartford, Connecticut is an industrial wastewater treatment plant that treats dilute process wastewater from the nearby Main Street facility (Figure 5-1). The Colt Street facility is situated on an approximately 12-acre parcel between Riverside Drive to the east and Connecticut River to the west. Treated wastewater from the plant is discharged to the Connecticut River. The property surrounding the facility is zoned industrial (Pratt & Whitney/LEA, 1996).

On August 29, 1997, Gradient conducted a facility visit and interviewed Pratt & Whitney employees to understand land use and activities at the Colt Street facility. The visit and interviews revealed that the Colt Street facility is different from Pratt & Whitney manufacturing plants described by the generic conceptual site model in that there are only a few potential receptors on-site, and activities with potential for environmental exposure are limited. The only employees at Colt Street are wastewater treatment plant operators. These workers maintain the treatment system, sample wastewater, and conduct visual inspections of groundwater monitoring wells. They are not involved in any digging on-site and can be best described as passive land users.

The unique characteristics of the Colt Street facility are:

- There is one building on site. The building has two levels, the first level has a three-bay garage and parts of the treatment plant (soda ash tanks), and the second level houses the control center and security monitoring station. There are no basements in the building.
- Two sludge lagoons located northwest of the facility were previously used for disposal of sludges from the wastewater treatment plant. These surface impoundments have been excavated, backfilled, and regraded. Process sludges are now transported off-site for disposal.

- Surface water run-off generally drains to the Connecticut River and Willow Brook, which flows northwest near the facility and then curves to the south where it enters the Connecticut River (Pratt & Whitney /LEA, 1996).
- Groundwater flows radially toward Willow Brook and the Connecticut River from the central portion of the facility (Pratt & Whitney/LEA, 1996).

## 5.2 Facility-Specific CSM and Screening Levels

The generic P&W CSM is modified, as appropriate, to: 1) delete any exposure scenarios or exposure pathways considered not to be "complete" at the East Hartford Colt Street facility, and 2) add exposure scenarios (*i.e.*, receptors, pathways, and media) not included in the generic P&W CSM, if needed. Exposure conditions at the East Hartford Colt Street facility are also evaluated against exposure conditions used in the development of generic P&W screening levels to determine if any modifications to these screening levels are required to reflect unique facility-specific conditions.

Although the likelihood of potential exposure at the Colt Street facility is much less than at other facilities, the potential exposure scenarios and exposure conditions at the East Hartford Colt Street facility are similar to exposure scenarios and conditions presented in the generic P&W CSM and the generic P&W screening levels. Consequently, no modifications to the generic P&W screening levels are proposed for the Qualitative Risk Assessment.

Figure 5-2 presents the potential receptors at the Colt Street facility and the complete exposure pathways for these receptors. Receptors are broadly categorized as on-site and off-site receptors, although no off-site contamination has been detected near the Colt Street facility. On-site receptors and screening levels for the Colt Street facility are:

- Excavating Laborers -- Subsurface construction-type work is undertaken on a very infrequent basis at this facility. However, since DPR is used to control such exposures, no screening is required, as discussed in Section 3.0.
- Maintenance Workers -- Subsurface maintenance work is undertaken on a very infrequent basis at this facility. However, since DPR is used to control such exposures, no screening is required, as discussed in Section 3.0. Indoor air exposure is subsumed in the Indoor Work scenario. Since all exposures for this receptor are either controlled by DPR or subsumed in other receptors, no screening is required.

- Groundskeepers -- Exposure scenario same as in generic P&W CSM. No modifications to generic P&W screening levels proposed. As mentioned earlier, the same Groundskeepers maintain the grounds at all 3 East Hartford P&W facilities (Main Street, Willgoos, and Colt Street).
- Indoor Workers -- Exposure scenario same as in generic P&W CSM. No modifications to generic P&W screening levels proposed.
- Samplers -- Samplers do not contact surface water and sediment when collecting NPDES samples from a man-hole on site. Samplers' exposure to surface soil is subsumed within the Groundskeepers scenario. Samplers' exposure to indoor air is subsumed within the Indoor Worker scenario. Therefore, no screening is required for this receptor.
- Trespassers -- Not applicable, the facility is staffed 24-hours per day and is surrounded by a fence, including areas along the Connecticut River, precluding access to the facility from the river.
- On-Site Recreators -- Not applicable; employees do not recreate on-site or in the nearby surface waters.

