

**South Carolina
Drycleaning Facility Restoration Trust Fund
Program Status Report
January 15, 2013**



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The South Carolina Drycleaning Facility Restoration Trust Fund Program Status Report is submitted by the South Carolina Department of Health and Environmental Control in compliance with S.C. Code Section 44-56-430, Part C.

Additionally, Act 119 of 2005 mandates that agencies provide all reports to the General Assembly in an electronic format.

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Definitions & Acronyms:

Act	The South Carolina Drycleaning Facility Restoration Trust Fund Act of 2004
ACOR	Annual Certificate of Registration
DFEC	Drycleaning Facility Exemption Certificate
DFI	Detailed Facility Investigation
DOR	South Carolina Department of Revenue
Dry-Drop	A retail store which collects items to be dry cleaned at a remote location
EIA	Expanded Initial Assessment
FS	Feasibility Study
Fund	The South Carolina Drycleaning Facility Restoration Trust Fund
FY	Fiscal Year
NFA	No Further Action
Opt-Out	A facility not subject to the Act, or eligible for the Fund, in accordance with 44-56-485
PCE	Tetrachloroethylene (Perchloroethylene, or “perc”); a halogenated drycleaning fluid
SCDHEC	South Carolina Department of Health and Environmental Control
Stoddard	A non-halogenated petroleum based drycleaning fluid

1. Introduction

This report is provided to the South Carolina General Assembly as required of Article 4 of Title 44, Chapter 56 of the 1976 Code of Laws (Section 44-56-430 Part C), herein referred to as the Act. It contains the financial obligations and a 5-year budget projection, as required by the Act, as well as a summary of activities for fiscal year (FY) 2012.

Background

In 1995, the South Carolina General Assembly created the South Carolina Drycleaning Facility Restoration Trust Fund (the Fund) to address environmental contamination resulting from drycleaning activities in South Carolina. The Act was revised in 2004, and again in 2009. The Fund was created at the urging of the drycleaning industry to protect drycleaners from financial liability caused by environmental problems at their facilities. The South Carolina Department of Revenue (DOR) is responsible for drycleaner registration and collection of monies into the Fund. The Department of Health and Environmental Control (SCDHEC) is responsible for administering the Fund. The Act allows SCDHEC to pay up to four staff using Fund monies to manage assessment and remediation of drycleaning facilities statewide. Currently, the Fund pays for two full time staff.

There are several reasons for the presence of soil and groundwater contamination at drycleaning facilities. The most commonly used drycleaning solvents, perchlorethylene (PCE, or “perc”) and various compounds derived from petroleum, such as Stoddard solvent easily pass through concrete floors common at drycleaning facilities. In the past, most drycleaning machines were “transfer” machines, which required solvent laden clothes to be transferred to a separate machine for drying. This provided an opportunity for release of solvents to the floor and then to the environment. Filling a drycleaning machine’s solvent tanks from drums or other containers could also result in spills, as could improper storage or handling of containers. Also, since older drycleaning machines vented solvent vapors to the atmosphere, these vapors could condense in cool weather and collect on nearby exposed soil. Other potential sources of contamination include drycleaning wastes, such as spent solvents, distillation wastes, separator water, and used filters. Before hazardous waste regulations were enacted in the early 1980’s, these wastes were commonly disposed of by pouring liquids into sewer lines, septic systems, or onto the ground. Used filters were commonly placed on the ground or into trash dumpsters.

Today, the Act requires that all drycleaning facilities participating in the Fund use special floor coatings in the areas of the drycleaning machine and waste storage to prevent spilled solvents from permeating through concrete floors. Other requirements include containment pans or dikes for drycleaning machines and waste storage areas. Drycleaners are periodically required to certify that their facilities meet the applicable containment requirements. SCDHEC personnel also visit facilities to verify the presence and adequacy of containment structures prior to committing Fund dollars for assessment or remediation.

