

US EPA ARCHIVE DOCUMENT

# Interim Progress Report – Environmental Results Project- Underground Storage Tank Facilities

October 1, 2004 to November 21, 2008

This is an Interim Progress report for the VT Department of Environmental Conservation “Retail Gasoline Sales Sector, Environmental Results Project (ERP)”. The report covers the time period October 1, 2004 to November 21, 2008. This report is necessary due to the extension of the grant from its original period of October 1, 2004 – September 30, 2006 to September 30, 2009.

## A. Summary Information

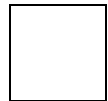
### Purpose and Goals:

This project uses the Environmental Results Program (ERP) model to achieve a measurable improvement in compliance with sections of several federally-delegated regulatory programs at facilities within the retail gasoline sales sector, as well as other facilities regulated by the Vermont Underground Storage Tank (UST) program. The project seeks to measure and improve compliance at the subject facilities with: the Underground Storage Tank rules; RCRA generator requirements; Stage II (and possibly Stage I) air rules; and the floor drain aspects of the Underground Injection Control (UIC) program.

This project was designed to improve environmental results by the intended outcomes of: reducing the threat of releases of petroleum to groundwater (a significant source of drinking water in Vermont) and soils through enhanced compliance with UST, RCRA, UIC, and sector-specific BMPs; reducing air emissions through enhanced Stage I & II vapor recovery compliance; and reducing hazardous waste generation through the use of the BMPs. The ERP was also designed to rely heavily on Information Technology (IT) to collect, manage, and analyze self-certification and return-to-compliance data.

### Outputs and Outcomes:

The ERP model consists of an initial round of inspections of a statistically valid number of facilities to establish a baseline compliance rate, sector-based multimedia outreach and education, a mandatory multi-media self-certification on a sector-specific form, random inspections to determine post self-certifications compliance rate, and data analysis that will result in statistically valid compliance



reports to document project performance. The UST Program outputs to meet the stated purpose and goals include the following:

- ✓ A workbook that includes Best Management Practices (BMPs) and compliance requirements. The workbook is a guide to compliance with the self-certification form mentioned below, and is available both in electronic format and paper;
- ✓ A checklist for use by the facility in assessing the status of compliance, with the suite of environmental regulations; the checklist is available both in electronic format for on-line filing and paper;
- ✓ A compliance self-certification form that the facility owners and operators are required to complete, sign and return. On the form, the facility owners and operators must certify the current compliance status of the facility and acknowledge that the facility must comply with all applicable environmental laws; for on-line certifiers, owner/operators acknowledge that filing on –line is legally binding;
- ✓ A Return to Compliance form which is used to address compliance problems identified in the self-certification process that cannot be corrected before the deadline. The form establishes a return to compliance schedule and deadline for compliance. This form must be signed and returned when a facility cannot certify full compliance with all applicable regulatory requirements;
- ✓ Workshops to provide technical and compliance assistance to facility owners and operators, and to provide training on the requirements of the ERP process;
- ✓ Inspections by the VT DEC to confirm the accuracy of the certifications and compliance with the applicable environmental regulations; and
- ✓ Ongoing technical and compliance assistance by telephone, on-site assistance (as resources allow), and a project-specific web page with FAQs and additional resources.

### Schedule of Major Project Tasks

Task/Milestone	Task Description	Start Date	End Date
Stakeholder Outreach	Outreach to internal and external stakeholders (including targeted facilities) about the project.	10/15/04	05/30/07
Revise and adopt UST Regulations	Rule-making process to include self-certification requirement.	10/15/04	8/1/07
Facility identification	Determine the exact characteristics of facilities to be targeted, and compile a list of facilities from reliable sources.	10/30/04	12/30/04
Statistical methodology	Development of a statistical methodology to drive performance measurement and analytical tasks.	1/1/05	3/31/06