Off-site receptors and screening levels considered for the Colt Street facility are:

- Off-Site Utility Repair Workers -- Not applicable because the facility directly abuts Willow Brook and the Connecticut River, the receiving waters for the facility's groundwater. Therefore, there are no off-site areas where Utility Repair Workers might be exposed to facility-related contaminants.
- Off-Site Recreators -- Recreators might be exposed to surface water and sediment in Willow Brook and the Connecticut River. Exposure scenario same as in generic P&W CSM. No modifications to generic P&W screening levels proposed.
- Off-Site Residents -- Not applicable because groundwater flow is toward the Connecticut River, which abuts the facility. Hence, there are no residential buildings between the facility and the river.

Table 5-1 summarizes the facility-specific CSM and compares the potential facility-specific receptors to the generic CSM receptors. Primary consideration is given to whether the exposure conditions described by the generic CSM are significantly different from facility-specific exposure conditions. Exposure Areas (EAs) for each of the East Hartford Colt Street facility receptors are also identified (Figure 5-3).

Table 5-2 presents a summary of the exposure media and pathways for each receptor and points the reader to other tables which contain the screening levels for these media and pathways.

**Table 5-1  
Summary of Facility-Specific Receptors and Comparison to Generic P&W Receptors  
Pratt & Whitney, East Hartford Colt Street Facility, CT**

Potential Receptors	Exposure assumptions significantly different from generic CSM?	Facility-Specific Receptor Characteristics	Exposure Area
Excavating Laborers	No screening proposed since exposures are controlled by DPR.		
Maintenance Workers	Yes. No screening proposed since all exposures except indoor air exposure are controlled by DPR; indoor air exposure is subsumed by Indoor Worker scenario.	Not applicable	Not Applicable
Groundskeepers	No	Since the generic P&W screening levels were based on Groundskeepers' cumulative exposure at the three East Hartford facilities (Main Street, Colt Street, and Willgoos), no modifications to the generic screening levels are necessary.	Figure 5-3
Indoor Workers	No		Figure 5-3
Samplers	Yes, exposure subsumed by Groundskeepers and Indoor Workers	Not applicable	Not applicable
Trespassers	Yes, no exposure	Not applicable	Not applicable
On-Site Recreators	Yes, no exposure	Not applicable	Not applicable
Off-Site Utility Repair Workers	Yes, no exposure	Not applicable	Not applicable
Off-Site Recreators	No	None	Not defined*
Off-Site Residents	Yes, no exposure	Not applicable	Not applicable