Modern “dry-to-dry” machines perform both washing and drying cycles without the need to transfer items, thereby reducing the potential for release of solvents to the environment. Beginning in 2010 the Act required all halogenated drycleaning solvents to be delivered by a “closed-loop” system. This reduces opportunities for spills during refilling, and eliminates on-site storage of solvents. Newer drycleaning machines also provide more efficient use of solvents, reducing losses to the atmosphere.

Finally, the Act requires that hazardous wastes generated by drycleaning operations must be properly managed and disposed of. Several hazardous waste disposal companies operate in South Carolina, providing a safe, effective means to prevent additional drycleaning wastes from entering the environment.

While improvements in industry practices will not remove contamination that has already been released into the environment, these measures will greatly reduce the probability and scope of future releases.

Eligibility

Eligibility for the Fund is dependent upon several factors, including timely submittal of a complete Eligibility Application, and documented evidence of contamination. The law currently prohibits SCDHEC from utilizing Fund monies until evidence of contamination from past drycleaning activities is documented. The Drycleaning Restoration Regulations (R.61-33) include procedures that applicants must follow to determine the presence or absence of contamination.

When the Fund was created in 1995, several hundred drycleaners registered with DOR, and applied to SCDHEC for eligibility. Drycleaners who used petroleum-based solvents were given a one-time opportunity in 1995 to “Opt –Out” of the Fund. These businesses are not required to pay the annual registration fees or surcharges paid by participating drycleaners, but by not participating, they cannot access the Fund if contamination from their facilities is ever discovered. There are 123 drycleaning facilities that have “Opted-Out” of the Fund. All new drycleaning facilities are required to participate in the Fund.

Revisions to the Act made in 2009 required that a facility possess either an Annual Certificate of Registration (ACOR), or a Drycleaning Facility Exemption Certificate (DFEC - for Opted-Out facilities) in order to receive shipments of drycleaning solvent. The ACOR is issued by DOR annually when the facility registration fees are paid. The 2009 revisions required Opt-Out facilities to request a DFEC after July 1, 2009, and before December 31, 2009.

SCDHEC has now performed some degree of investigation at every eligible drycleaning site in South Carolina, and has found contamination at the majority of these sites. Investigations have documented that groundwater contaminated by drycleaning operations has impacted public and private water supplies in several cases. As impacts to drinking water are identified, SCDHEC takes steps to eliminate human exposure to contaminants, usually by providing an alternative source of drinking water.

The Fund cannot address all environmental problems at every participating site at once, because revenue is limited. Therefore, one of SCDHEC’s tasks is to prioritize sites for future work based on risks to human health and the environment. Prioritization criteria are spelled out in both the Act, and in regulation 61-33, Subpart D. SCDHEC performed a comprehensive update to the priority list in 2010, and continues to update this list as new information becomes available. The priority list can be viewed at: <http://www.scdhec.gov/environment/lwm/pubs/drycleaningrank.pdf>

2. Fund Status and Five-Year Funding Projection

Funding Sources

Revenue for the Fund is currently derived from four sources, all of which come from the drycleaning industry itself:

- Annual registration fees
- Surcharges on drycleaning solvents
- Facility deductibles, which range from \$1,000 to \$25,000, and
- A 1% surcharge on retail sales of drycleaning services, which has been in place since fiscal year (FY) 2005.

Annual registration fees apply to operating drycleaning facilities, and vary based on the number of people employed by that business – including employees at drop-off store locations. Facilities employing up to 4 employees pay \$750 per year, those with 5-10 employees pay \$1,500 per year, and those with 11 or more employees pay \$2,250 per year.

Solvent surcharges are \$10 per gallon for halogenated solvents, such as PCE, \$2 per gallon for non-halogenated drycleaning fluids such as Stoddard solvent, and \$0.25 per pound for non-liquid drycleaning agents.

Deductible amounts are assigned to a facility based on the date the eligibility application was submitted. The Act initially offered a \$1,000 deductible as an incentive to quickly bring existing facilities into the Fund. Any facility starting operations on or after November 24, 2004 will have a deductible of \$25,000.