Task/Milestone	Task Description	Start Date	End Date
Data input & management	Development and implementation of an approach to cost-effectively inputting and managing ERP data. Primary data consists of data from inspection reports and facility forms (including self-certification forms).	11/1/04	12/31/07
QAPP finalization & approval	Finalize QAPP based upon results of the measures identification, statistical methodology, and data management tasks. Primary data collection will not occur before relevant parts of the QAPP are finalized and approved by EPA.	3/1/05	10/31/07
QAPP Revision	Revise the QAPP as needed - revision to sampling approach/ statistical methodology to address potential data quality issues and completion of the Data Evaluation section	3/1/08	9/30/09
Baseline inspections	Inspections at facilities to establish a performance baseline. Facilities selected at random from the entire targeted population, based upon sample design from statistical methodology.	5/1/05	12/1/05
Workbook and Certification Form Finalization	Finalization of workbook, outreach and assistance materials, web resources, and certification forms.	3/1/05	4/1/07
Facility assistance/Outreach	Delivery of compliance/technical assistance to facilities, which is expected to take the form of workbooks, fact sheets and/or workshops.	2/1/07	5/11/07
Self-certification	Implementation of a mandatory facility self-certification approach. Self-certification refers to the submission of a legally binding record of a facility's compliance and beyond-compliance practices.	6/1/07	12/31/07 and 12/31/08
Self-Certification Deadline	Self-Certification and RTC forms due	6/1/07	12/31/07 and 12/31/08
Analysis of Self-Certification Data	Analysis of Self-Certification data with primary purpose of identifying opportunities for selective follow-up (next step).	10/1/07	6/30/09

Task/Milestone	Task Description	Start Date	End Date
Selective follow-up	Selective follow-up with self-certifying facilities, based upon analysis of self-certification data. Targeted follow-up may include phone calls, inspections and enforcement.	12/15/07	6/30/09
Post-certification inspections	Inspections at facilities to establish whether sector performance measures (and other measures) have changed since the baseline. Inspection data also used to cross-check self-certification data at inspected facilities. Facilities selected at random from the entire targeted population, based upon sample design from statistical methodology.	4/15/08	6/15/08 and 6/15/09
Data analysis	Analysis of baseline, self-certification, and post-certification data to understand change in facility performance and overall outcomes of interest. Assessment of project efficiency.	3/31/08	9/1/09
Preparation of Final Project Report	Draft and finalize final project report.	10/1/09	1/1/10
Reporting to EPA	Reporting shall include quarterly, annual and final reports.	12/30/04	1/1/10

### B. Implementation Decisions:

**Certification Fee:** Soon after being awarded the grant from EPA, we contacted the principal lobbyists for the petroleum industry in Vermont (the VT Petroleum Association and the VT Grocers Association) to inform them of our plans for implementing ERP and to ask for their input. Our initial plans were to require a fee for self-certification, in order to pay for a position to manage the project into the future. We were very pleased to hear the lobbyists say they were fundamentally in agreement w/ self-inspection and self-certification; however, they were very opposed to a fee associated with this program. In return for a pledge not to oppose the proposal, we agreed not to seek a fee.

**Applicability:** Because of the risk posed by all UST storing petroleum, we decided not to limit the program to retail gasoline facilities; we decided to require a self-inspection and self-certification annually from all owners of permitted tanks.

**Staff:** Because we were able to augment UST Program staff with temporary employees, and because of the need for a computer programmer to support our project, we decided to re-classify the position paid for by the grant from UST inspector to IT programmer.

**Self-Certification Date:** The original concept was for the self-inspections to be done in the spring, and have the self-certifications due in June. We were unable to get all the

program pieces in place for a June filing date, so we moved the date back to September. In June 07, at the request of industry, we moved the self-certification date to December 31, and have chosen to keep it there for 2008.

## **C. Project Components and Issues**

### **1. IT Resources**

Immediately after receiving the grant from EPA we began discussing necessary Information Technology (IT) services with the Agency of Natural Resources Center for Information Management (CIM). Specifically, we needed the development of an on-line self-certification application, improvements to our UST Database to store self-certification data, reporting tools to enable analysis of self-certification data, and the configuration of tablet pcs to improve the collection and management of inspection data. While all the necessary hardware and software was available for our project's purposes, the CIM was not sufficiently staffed to accomplish our goals in the desired timeframes. Since we had a position identified in the grant to assist with the inspection program and permission to hire, we decided to re-describe the position as an IT Programmer. By September 2005 we had hired Michael Inners into this position.

Over the course of the next year and a half, Mr. Inners made progress on several fronts including: upgrading the existing database from Access to SQL; troubleshooting and debugging; developing an on-line self-certification application; and developing an electronic inspector checklist to be used on tablet pcs.

However, before all applications could be completed, Mr. Inners resigned. His departure posed a very significant problem. According to CIM managers, CIM would not be able to seamlessly transition these duties to other staff. The biggest issues initially identified were: the development of reports that allow for analysis of self-certification data; the uploading of facility data to electronic inspection checklists (on tablet pcs), and the downloading of completed checklists to the database. In addition, CIM management realized that the initial phase of the online application was created using a programming language no longer considered viable (ColdFusion and MS/Access), and requested an upgrading of the on-line application built with a programming language that will be supported in the long-term (VS.net and SQL).