*Notes:*

*NSP: No Screening Proposed*

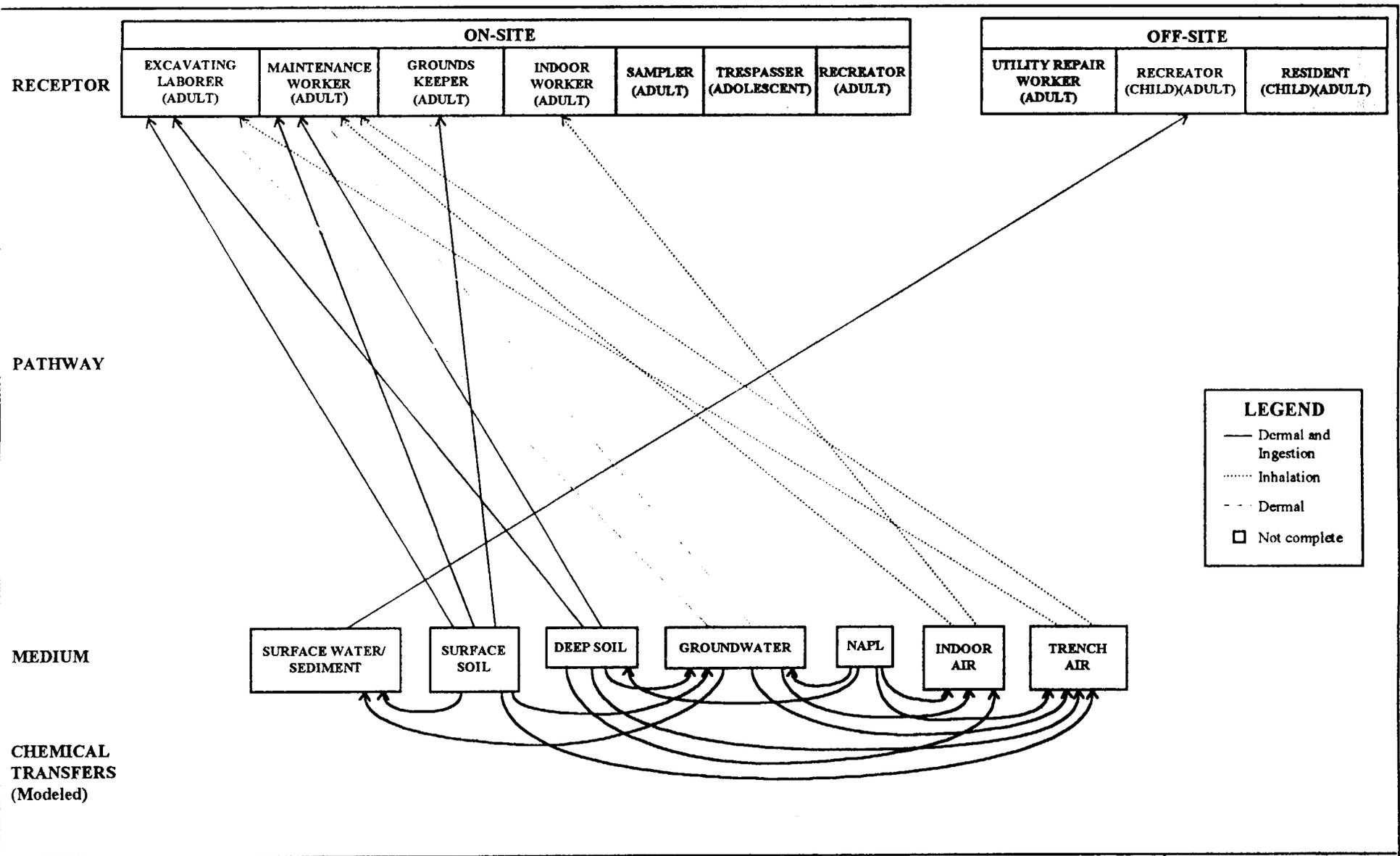
*\* Exposure areas are not defined, however screening is proposed as indicated in Table 5-2.*

**Table 5-2  
Summary of Screening Levels and Proposed Screening Approach  
Pratt & Whitney, East Hartford Colt Street Facility, CT**

Exposure Media	Soil	Trench Air	Indoor Air	Surface Water	Sediment	Groundwater
Exposure Pathways	Ingestion and Dermal	Inhalation	Inhalation	Ingestion and Dermal	Ingestion and Dermal	Dermal
Groundskeepers	Table 3-10	N/A	N/A	N/A	N/A	N/A
Indoor Workers	N/A	N/A	Table 3-4	N/A	N/A	N/A
Off-Site Recreators	N/A	N/A	N/A	Table 3-6, 3-7	Table 3-10	N/A
Proposed Screening Approach	Compare max by EA to P&W soil screening level	NSP	Compare measured indoor air concentrations to on-site indoor air screening levels; for off-site, compare measured groundwater concentrations near facility boundary to CT groundwater criteria	Compare surface water, groundwater concentrations to CT criteria	Compare max by EA to P&W soil screening level	NSP

*Notes:*

*N/A: Indicates that receptor is not exposed to medium/pathway.  
NSP: No Screening Proposed*



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**Attachment No. 2**

**Site Plan  
*Environmental Indicator Determination  
For  
Pratt & Whitney Colt Street Facility***

US EPA New England  
RCRA Document Management System (RDMS)  
Image Target Sheet

RDMS Document ID# 1039

**Facility Name:** Pratt & Whitney (Colt Street)

**Phase Classification:** R-13

**Document Title:** Environmental Indicator (EI) Determination, Current Human Exposures Under Control (CA725YE) - Pratt & Whitney (Colt Street)

**Date of Document:** 11-10-1999

**Document Type:** EI Determination

**Purpose of Target Sheet:**

**Oversized**                       **Privileged**

**Page(s) Missing**               **Other** (Please Provide Purpose Below)

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**Comments:** Determination of Environmental Indicators, Current Human Exposures Under Control - Site Plan

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