A 1% surcharge on retail sales of drycleaning services is collected at the point of sale, regardless of whether the store is a drop-off location (or “dry-drop”) or has a drycleaning machine on site. This surcharge produces the majority of revenue for the Fund.

Businesses that have opted-out of the Fund as allowed by statute do not pay these surcharges or fees, and are not eligible to receive monies from the Fund for investigation or cleanup of contamination.

FY12 revenue was \$1,169,338.75 as compared to \$1,295,766.34 in FY11. The historical trend shows income to the Fund declining steadily from a high in 1997 until the 1% surcharge on retail sales of drycleaning services was implemented in FY05 (Figure 1). Revenue has decreased since FY07, with the exception of FY10, when revisions to the Act increased the number of operating facilities paying into the Fund. According to DOR data, there are currently 157 operating drycleaning facilities in South Carolina. This is a decrease from the previous year, when 161 facilities were registered. In 2005, this number was 202.

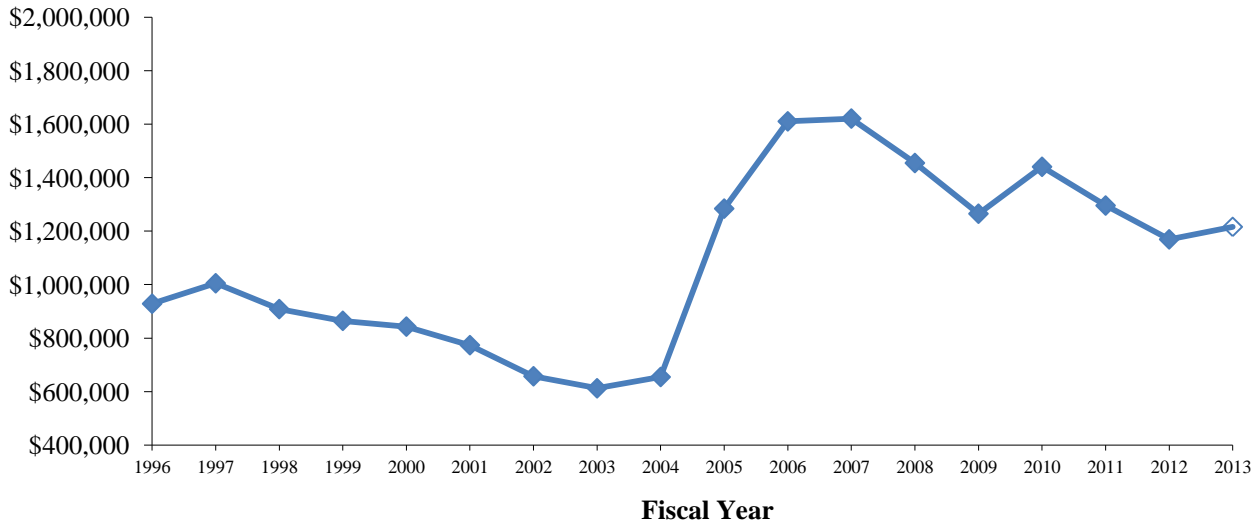


Figure 1: Drycleaning Facility Restoration Trust Fund Yearly Income
 (FY 2013 revenue projected based on first 5 months)

From the inception of the program through the end of FY12 the Fund has taken in a total of \$18,389,322.33 and had total expenditures of \$15,558,755.96. Allowing for outstanding commitments of \$398,344.85, the uncommitted Fund balance on June 30, 2011 was \$2,432,221.52.

During the first five months of FY13, the Fund has taken in \$506,657.99. FY13 revenue is projected to be approximately \$1,216,000.