We immediately began recruiting for a replacement (limited service position) for Mr. Inners, but were disappointed by the applicant list. A second round of recruitment yielded two perspective applicants, but during interviews it was apparent that neither applicant would be able to perform the needed work in the desired timeline. Therefore, we decided to contract out for IT services rather than hire. A Request for Proposals was released in December 2007. This solicitation resulted in only one submittal, and the submittal did not seem to have the qualifications we were seeking. We re-issued the Request in February 2008; Industrial Economics of Cambridge MA submitted a very strong proposal, and we entered into contract with them on 6/20/08.

Due to the late start, Industrial Economics would not have the on-line application up and running in time for 2008 self-certifications. CIM programmers were able to upgrade the 2007 self-certification application to allow for 2008 on-line self-certifications. The on-

line application was up and running on September 1, 2008, and had been utilized by 186 facility owners to self-certify as of 11/24/08.

As of 10/3/08, Industrial Economics had completed their research of the current systems and applications, and prepared a work plan that we approved. They are currently on target to meet the project goals within the contracted time-frame (by 2/1/09).

## **2. Industry Outreach**

Within days of notification by EPA that our grant proposal had been selected for funding, we reached out to industry. An initial email to the two principal lobbyists for underground tank owners, the VT Petroleum Association and the VT Grocers Association, resulted in a conference call in October 2004. In that call, the lobbyists stated that the industry was fundamentally in agreement with the concept of self-certification, but was worried that the program would come with a filing fee. They requested a meeting with the Commissioner of VT DEC and program staff to discuss the issue.

On November 5, 2004, UST program staff, lobbyists, representatives of major UST owners, and the DEC Commissioner Jeffrey Wennberg met to discuss the program. The Commissioner agreed to remove consideration of a self-certification fee in order to obtain support (or at least no opposition) for the establishment of a self-certification program.

We met repeatedly with industry over the next three years, including speaking at the VT Petroleum Association annual meeting in December (2005 - 2008), annual VT Fuel Dealers Association meetings (2006 and 2007), and two specially convened meetings to discuss the self-certification program progress and the draft rules. We also implemented a monthly email update to industry on the progress of this project through its development; the email continues to this date but has been reduced in 2008 to reporting milestones (filing date reminders, compliance results, etc).

To ensure communication with all the UST owners and operators (not just those active in the trade associations), we featured the up-coming self-certification program in our newsletter "UST Talk". We have been sending this newsletter out 3-4 times per year since the early 1990's. The self-certification program was featured in five newsletters leading up to the first self-certification deadline: Fall 2005, Fall 2006, Winter 2007, Summer 2007, and Fall 2007. In addition to this mailing, we sent out three reminder postcards in 2007 to all owners/operators in July, October, and December.

In March 2007, we launched an ERP web page accessible from our UST Program home page (<http://www.anr.state.vt.us/dec/wastediv/ust/home.htm>). This page accesses:

1. General information about ERP as an environmental compliance tool
2. Adobe versions of the self-certification workbook and checklist
3. On-line self-certification application
4. Frequently Asked Questions
5. Slideshow Presentation

As a final step in assisting owners and operators with the self-certification program, the UST Program conducted nine workshops between April 24, 2007 and May 10, 2007. The

three-hour workshops were conducted in different towns around the state and provided information on ERP, reviewed the system component sections of the workbook and checklist, and demonstrated the on-line self-certification application.

As part of all facility inspections in 2007, inspectors talked to facility personnel about the self-certification program requirements, and distributed self-certification materials. Despite the outreach efforts, inspectors heard repeatedly from owners/operators who had no idea of the requirements. UST Program staff fielded an increasing amount of questions and provided assistance the closer the filing deadline came. Assistance efforts peaked at 4:20 PM on December 31<sup>st</sup>, when we had an owner walk-in for assistance to file just under the wire.

### **3. UST Rules Revisions**

In 2005, we began working on revision of our UST Rules to include the self-certification requirement. The Rules in effect at that time had been promulgated in 1988, and a list of needed changes had been accumulating for some time. We decided to undertake a complete re-write of the Rules to address all these issues. Due to the complete revision, this task took far longer than expected, but was done in time to implement the first round of self-certifications. The UST Rules were finalized and went into effect August 1, 2007, and require self-inspection and self-certification.

