

# South Carolina Drycleaning Facility Restoration Trust Fund Program Status Report January 15, 2011



South Carolina Department of Health and Environmental Control  
C. Earl Hunter, Commissioner

Bureau of Land and Waste Management  
Division of Site Assessment, Remediation & Revitalization

The South Carolina Drycleaning 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.

**South Carolina Drycleaning Facility Restoration Trust Fund  
Program Status Report  
January 15, 2011**

<b>Table Of Contents</b>	<b>page</b>
1. Introduction	4-5
2. Fund Status and Five-Year Funding Projection	5-8
3. Recent Activities	9-10
4. Eligibility and Prioritization	10-11
5. Public Participation in the Drycleaning Program	11
6. Web Links	12
Site Assessment, Remediation and Revitalization Project Tiering System	Appendix A

**Definitions & Acronyms:**

Act	South Carolina Drycleaning Restoration Trust Fund Act of 2004
ACOR	Annual Certificate of Registration
DCE	Dichloroethylene
DFEC	Drycleaning Facility Exemption Certificate
DOR	South Carolina Department of Revenue
DP	Direct-Push
EIA	Expanded Initial Assessment
FS	Feasibility Study
Fund	South Carolina Drycleaning Restoration Trust Fund
FY	Fiscal Year (July 1-June 30)
PCE	Perchloroethylene, tetrachloroethylene, or “perc”
ppb	parts per billion
SCDHEC	South Carolina Department of Health and Environmental Control

## **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 as well as a 5-year budget projection, as required.

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 Fund was created at the urging of the drycleaning industry to protect drycleaners from potentially devastating financial liability caused by environmental problems at their facilities. The South Carolina Department of Health and Environmental Control (SCDHEC) is responsible for administering the Fund. The South Carolina Department of Revenue (DOR) is responsible for drycleaner registration and collection of money into the Fund.

The current status of the Fund and a five-year funding projection are discussed in Section 2.

Several hundred drycleaners initially joined the Fund, but not every drycleaner in South Carolina participated. 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 fees or solvent taxes paid by participating drycleaners, but by not participating, they cannot access the Fund if contamination resulting from their operation is discovered. There are currently 118 drycleaning facilities that have “Opted-Out” of the Fund.

When the Fund was created, it was anticipated that contamination would be found, but the extent of the problem has proven to be larger than initially expected. SCDHEC has identified drycleaning-related groundwater contamination at the majority of the 287 sites that have been evaluated to date, and has confirmed that contaminated groundwater from drycleaning operations has impacted public and private water supplies in several of those cases. Drycleaning solvents do not break down quickly in the environment. This means that solvents can remain trapped in soil for many years and continue to contaminate groundwater.

There are several reasons for the presence of solvents in the soil and groundwater around drycleaning facilities. The most commonly used drycleaning solvents, perchloroethylene (PCE, or “perc”) and various compounds derived from petroleum (Stoddard solvent), easily pass through many materials, such as the concrete floors common at drycleaning plants. Regulations now require that the floors in drycleaning plants be sealed with epoxy paint or other impermeable material.

Most of the older drycleaning transfer machines, which require solvent-laden clothes to be moved from the machine to a dryer, were a source of releases to the environment. Newer dry-to-dry drycleaning machines are designed to both wash and dry clothes in the same machine, thus avoiding drips and spills occurring during the transfer of clothes from the washer to the dryer.

In addition to solvent waste generated from operational procedures, other releases came from waste by-products created by the filtering and distillation processes necessary for the re-use of solvent in the drycleaning plant. These waste by-products contain varying amounts of solvent and are now collected by hazardous waste disposal companies. Before the disposal companies began operating in the late 1980’s, the wastes were commonly discarded directly onto the ground, into the sewer

system, or into leaky dumpsters. Also, since older drycleaning machines vent solvent vapors to the outside, solvents would condense in cool weather and collect on nearby exposed soil.

The Act requires participating drycleaning operators to certify to SCDHEC that they are handling their drycleaning solvents in an environmentally responsible manner. As a result, drycleaners participating in the Fund have maintained or implemented containment measures that do not allow solvents to be released to the soil or groundwater. Beginning January 1, 2010, all halogenated solvents must be delivered by a closed-loop system, further reducing the potential for release of contaminants from drycleaning facilities.

While improvements in industry practices will not remove contamination that has already been released into the environment, these measures will greatly reduce the probability of future releases, therefore lessening the impact that the drycleaning solvents have on human health and the environment.