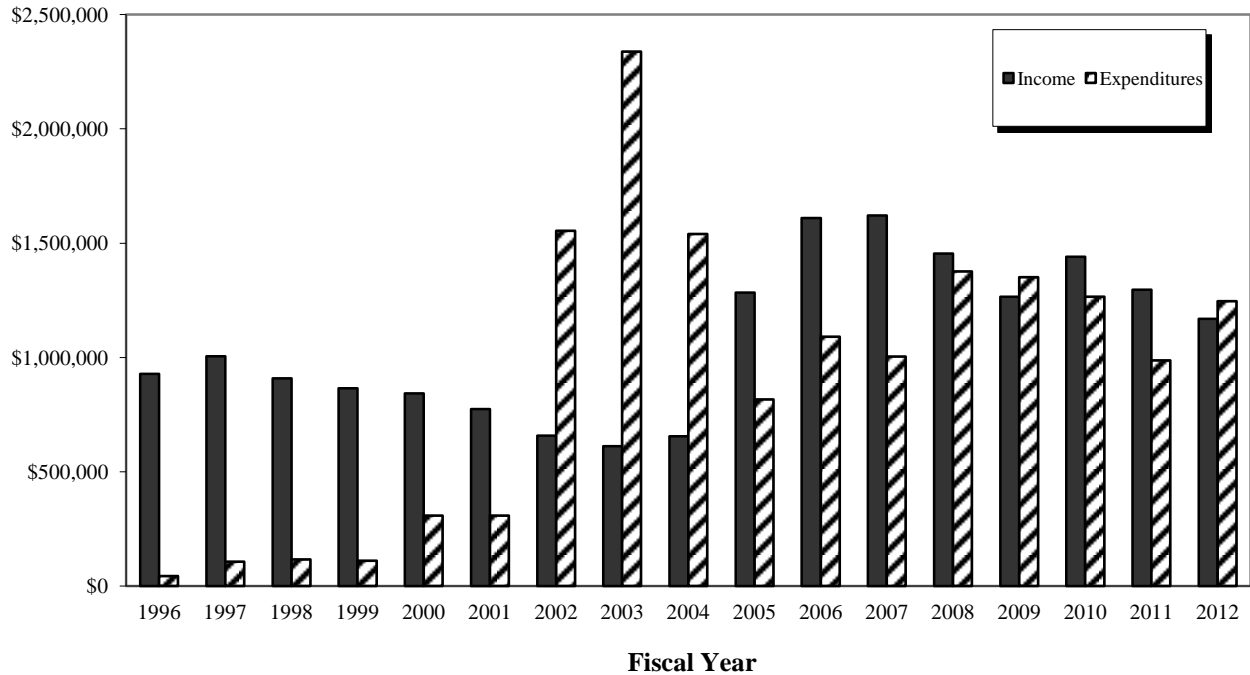


Figure 2: Comparison of Income versus Expenditures

Project Inventory

There are currently 288 eligible sites where SCDHEC may obligate Fund monies for assessment and remediation. SCDHEC has made No Further Action decisions for 26 sites, leaving 262 sites where some additional work is anticipated. An additional 176 sites could become eligible for the Fund. Of these sites:

- 36 have never been sampled because the registrant does not have access to the property.
- 79 were sampled initially but showed no evidence of contamination.
- 61 have registered with DOR as operating drycleaners, but have not yet submitted a complete eligibility application or evidence of contamination to SCDHEC.

The Act stipulates that the Fund may not be used to pay any costs related to contamination assessment where no contamination from drycleaning solvents is discovered. This means that drycleaners are responsible for initially identifying contamination and reporting it to SCDHEC. The Drycleaning Facility Restoration Regulations, R.61-33 lay out the process for registrants to provide evidence of such contamination, beginning with the eligibility application. Currently, the Act does not contain a deadline for submitting an eligibility application.

Assessment Costs

Full assessments have been completed at 34 sites. The costs for these assessments have ranged from \$51,000 to \$477,000 per site. The average cost of the full assessments to date has been \$174,318. The average cost of the five Detailed Facility Investigations (DFIs) completed in FY12 was \$121,285.33. This represents a significant reduction in the average assessment cost compared to previous years. Assuming that the average assessment cost can be kept near \$125,000 per site and that 228 additional sites will require a full-scale assessment, \$28,500,000 will be needed for assessment of the remaining known sites.