### **4. ERP Contractor**

In 2005, we issued a Request for Proposals for a contractor to assist in the development of the UST self-certification workbook and checklist, and the statistical tool. We entered into a contract with the Cadmus Group on April 4, 2005. We worked with the contractor throughout the remainder of 2005 and into 2006, taking delivery of the final versions of the workbook, checklist, statistical package, return-to-compliance form, and a statistical review of our baseline inspection data on March 31, 2006.

### **5. Grant Extensions**

The VT ERP Grant has been extended three times. Each extension has been for one year. In the first quarter of 2006, we requested an extension to 9/30/07. The extension was needed because of the long process needed to revise the personnel description from a UST Program inspector to an IT Programmer, to conduct the personnel search and interviews, and to get the Programmer hired.

In February 2007, we requested a second extension to 9/30/08. At this time we had decided to move the self-certification due date from June 2007 to September 2007, and the grant deadline of 9/30/07 would not allow for collection and analysis of the self-certification data.

Finally, in April of 2008, we requested another one-year extension to 9/30/09. This extension was necessary due to the delay in getting the IT situation straightened out and getting the contractor hired. The IT contractor was not hired until 6/20/08, and the needed IT work would not be completed until well after the 2008 closure date. Extension until September 30, 2009 should allow for the completion of the needed IT work and will result in us having two year's worth of data to review and report on.



## **6. Energy Act of 2005**

Less than one year after receipt of the ERP Grant from EPA, the Energy Act of 2005 was passed. The Act contained many changes for state UST Programs, including a significant increase in the number of inspections states must conduct. For VT, it meant an increase from 100 inspections per year to 388 per year. To date, the UST Program has been able to accomplish all of the tasks mandated by the Energy Act as well as fully implement the self-certification program. However, the increased exposure of the regulated community to the UST Rules via an increased number of inspections will impact our ability to definitively say that improvements in the compliance rate are attributable solely to ERP.

### **D. ERP Implementation and Results**

#### **1. Baseline**

The first step in our implementation of ERP was to randomly select the appropriate number of facilities for the desired 95% confidence level and a confidence interval of 5%. With assistance from the Cadmus Group, we determined 89 inspections would accomplish this. We decided to round the number up to an even 100, and conducted the inspections in Fall of 2005. Two of the facilities were found to be out-of-service, so our final baseline only included 98 facilities. The baseline compliance rate was 68%.

#### **2. Self-Certification**

The first self-certifications were due 12/31/08. We received approximately 900 self-certifications by the deadline. We also received 120 return-to-compliance plans by the deadline. We targeted non-filers with phone calls and Notices of Alleged Violation, and were able to get many owners to submit self-certifications by April. We were left with only 28 facilities that did not submit self-certifications and who were not responsive to our requests. These facilities were inspected over the next few months, and failure to submit a self-certification was added to any violations found.

#### **3. Compliance Inspections**

In April and May 2008, we conducted 100 compliance inspections. The facilities were randomly selected from the entire group of permitted facilities to ensure statistical validity. Of the 100 facilities inspected, only 16 were found to be out of compliance with UST indicators.

#### **4. Compliance Results**

The compliance rate for UST indicators of 84% was an increase of 16% from the baseline compliance rate. The compliance rate was very simply calculated by noting the number of Notices of Alleged Violations written to facilities in the randomly selected group of 100. Because of the on-going work to improve and develop the reporting capability of the UST database, a more in-depth comparison of the baseline and verification data was not performed.

The compliance rates for the other programs included in our ERP have not been calculated at this time. This is again attributable to the on-going work to improve and develop the database. However, we can report that 5 facilities contacted the Underground Injection Control program and registered their floor drains (another 6 facilities contacted the program and determined their drains were not subject to registration), and 153 facilities contacted the Hazardous Waste program and obtained permanent facility ID numbers. These results can be largely attributed to the self-certification program, as there were no outreach/education programs launched by either program during 2007.

Our ultimate goal for UST sector compliance is high; a 90% or greater compliance rate. For this project, our compliance goal was very modest; we were simply seeking a measurable increase in the compliance rate with the UST program indicators, and increased awareness of the other program requirements. We are therefore extremely pleased with the 16% increase in compliance with UST program indicators. We hope that the compliance rate will continue to increase over the next two or three rounds of self-certification, and that eventually the rate stays consistently high.