SCDHEC has performed preliminary assessments, commonly referred to as Expanded Initial Assessments or EIAs, at 258 eligible sites in an effort to determine if emergencies exist and to collect sufficient information to properly categorize (rank) the sites for future Fund expenditures. These relatively low-cost screenings have proven quite valuable in helping the agency understand site specific risk.

Since the Fund has limited revenue, it cannot address all the environmental problems at every participating site. As such, SCDHEC prioritizes cases to be funded based on risk to human health and the environment. The priority list has recently been revised based on data collected during the EIA process. The updated list is available on the Drycleaning Program's web page at: <http://www.scdhec.gov/environment/lwm/pubs/drycleaningrank.pdf>

## **2. Fund Status and Five-Year Funding Projection**

### ***Funding Source***

Revenue for the Fund is currently derived from three sources: 1) Annual registration fees; 2) a surcharge assessed on every gallon of drycleaning solvent purchased for use in the state; and 3) beginning in FY05, a 1% surcharge on retail sales of drycleaning services. The annual registration fees are based on the number of employees at each drycleaning business. Facilities employing 0-4 employees pay \$750 per year, those with 5-10 employees pay \$1500 per year, and those with 11 or more employees pay \$2,250 per year. These surcharges and fees are not collected from drycleaners who have opted out of the program in accordance with the provisions of the Act.

FY10 revenue was \$1,440,750.89, as compared to \$1,265,303.68 in FY09. This increase is largely a result of recent changes to the Act which required all drycleaning facilities to possess either an Annual Certificate of Registration (ACOR) or a Drycleaning Facility Exemption Certificate (DFEC) in order to receive shipments of drycleaning solvents. FY10 revenue was slightly below the average for the previous five years.

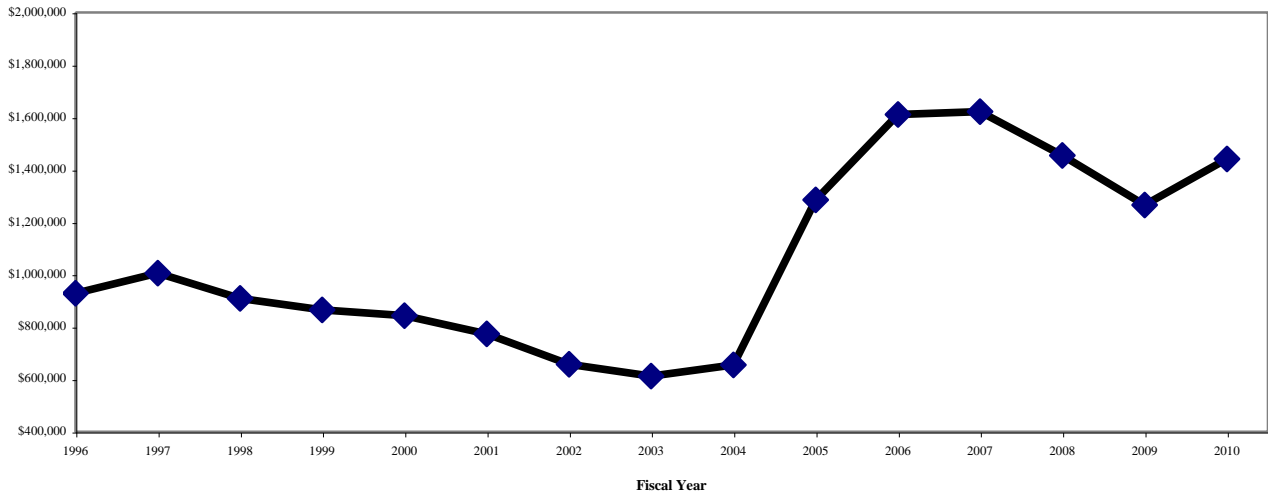


Figure 1: Drycleaning Restoration Trust Fund Yearly Income

From the Fund’s inception in Fiscal Year 1996 through June 30, 2010 it has taken in a total of \$15,924,217.24 and had total expenditures of \$13,326,134.94 (Figure 2). Allowing for outstanding commitments of \$595,462.70, the uncommitted Fund balance on June 30 2010 was \$2,002,619.60.