Remediation Costs

Once sites are fully assessed, many will require some form of remediation in order to reduce risks and reach cleanup goals. Contamination that requires remediation has been identified at most of the sites assessed to date. Of the 288 sites investigated to date, 26, or 9% have been determined not to require further action. It is estimated that 90% of all eligible sites may require remediation and/or long-term monitoring.

Through FY12, SCDHEC has spent a total of \$4,485,119 on remedial activities at 12 drycleaning sites. These remedial activities include removal actions, cleanup system design, installation, monitoring, operation and maintenance.

Groundwater remediation systems have been implemented at 5 of the 12 sites, including three ozone systems, one potassium permanganate injection, and one groundwater recirculation system. The average cost to date for these 5 sites is \$790,356 and additional costs will accrue until these sites reach closure.

Removal actions or interim actions have been conducted at 7 of these 12 sites. The average cost for removal actions is \$66,668 per site.

To estimate future liability, SCDHEC has projected that 75% of the sites where soil and groundwater contamination has been identified to date will require active remediation. It is assumed that the remaining 25% of these sites may be addressed through removal actions, passive remedies, and institutional controls.

Using these assumptions, and cleanup costs to date, future cleanup liabilities are estimated at \$160 million.

Future Liabilities

Based on expenditures to date and the above projections, SCDHEC estimates that \$188.5 million will be required to assess and clean up eligible sites. This estimate is based on \$28.5 million for assessment costs and \$160 million for remediation costs, including long-term operations and maintenance. This amount does not consider new sites and has not been adjusted for inflation.

Five Year Funding Projection

In order to complete the funding projection, the income to the Fund was estimated over the next five fiscal years. Based on data through November 2012, FY13 revenue is anticipated to increase slightly to approximately \$1,216,000. The average income to the Fund for the next five years is predicted to remain approximately \$1.2 million per year.

Table 1 includes a five-year projection of expenditures. Expenditures during FY12 were slightly more than total income to the Fund. Actual expenditures will not exceed income to the Fund plus remaining balances carried forward from previous years.

Table 1: Income and expenditures for the Fund, 1996-2012
(Data for 2013-2017 are projected)

Fiscal Year	Income	Expenditures
1996	\$928,545.65	\$42,582.84
1997	\$1,005,142.60	\$106,383.46
1998	\$908,516.14	\$115,929.62
1999	\$864,553.81	\$111,067.06
2000	\$842,913.75	\$308,156.47
2001	\$773,511.14	\$308,078.22
2002	\$657,242.36	\$1,553,734.08
2003	\$612,189.97	\$2,337,642.77
2004	\$654,508.34	\$1,540,095.94
2005	\$1,284,353.96	\$816,404.12
2006	\$1,610,701.26	\$1,090,890.57
2007	\$1,621,127.21	\$1,003,163.01
2008	\$1,454,856.48	\$1,375,857.27
2009	\$1,265,303.68	\$1,350,910.21
2010	\$1,440,750.89	\$1,265,239.30
2011	\$1,295,766.34	\$986,750.81
2012	\$1,169,338.75	\$1,245,870.21
2013	\$1,216,000.00	\$1,200,000.00
2014	\$1,200,000.00	\$1,200,000.00
2015	\$1,200,000.00	\$1,200,000.00
2016	\$1,200,000.00	\$1,200,000.00
2017	\$1,200,000.00	\$1,200,000.00

3. Recent Activities

Assessment Activities

From 1995 through 2006, SCDHEC had completed DFIs at 29 Fund-eligible sites, an average of 2.5 sites per year. From 2006 through 2010, SCDHEC conducted preliminary investigations called Expanded Initial Assessments (EIAs) at the remaining 255 Fund-eligible sites. The EIAs were used to rapidly identify existing and potential human exposures, and also provided data to help prioritize future work. Additional sampling was conducted during FY11 to fill data gaps and allow closure at a number of these sites.