## 5. Issues

**i. Energy Act 2005** – The number of inspections required by the Energy Act of 2005 has resulted in a difference in the VT facility population in 2007 compared to 2005 in terms of familiarity with the UST program requirements. The industry in 2005 had been exposed to several years of low inspection frequency (<100 inspections per year). By 12/31/07, we had met the Energy Act requirement to inspect all facilities that had not been inspected since 12/31/1998, and begun working on the annual inspection of one-third of our regulated facilities. This amounted to 934 inspections conducted after the baseline inspections were completed. This greatly increased exposure to compliance requirements has undoubtedly had an impact on the compliance rate and we will attempt to analyze this aspect in the final report.

**ii. . On-line filing** – We were extremely pleased by the on-line filing rate for the first year. Approximately 85% filed on-line, and we anticipate this will increase for the coming year.

**iii. Getting the Word Out** – Despite email, newsletters, speaking to industry groups, and mention during inspections, there were still owners/operators who had no idea of the requirement to self-inspect and self-certify. To try to address this issue, all facilities that did not submit self-certifications were inspected in 2008. Owners/operators were informed when scheduling the inspection that the failure to self-certify was the reason for the inspection.

**iv. Future Plans** – The ERP is proceeding essentially unchanged from 2007. We anticipate that analysis of the program in 2009 will lead to minor changes (workbook and checklist editing), but do not anticipate anything major. Factors which could influence future changes in the program include: whether ERP projects for USTs will reduce the number of inspections that must be conducted annually; and a sustained high level of compliance could result in reducing the frequency of self-certification from annual to bi-annual or tri-annual.

**v. Owner/Operator Reaction** – Despite the significant increase in the amount of time a UST owners/operators had to put into compliance operations due to the self-certification, we did not hear a lot of negative comments about the program. There were a certain amount of negative comments, but they seemed to be off-set by many positive comments about how the program educated owners/operators about their systems. In addition, we received the following endorsement of the program from Amy Norris, Compliance Manager for RL Vallee (one of the larger petroleum operations in the state):

*As we began the Self-Certification process we were overwhelmed with the number of hours needed to complete this extensive program. Having said that, I must say that it has been a great value to us in increasing our understanding of the regulations, evaluating our equipment and installations, and fixing many small issues that in the long term could have become bigger problems.*

## **6. Going Forward**

As of this time, it appears as if all of the VT DEC programs involved with the ERP have been satisfied with the results. The first-year filing-rate and on-line certifications both exceeded our expectations, and the number of return-to-compliance plans was lower than we expected. In addition, our follow-up to non-reporters (through issuance of Notices of Alleged Violations and targeted inspections) reduced our number of non-certifiers to 28. Our plans are to continue the program on into the future on an annual basis without major change in the program. Our commitment to continuing the program is demonstrated by the fact that the self-certification is in our UST Rules. We have the full support from our Administration for this program, and support from industry as well.

There are a number of items that have been raised that may be considered for change in the future:

1. **Self-Certification Submittal Rate:** if the compliance rate improves to 90% or more and remains there over several cycles we may consider reducing the self-certification frequency to more than one year. Similarly, if meeting the requirements of the Energy Act and running the ERP becomes more of a work load than our resources can bear, we may reduce the certification frequency. Changes to the Energy Act could also trigger changes in the certification frequency.
2. **Multi-Program Focus:** the Department may decide to add or remove programs to the self-certification. This may be in reaction to changes in law or rule, changes in the industry sector (for example, many gas stations are no longer offering vehicle service, which reduces the applicability of hazardous waste and underground injection control rules), or reduction or shifts in resources that would preclude the use of the data generated by the program.

## **7. Recommendations**

Our strongest recommendation to other regulatory agencies implementing ERP is to be sure the IT systems are capable of meeting the data collection, storage, and analysis needs. The problem of inadequate IT resources is the main reason this project is not already completed.

We also strongly recommend that any agency thinking of implementing ERP reach out very early to the regulated industry and establish a strong working relationship. We feel that our early and frequent outreach to industry helped to identify and correct or modify implementation issues, and our willingness to work with industry and be flexible helped get the self-certification program written into our rules and established without opposition. Agencies looking to implement an ERP might want to consider industry sectors that both need an alternative regulatory approach and have a good working relationship with the agency.

### **8. Financial Report**

VT DEC did not prepare a detailed budget for this project beyond the Retail Gas Sector ERP Grant from EPA. Within the ERP Grant, the only problem arose with the resignation of the IT specialist hired for our project. This necessitated moving funds from the “personnel” line item to the “contractual” line item. This was a minor issue and did not change the bottom line.

APPENDIX I. UST Newsletter  
APPENDIX II. Postcard  
APPENDIX III. Monthly Email  
APPENDIX IV. Workbook  
APPENDIX V. Forms Booklet