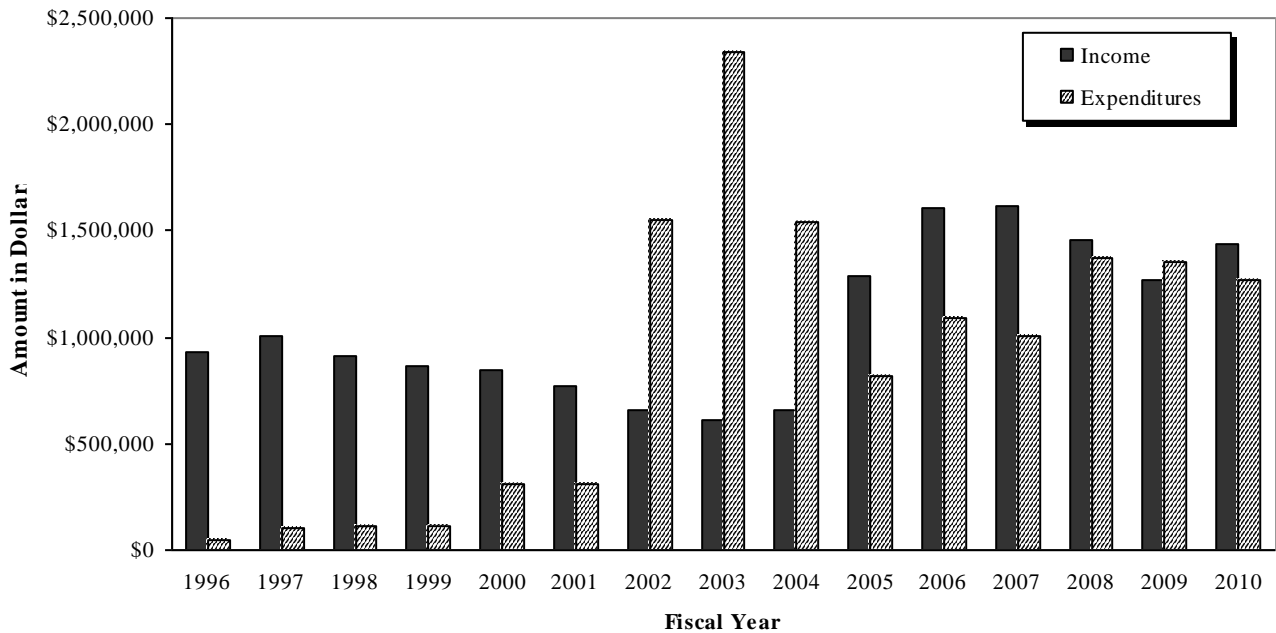


Figure 2: Comparison of Income versus Expenditures

During the first five months of FY2011, the Fund has taken in \$599,745.95, and spent \$482,164.58. As of January 1, 2011, SCDHEC has commitments for assessment and remediation totaling \$915,232.49, leaving an uncommitted fund balance of \$1,800,431.18. Based on revenue collected through December 2010, FY11 revenue is estimated to be approximately \$1,400,000.

### ***Funding Needs***

There are currently 287 drycleaning sites where DHEC may expend money from the Fund. Of these 287 sites, 29 sites have undergone a complete environmental assessment. The remaining 258 sites have undergone an EIA.

Another 165 sites could become eligible for the Fund in the future if sampling demonstrates that they are contaminated. Of these 165 sites, 79 have previously been sampled with no release detected, 38 have never been sampled due to property access issues, and there are 48 sites for which the DHEC has not received a complete eligibility application package.

### ***Assessment Costs***

The costs for full assessments of the 29 sites range from \$51,000 to \$477,000. The average cost of the full assessments thus far has been \$182,000. It is anticipated that the average cost of a full assessment will drop due to increased efficiencies of the program. Recent changes in procurement processes for these services are being implemented for 2011, and should have a positive impact by increasing the efficiency of this work. Assuming the average full assessment cost can be decreased to \$161,000, and that 258 additional sites will require a full-scale assessment, \$42 million will be needed for assessment of the remaining known sites.

### ***Remediation Costs***

Once the 258 sites are fully assessed, many will require some form of remediation in order to reduce risk and meet cleanup goals. Contamination that requires remediation has been identified at virtually all of the sites assessed to date. It is likely that 95% of all sites investigated will need a comprehensive assessment, remediation and/or long-term monitoring.

To date, SCDHEC has spent a total of \$3,552,140 on remedial activities at 12 drycleaning sites. These remedial activities include removal actions, cleanup system design, installation, and operation and maintenance. Removal actions or interim actions have been conducted at 7 of these 12 sites. The average cost for removal actions is \$72,484 per site. Ground water remediation systems have been fully implemented at 5 of the 12 sites, including three ozone systems, one potassium permanganate injection and one air sparging/soil vapor extraction system. The average cost to date for these five sites is \$625,611 and costs will increase as those sites currently in remediation proceed toward closure. Based on current information, projected cleanup liabilities are estimated to be \$133 million.