In FY12, SCDHEC began conducting DFIs again, completing the assessment of 5 additional sites in one year. The average cost for these assessments was significantly lower than for those conducted previously. Direct-push sampling and rapid field-screening techniques were used extensively to reduce overall costs. Eight more sites were investigated in the Lake Forest area of Greenville during FY12, and these assessments will be completed in FY13. These 8 sites are in close proximity to one another, allowing the assessment of all 8 to proceed concurrently. SCDHEC anticipates that lessons learned from this project can be applied to investigations at other co-located sites.

Three EIAs were conducted in FY12. More EIAs may be conducted in the future as additional sites become eligible for the Fund. During the past year, SCDHEC has continued to evaluate data generated by the EIAs and DFIs.

Remediation Activities

As discussed in Section 2 above, full-scale remedial actions have been conducted at 5 sites. Operating costs for these remedies have continued to accumulate, even as remedial effectiveness declined. As a result of this decreased effectiveness, SCDHEC has shut down and dismantled remedial equipment from three of these sites. Alternative remedies are being evaluated to find a more cost effective method to reach final remedial goals. The equipment has been removed and may be put to use at other sites if needed in the future.

During FY12, SCDHEC conducted pilot scale testing of alternative remedies at two of these sites. These pilot tests involve injection of chemical amendments into the zone of groundwater contamination to stimulate microbial breakdown. A key advantage of this type of remedy is that it does not require continued operation and maintenance of on-site equipment. Once the amendments are injected, they continue to interact with contaminants until they are used up. Injection remedies require some long term monitoring to verify effectiveness. It is anticipated that this type of remedy may be applied at a significant number of sites, thereby reducing the average cleanup cost per site.

Of the five sites assessed during FY12, four showed evidence of contaminant breakdown. Additional sampling is planned for FY13 to determine whether natural attenuation may be an appropriate remedy for these sites.

One removal action was conducted during FY12 at a former drycleaner site where planned construction provided an opportunity to remove contaminated soil. This coordination reduced the cost of the removal, as well as the degree of assessment and remediation that may be required in the future. Land use controls will be put into place to prevent future occupants of the property from using contaminated groundwater.

No-Further-Action Sites

Since September 2010 SCDHEC has made no-further-action (NFA) determinations at 26 sites where investigation has determined that drycleaning contaminants are not present at levels that require additional assessment or remediation. Additional NFA determinations are anticipated. Provided that these facilities continue to meet the requirements of the Act, they can remain eligible in the event that evidence of contamination is discovered in the future. Given improvements in industry practices and equipment, combined with containment measures required by the Act, SCDHEC anticipates that these sites are unlikely to become contaminated in the future.

Containment Certification

Containment certification is a requirement for eligibility under the Fund, and is conducted periodically to ensure that containment remains effective. Failure to comply with the containment requirements constitutes gross negligence with regard to determining site eligibility for the Fund [44-56-470(I)]. The previous round of containment certification was conducted in 2005. SCDHEC began sending out containment structure certification forms in October 2011. As of December 2012, containment certification forms have been sent to all eligible, operating facilities. Staff have followed up with phone calls to locations which don't respond, and site visits to those locations that cannot be reached by phone. This effort has also helped to identify a number of businesses that have closed or changed ownership.

Alternative Water Supplies

During FY12, monitoring activities identified impacted drinking water wells at one residence, and at one drycleaning business. A service line was installed to provide safe drinking water to the residence. In the case of the drycleaning business, a filter system will be installed as a temporary solution until the business is able to tie on to the public water system.

4. Eligibility and Prioritization

Eligibility Application Scoring System

In order to be eligible for the Fund, drycleaners must register their facilities with DOR and submit a completed eligibility application to SCDHEC. The eligibility application includes information about which solvents have been used at the site, how long the drycleaner has been in operation, and how the waste products from the cleaning process are disposed. The applicant certifies in the application that the drycleaning facility meets all of the eligibility criteria specified in the Act. These eligibility criteria include timely payment of surcharges and fees, notification of property transfer, notification of spills or releases, effective spill containment, and allowing SCDHEC access to perform assessment and remediation.

