

US EPA ARCHIVE DOCUMENT

**State Innovation Grant Project  
Rhode Island Department of Environmental Management (DEM)  
Progress Report #4**

October 1, 2007 to December 31, 2007

**Project Title:** Underground Storage Tanks—Alternative Inspection Programs and the U.S. Energy Policy Act of 2005

**Part 1 – Synopsis of Accomplishments.** The major activities that took place during the reporting period included final stages of baseline data management, meetings, and economic analysis. As part of the Environmental Results Program (ERP), baseline information for the randomly selected 100 facilities was segregated, checked for completeness, and is almost finalized to be analyzed as Environmental Business Practice Indicators (EBPI's). Several meetings were held with DEM and URI project participants. Information for the post-ERP analysis is being gathered as 29 of the 100 randomly-selected facilities were inspected. As part of the interstate comparative model development, communications with New Hampshire State UST program staff continue to take place as part of an effort to compare ERP with the traditional inspection program used in NH. A trip was planned to meet with Florida UST staff to discuss the project and obtain checklist information. And as was performed for RI, an economic analysis to compare the costs of traditional versus ERP approaches was begun for NH. Relative to the original work plan schedule and the key tasks associated with this reporting period, progress is summarized below:

<b>Task</b>	<b>Original Completion Date</b>	<b>Status</b>	<b>Comments</b>
Statistical analysis of RIDEM UST ERP data	June 1, 2008	On Going	Baseline database almost finalized, final QC check; Post-ERP data being gathered for analysis.
Tabulate RIDEM 10-yr historical compliance data	Dec. 31, 2007	Not completed On Going	On going from past reporting periods, expect to be completed by next reporting period.
Design data collection template/criteria for partner states	Nov. 1, 2007	Not Completed On Going	Difficulty in obtaining pertinent info. from FL caused delays, but to be resolved in next period; information from NH received and template partially completed.
Send out data collection template/criteria to partner states	Jan. 1, 2008	Not Completed On Going	See comment above

**Part 2 – Narrative Discussion.** As part of the statistical analysis of RI UST data, the information from the 100 baseline inspections performed in 2004 is almost finalized for use in Fisher and Bonferonni analyses. Data that was missing from previous data input activities were included (Stage I, II), and a final QC review is underway and almost completed. A copy of the nearly finalized baseline database can be found in the attachments. Information related to all the different sections have been organized for easy reference. For this first round of ERP, all regulatory issues will be reviewed and examined to ensure no key Environmental Business Practice Indicators (EBPI's) are omitted. It was originally thought that a smaller set of "key" indicators would be selected to streamline the analysis, but project personnel decided to analyze all potential indicators to ensure complete and proper review. Subsequent rounds of certification can be streamlined based on the findings of this first round. Of the 100 randomly selected post-ERP inspections, 34 were performed by December 31, 2007 with 29 actual checklists completed since 5 facilities no longer had UST issues. It was hoped to finish all of these post-ERP inspections by December 31, but DEM inspectors were obliged to first complete the traditional inspections per requirement of the Energy Act. Once the full set of post-ERP inspections is completed, data can be organized and formatted to complete the statistical analyses by June 2008.

Work has begun to compile the 10-year history of RI compliance data from the Offices of Waste Management and Compliance & Inspection. DEM staff met with URI Statistics Professor Choudary Hanumara twice to review the appropriate statistical methods that will be used. It is anticipated that the tabulation of this data will be completed by the end of the next reporting period and regression analyses can begin to look for specific trends.

Work with partner states is moving along despite unforeseen delays. As mentioned in previous reports, there were some problems retrieving checklist information from Florida as part of the comparative analysis. The checklist used for the UST inspections is critical to be able to compare potential indicators, but FL has been unable to provide the checklist since it is available only in electronic format that RI cannot read. In order to facilitate the data transfer, Eugene Park planned a visit to meet with FL Department of Environmental Protection UST personnel during the week of Jan. 14, 2008. Results of the visit will be documented in the next progress report.

Work with New Hampshire is ongoing as their checklist information has already been obtained and is currently being analyzed and prepared for comparison with RI's checklist. Once the baseline indicators are formalized, a direct comparison to the analogous indicators extracted from NH's checklist can be performed.

A first order comparative economic analysis of the two different approaches (traditional versus ERP) was completed for RI during the last reporting period (see Progress Report #3). As explained in that report, it made more sense that rather than comparing one state's costs for their UST inspection program with the costs of another state's program (where different demographics and program structures are sure to exist), a better understanding of the economic advantages (or disadvantages) of using ERP would be gained by looking at the effects of changing a program . The economic template was created taking into account tangible costs like personnel and travel. Economic information was obtained from NH's UST program and a similar comparison was performed.

Currently, there are close to 2500 facilities of which approximately 900 facilities are inspected annually in NH. Project personnel visited NH in October 2007 to discuss projected costs for

reduced number of inspections. The NH UST Program Supervisor provided economic data based on an ERP approach where 300 instead of 900 inspections would take place annually. For one-third of the inspections to be performed, it was agreed that most costs would not be one-third but closer to one-half because of certain fixed costs involved (e.g., program supervisor, building space use, computers) and the phenomenon of “economies of scale” – for a given operation, it costs less to produce per unit as the unit number increases, and, conversely, would cost more to produce per unit as the number decreases. These approximations are based on the assumption that the pay scale for NH personnel is similar to that for RI DEM staff. Travel expenses would be directly related to the number of inspections, so the expected cost for performing one-third of the inspections is one-third the original cost. ERP operating and start-up costs are estimated relative to that calculated for RI.

As part of the on going work with FL, a similar comparative model will be developed. The difference in the program structure and demographics will have to be carefully considered to ensure a proper comparison of approaches.

**Part 3 – Projection of Activities, Accomplishments, and Major Expenditures for Next Quarter Report.** Most if not all of the post-ERP inspections should be completed by the end of the next reporting period. With the baseline database completely finalized, preliminary statistical analyses using Fisher and Bonferonni methods can begin once the data from all post-ERP inspections are entered and cross-checked. The database for the 10-year compliance data should also be close to completion and ready for regression analysis. After a meeting with FL UST Program personnel, checklist information from FL will have been obtained and prepared for comparative indicator analysis. Preliminary work into developing the economic template for FL will also commence during the next reporting period. There will be no unusual expenditures expected for the next reporting period.

**Part 4 – Financial Report.**

*Financial Information removed by EPA as confidential information.*