### ***Future Liabilities***

Based on expenditures to date and the above projections, SCDHEC staff estimate that \$175 million will be required to assess and clean up eligible sites. This amount may be considerably underestimated because it does not consider new sites and has not been adjusted for inflation. This figure includes estimates of \$42 million for assessment costs and \$133 million for remediation costs, including long-term operations and maintenance. More details about these projections are outlined below.

To estimate future liability, SCDHEC staff has projected that 75% of the sites where soil and groundwater contamination has been identified to date will require active remediation. The remaining 25% of sites may potentially be addressed through removal actions, passive remedies, and institutional controls. Using these assumptions, SCDHEC estimates that \$175 million will be needed over the lifetime of the Fund.

### ***Five-Year Funding Projection***

In order to complete the funding projection, the income into the Fund was estimated over the next five fiscal years. The historical trend shows income declining steadily from a high in 1997 until the 1% surcharge on retail sales was implemented in FY05 (Figure 1). Trend analysis conducted in prior annual reports projected that income to the Fund would remain steady at a level of \$1,600,000 through FY12. This projection has been revised downward based on reduced revenues in FY08 through FY10 (Table 1). The 2009 amendments to the Act seem to have had an additional positive effect on revenue during FY10. Based on income to the Fund during the first five months of FY11, total revenue for the current fiscal year is projected to be \$1,400,000. This amount is projected as the approximate average income to the Fund for the next five years.

Table 1 includes a five-year projection of expenditures. Expenditures for FY10 were less than income into the Fund. Actual expenditures will not exceed income into the fund plus remaining funds carried over from previous years.

<b>Fiscal Year</b>	<b>Income</b>	<b>Expenditures</b>
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	<i>\$1,400,000.00</i>	<i>\$1,400,000.00</i>
2012	<i>\$1,400,000.00</i>	<i>\$1,400,000.00</i>
2013	<i>\$1,400,000.00</i>	<i>\$1,400,000.00</i>
2014	<i>\$1,400,000.00</i>	<i>\$1,400,000.00</i>
2015	<i>\$1,400,000.00</i>	<i>\$1,400,000.00</i>

**Table 1: Income and expenditures for the Fund, 1996-2010  
Data for 2011-2015 (in *italics*) are projected.**



### **3. Recent Activities**

During FY09, several important changes were made to the South Carolina Drycleaning Restoration Trust Fund Act. These changes were detailed in last year's annual report, and are discussed in detail on the Drycleaning Program's website (see Section 6). Overall, these changes have had a positive effect on the program, clarifying requirements, and broadening participation within the drycleaning industry in South Carolina.

#### ***Drycleaning Advisory Council***

The 2009 amendments to the Act also revised the composition of the Drycleaning Advisory Council. In early 2010, the Board of the Department of Health and Environmental Control appointed ten members to serve on the council for a two year term. The council consists of eight representatives of the drycleaning industry, one representative of the wholesale supply industry, one representative of the drycleaners who have Drycleaning Facility Exemption Certificates, and one representative from DHEC. The council is charged with advising DHEC on matters relating to regulations and standards which affect drycleaning and related industries. The names of the board members are posted on the Drycleaning Program's website. The newly appointed council first met on February 24, 2010. During this meeting, a chairman was selected, the 2010 program status report was summarized, and two priority issues were raised. The first issue dealt with the capacity of the Fund to address all potentially contaminated sites in a reasonable amount of time. The second issue dealt with the need to make further revisions to the Act. During this first meeting, the council established a Finance Subcommittee, and a subcommittee to review the South Carolina Drycleaning Restoration Trust Fund Act and suggest revisions with the intent of streamlining language and improving readability.

Even though EIAs have been performed at all currently eligible sites, there are many that will require full assessments and remediation. The Fund can only support a limited amount of this type of work with current annual revenues. The finance subcommittee was created to look into ways to ensure the continued viability of the Fund.

Proposed revisions are intended to make the Act clearer, eliminate redundancy, and remove outdated portions of the Act. Another notable change concerns the ability of SCDHEC to conduct limited investigations at facilities that have not provided evidence of contamination. This revision is intended to better address sites with property access issues and those sites where only the Initial Assessment (one soil sample) has been conducted and contamination may remain undetected.