Prioritization Process

SCDHEC prioritizes sites for future funding based on available assessment information. The Tier system categorizes sites into one of five tiers, and is designed to identify sites which require immediate action to prevent or eliminate human exposures to contaminants. After an initial assessment or other investigation is conducted, a site is assigned a value ranging from Tier I (Most urgent), to Tier N (no further action). Most of the drycleaning sites that have been ranked were initially assigned to Tier II, meaning that they have contamination and need to be investigated further. If SCDHEC determines that there is an imminent health risk, then the site is immediately designated a Tier I site and the health risk is dealt with accordingly. For example, if impacted private drinking water wells are discovered, then the residents are

provided with bottled water for consumption until an alternate water source is established. Once the risk from contaminated drinking water is eliminated, the site is re-ranked for assessment and/or remediation and is usually moved down to the Tier II or Tier III level, reflecting that there is contamination present at the site, but there are no imminent health risks.

Site Ranking

While the Tier system categorizes sites broadly, it does not prioritize individual sites within each tier. Program staff use data collected from the EIAs to calculate a numeric score and assign a rank to each site. As specified in the Act, this process considers the degree to which human health, safety, or welfare may be affected by exposure to the contamination. Other factors considered include the probability of contamination migrating off-property, and adjacent land use. This system allows program staff to update a site's ranking as new data become available, or as corrective actions are taken to mitigate risks. Currently, all eligible sites have been evaluated using this ranking system and the ranking list is posted on the program's website at: <http://www.scdhec.gov/environment/lwm/pubs/drycleaningrank.pdf>

5. Public Participation in the Drycleaning Program

One of SCDHEC's goals for the Drycleaning Restoration Trust Fund Program is to encourage public participation in the remedy selection/cleanup process. Community involvement in the program is important for several reasons. Primarily, it gives local residents an opportunity to have input into choosing a remedial strategy and allows them to address any concerns that they may have about the site. People living near a site may be aware of conditions that could influence the effectiveness of the available remedies. On several occasions, sharing of such important information has substantially aided SCDHEC's understanding of the site and has influenced remedial decisions.

When SCDHEC conducts assessment activities at a site it may be necessary to address the potential migration of contaminants onto or beneath adjacent properties. Field personnel meet with homeowners and business owners in the area surrounding the site when there is a likely risk to drinking water supply wells. SCDHEC may conduct sampling to determine if the wells have been affected by contamination emanating from a drycleaner property. If drinking water supplies have been contaminated, SCDHEC will work to ensure that those affected have access to an alternate source of drinking water.

SCDHEC distributes information about sites and upcoming remediation activities to the public via legal notices in local newspapers and letters to area residents, local government officials, and locally elected members of the S.C. General Assembly. SCDHEC schedules a public meeting at a location near the drycleaning site, and advertises the time and place as a legal notice. SCDHEC also sends individual letters to those in the vicinity of the site in question. At the meeting, a SCDHEC spokesperson presents an overview of site conditions and explains the potential remedies that have been considered. An open forum with a question-and-answer session follows this presentation. People are encouraged to call the program's toll-free telephone number (1-866-343-2379) if they have further questions.

6. Web Links

South Carolina Department of Health and Environmental Control (SCDHEC)

www.scdhec.gov

SCDHEC's Drycleaning Restoration Program home page:

www.scdhec.gov/environment/lwm/html/drycleaner.htm

SCDHEC forms for Drycleaners and Environmental Contractors:

http://www.scdhec.gov/environment/admin/htm/eqc_forms.asp#Dry

List of SCDHEC Certified Drycleaning Contractors:

www.scdhec.gov/environment/lwm/pubs/South%20Carolina%20Drycleaning%20Fund%20Certified%20Contractors%2012.doc

South Carolina Drycleaning Facility Restoration Trust Fund Act:

<http://www.scdhec.gov/environment/lwm/regulatory.htm#drycleaners>

South Carolina's drycleaning sites by rank (priority list):

<http://www.scdhec.gov/environment/lwm/pubs/drycleaningrank.pdf>

State Coalition for the Remediation of Drycleaners (U.S. EPA):

<http://drycleancoalition.org>