RO-017

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Mr. Scott Seery, CHMM
Environmental Protection Division, Suite 250
Alameda County Environmental Health Department
1131 Harbor Bay Parkway
Alameda, California 94502

Subject: **RBCA–style Risk Assessment Work Plan, Ingersoll-Rand Equipment Sales Facility,** 1944 Marina Boulevard, San Leandro, California

Dear Mr. Seery:

ENSR is submitting this work plan on behalf of Ingersoll-Rand Equipment Sales (I-R) to Alameda County for review and approval. The work plan describes the purpose and methodology for development of a Risk Based Corrective Action (RBCA)–style risk assessment for the I-R facility located in San Leandro, California.

Introduction

Corrective action activities have been ongoing at the I-R Equipment Sales facility at 1944 Marina Boulevard since 1989. These activities address impacted soil and groundwater associated with the 1989 removal of a leaking gasoline underground storage tank and include a RBCA risk assessment conducted in October 1997. A site closure recommendation was submitted to Alameda County in the fall of 1997.

On April 3, 1998, Alameda County issued a letter requiring that additional investigative studies be done to identify additional potential sources of the gasoline constituents found in the groundwater beneath the northern part of the site. In response to this letter an investigation was completed in November 1999. It is, therefore, necessary to provide a new assessment of potential risk for the site, incorporating the most recent data, in order to facilitate reasonable and appropriate corrective action decisions for the I-R facility.

Work Plan Objectives

In response to the April 3, 1998 letter and to continue efforts to obtain closure, I-R has requested that ENSR perform an updated RBCA assessment for the site. The objectives of the proposed work are to:

1. Provide an assessment of the potential risk associated with existing site conditions; and

2. Incorporate new data collected since the completion of the 1997 RBCA.

Scope of Work

The following tasks will be accomplished to meet this objective.

Task 1 - Review of Existing Documents and Data Evaluation

Prior to beginning the assessment, it is important to review the existing documents for the facility. These documents include, but are not limited to:

- Critical Area Investigation, Ingersoll-Rand Equipment Sales Facility, November 1, 1999;
- Geophysical Investigation Work Plan, August 5, 1998;
- RBCA, October 1997;
- Semiannual Report, January 1998;
- North Fence Soil Investigation Report, January 1998; and
- Other existing sources of data for the facility from earlier investigations.

The existing data describing the current condition of the San Leandro facility will be reviewed and the appropriate constituent concentrations will be selected for use in the risk evaluation.

Task 2 - Identification of Exposure Pathways

In general, residual petroleum hydrocarbons appear to be confined to the subsurface soil and to groundwater, so the important exposure pathways would likely be the potential volatilization of chemicals to indoor air, and migration of groundwater offsite to a drinking water source. Other potential exposure pathways that could be important will be evaluated and a complete discussion of the reason for including or excluding exposure pathways will be provided.

Task 3 - Quantification of Exposure and Potential Risk

A Tier I RBCA comparison will be provided as an initial screen, using maximum exposure concentrations and scenarios. If the Tier I RBCA comparison indicates an unacceptable risk, the process will proceed and a Tier II RBCA analysis will be done.

In the Tier II analysis, each of the selected exposure pathways will be modeled for a) a reasonable maximum exposure scenario, and b) a most likely exposure scenario, to provide a range of exposure potential. Simple analytical models, such as those included in the ASTM RBCA model and the Johnson-Ettinger model for subsurface vapor intrusion into buildings will be used to provide an estimate of the risk associated with the residual petroleum hydrocarbons.

Task 4 - Report

A risk assessment report will be produced that provides detail on the methods and models used and the exposure parameters incorporated into the estimation of potential risk. There is the potential for two outcomes of the assessment:

1. Potential risk associated with certain chemical concentrations at the site is found to be unacceptable and additional investigation or corrective action is needed; or

2. Potential risk is found to be within an acceptable range and no further activities are required for the site.

Schedule

ENSR is prepared to begin the RBCA model as soon as the work plan is approved. The assessment can be completed within one month of receiving approval of the work plan.

Sincerely,
ENSR

Bob Wilson for

Liz Caldwell
Senior Risk Assessment Specialist

Mark H. Naugle, P.E.
Project Manager

cc: Bob Heindl, Ingersoll-Rand Construction and Mining
Dave Jones, Ingersoll-Rand Company
Aaron Kleinbaum, Ingersoll-Rand Company