The Finance Subcommittee met on June 30, 2010. SCDHEC program and legal staff met numerous times to craft revisions to the Act. The law change subcommittee met on August 18 and 25, 2010 to go through the proposed changes. The full council met again on October 14, 2010.

#### ***Contractor Information Sessions***

During April 2010, SCDHEC hosted two contractor information sessions to update the environmental restoration community with regard to the Fund. These sessions dealt with eligibility assessments, screening methods used at drycleaning sites, and plans to procure assessment contractors through a competitive bidding process. Over 70 environmental contractors attended these sessions.

### ***Assessment Activities***

During 2010, 14 additional EIAs were conducted as new sites became eligible for the Fund. All eligible sites have undergone the EIA process, bringing the total number completed to 258. A Detailed Facility Investigation (DFI) is currently underway at one additional high priority site.

### ***Remediation Activities***

Five drycleaning sites are currently in the remedial action phase. SCDHEC project managers have evaluated the progress of the cleanup programs at these sites and taken action to optimize them. Based on monitoring data, project managers have made recommendations to improve system performance at three of these sites. Two of these sites have had remedial systems turned off to determine the degree of cleanup completed. A third system required repairs to wells and pumps and is now operational. The remaining two sites are being monitored to ensure that groundwater plumes do not migrate beyond their current boundaries.

### ***Competitive Procurement***

In March 2010, SCDHEC revised the procurement procedures it uses to select contractors for assessment and remediation. These revised procedures will allow the drycleaning program to accept bids to perform assessment and remediation at eligible facilities. Program staff have put together a generic scope of work based on investigations conducted previously during assessment of sites in the Fund. SCDHEC issued an invitation for bids in late 2010, with contract award scheduled for January 2011. This contract will be for the completion of DFIs at five sites over a nine month period. It is anticipated that this will allow a significant reduction in the cost to complete assessments at drycleaning facilities.

## **4. Eligibility and Prioritization**

### ***Eligibility Application Scoring System***

Drycleaners seeking eligibility for the Fund must register with DOR and submit a completed eligibility application to SCDHEC. The eligibility application documents such information as which solvents are 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 (usually the drycleaning business owner or land owner) certifies in the application that the drycleaning plant meets all of the eligibility criteria specified in the law. SCDHEC initially assigns a priority ranking to the site using information provided in the eligibility application. In late 2006, SCDHEC implemented the EIA process to gather additional field data for each site to reduce reliance on assumptions. This data is used to rank sites based on their potential impacts to human health and the environment.

### ***Prioritization Process***

SCDHEC prioritizes sites for future funding based on available assessment information. The Tier system categorizes each site into one of 5 tiers, and is designed to identify sites which require immediate action to prevent or eliminate human exposure 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 IIA, meaning that they have contamination and need to be investigated further. The Tier categories are defined in Appendix A. 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/remediation and is usually moved down to the Tier III level, reflecting that there is contamination present at the site but there are no imminent health risks.

While the Tier System categorizes sites broadly, it does not prioritize individual sites within each tier. For this reason, SCDHEC developed a process to estimate the future potential for human health risks. Program staff use available data 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 off-property migration, 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 reduce risk. Currently, all eligible sites have been evaluated using this ranking system, and the revised ranking list is posted on the program's website.

## **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 is sometimes necessary to address the potential migration of contaminants onto 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, an alternate source of drinking water is provided eliminating the immediate risk to human health. The site is then reprioritized for complete assessment and remediation.

SCDHEC distributes information about the site and its upcoming remediation to the public via a legal notice in the local newspaper 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. A court reporter compiles an official transcript of the meeting, and 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](http://www.scdhec.gov)

SCDHEC's drycleaning restoration web page:

<http://www.scdhec.net/environment/lwm/html/drycleaner.htm>

SCDHEC forms for Drycleaners and Contractors:

<http://www.scdhec.gov/environment/admin/htm/eqcforms.shtml#Dry>

SCDHEC Certified Drycleaning Contractors:

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

South Carolina Drycleaning Restoration Trust Fund Act:

<http://www.scstatehouse.gov/code/t44c056.htm>

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

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

State Coalition for the Remediation of Drycleaners (EPA):

[www.drycleancoalition.org](http://www.drycleancoalition.org)

**Appendix A**

**Site Assessment, Remediation and Revitalization Division**

**Project Tiering System**

# SITE ASSESSMENT, REMEDIATION, AND REVITALIZATION DIVISION PROJECT TIERING SYSTEM

