

**South Carolina
Drycleaning Facility Restoration Trust Fund**

PROGRAM STATUS REPORT

Fiscal Year 2022

Prepared for Gov. Henry McMaster
and the Members of the S.C. Legislature



Prepared by the S.C. Department of Health and Environmental Control

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Introduction

This report is provided to the South Carolina General Assembly as required by Article 4 of Title 44, Chapter 56 of the 1976 Code of Laws [Section 44-56-430 (A)], herein referred to as the South Carolina Drycleaning Facility Restoration Trust Fund Act (Act).

This report 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) 2022 (July 1, 2021 through June 30, 2022).

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Acknowledgements

The S.C. Drycleaning Facility Restoration Trust Fund Program Status Report is submitted by the S.C. Department of Health and Environmental Control (DHEC) in compliance with S.C. Code Section 44-56-430(A). Additionally, Act 119 of 2005 mandates that agencies provide all reports to the General Assembly in an electronic format.

BUREAU OF LAND & WASTE MANAGEMENT

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Acronyms & Definitions

Act	S.C. Drycleaning Facility Restoration Trust Fund Act of 2013
ACOR	Annual Certificate of Registration
DFEC	Drycleaning Facility Exemption Certificate
DFI	Detailed Facility Investigation
DOR	S.C. Department of Revenue
Dry-Drop	A retail store that collects items to be drycleaned at a remote location
EIA	Expanded Initial Assessment
Existing	A drycleaning facility that started operations before November 24, 2004
Former	A drycleaning facility that ceased operations before July 1, 1995
Fund	S.C. Drycleaning Facility Restoration Trust Fund
FY	Fiscal Year
MCL	Maximum Contaminant Level
New	A drycleaning facility that started operations on or after November 24, 2004
NFA	No Further Action
Opt-Out	A facility not subject to the Act, or eligible for the Fund, in accordance with 44-56-425
PCE	Tetrachloroethylene (Perchloroethylene or “perc”); a halogenated drycleaning fluid
DHEC	S.C. Department of Health and Environmental Control
Stoddard	A non-halogenated petroleum based drycleaning fluid
VIP	Vapor Intrusion Pathway
VISL	Vapor Intrusion Screening Level
UVAP	Ultra Violet Air Purification

Web Links

Additional information and resources on DHEC’s Drycleaning Program are available at scdhec.gov/drycleaners. These resources include:

- **Laws and Regulations** (South Carolina Drycleaning Facility Restoration Trust Fund Act [See Article 4], and South Carolina Drycleaning Facility Restoration Regulations);
- **State Coalition for the Remediation of Drycleaners** (U.S. Environmental Protection Agency);
- **South Carolina’s Drycleaning Sites by Priority Groups**; and
- **DHEC Forms for Drycleaners**.

Background

SECTION 2

The S.C. General Assembly created the South Carolina Drycleaning Facility Restoration Trust Fund (Fund) in 1995 to address environmental contamination resulting from drycleaning activities in the state. The South Carolina Drycleaning Facility Restoration Trust Fund Act (Act) was revised in 2004, 2009, and again in 2013. 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 Act provides that monies from the general fund shall not be used for restoration of drycleaning facilities and that all funding sources for cleanup activities must come from the drycleaning industry itself. A description of funding sources is in Section 2.

The S.C. Department of Revenue (DOR) is responsible for drycleaner registration and collection of monies into the Fund. DHEC is responsible for administering the Fund. The Act allows DHEC to pay up to four staff using Fund monies to manage assessment and remediation of drycleaning facilities statewide. Currently, the Fund pays for 3.5 Full-Time Equivalent employees.

The most commonly used drycleaning solvents are organic solvents such as perchloroethylene (PCE, or "perc") and petroleum-based solvents such as Stoddard solvent. There are several reasons for the presence of soil and groundwater contamination at drycleaning facilities. In the past, most drycleaning machines were "transfer" machines, where solvent laden clothes were transferred to a separate machine for drying. This provided an opportunity for solvents to be spilled onto the floor which would then permeate the concrete floor and be released into 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 solvent laden filters were commonly placed on the ground to drain or into trash dumpsters which leaked.

Currently, the Act requires that all drycleaning facilities participating in the Fund use special floor coatings around the drycleaning machines and waste storage area to prevent spilled solvents from permeating through concrete floors. Other requirements include containment pans or dikes for drycleaning machines and waste storage areas.

Drycleaners participating in the Fund are required to certify that their facilities meet the applicable containment requirements every five years. DHEC personnel may also visit facilities participating in the Fund 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 greatly reducing the potential for release of solvents to the environment. Beginning in 2010, the Act required all "perc" drycleaning solvents to be delivered by a "closed-loop" system. A closed-loop delivery system reduces opportunities for spills and vapor loss during refilling by using a special dry-disconnect coupler. The dry-disconnect coupler permits solvent flow and vapor return in one self-contained unit.

Furthermore, there is a growing trend among drycleaners to manage a series of remote "dry-drop" locations. A driver picks up clothes to be cleaned from the "dry-drop" location and brings them to a "wet" drycleaning operation at a single central location. The driver then returns the cleaned clothes to the "dry-drop" location. Finally, the newer drycleaning machines are much more efficient in their use of solvents, reducing the amount of solvent used due to fewer losses to the atmosphere, and reduced disposal costs due to reduced volumes used.

While improvements in industry practices will not remove contamination that has already been released into the environment, these preventive measures will greatly reduce the probability and scope of future releases. This allows the Fund to focus on cleaning up the past environmental releases with the expectation that far fewer new releases will occur.

Eligibility

SECTION 3

Eligibility for the Fund is dependent upon several factors, listed in Section 44-56-470 (B). Revisions to the Act in 2013 allowed an additional 115 facilities to be potentially eligible for the Fund. These facilities were not eligible previously because either the registrants did not have access to the property, or the initial sample did not show evidence of contamination. The revised Act included an application deadline of December 21, 2014, for former and existing facilities.

When the Fund was created in 1995, several hundred drycleaners registered with DOR and applied to DHEC 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 they will not be able to access the Fund if contamination from their facilities is discovered. There are 135 drycleaning facilities that have elected to “Opt-Out” of the Fund. All new drycleaning facilities that opened on or after November 24, 2004, however, are required to participate by paying into the Fund regardless of the type of solvents used which eliminates the opportunity to “Opt-Out” of the fund.

Revisions to the Act 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 to the Act required Opt-Out facilities to obtain a DFEC between July 1, 2009 and December 31, 2009. Both certificates apply uniquely to the registration location and cannot be transferred to a different location.

Prior to the 2013 revisions to the Act, DHEC had performed an investigation at every eligible drycleaning site in South Carolina and found contamination at the majority of these sites. Review of the results of these investigations indicated that groundwater contaminated by drycleaning operations had, in some cases, impacted public or private water supplies. When impacts to drinking water are identified, DHEC immediately takes steps to eliminate the risk of human exposure to contaminants, usually by providing an alternative source of drinking water.

Sufficient funding is not available to address contamination at all sites. Therefore, DHEC prioritizes sites for future work based on actual or potential risks to human health and the environment. Prioritization criteria are outlined in both the Act and in Regulation 61-33, Subpart D. This process is described in greater detail in Section 4 of this report.



Fund Status & Five-Year Funding Projection

Funding Sources

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

- Annual registration fees;
- Surcharges on drycleaning solvents;
- Facility deductibles, which range from \$1,000 to \$25,000; and
- A one percent surcharge on the gross proceeds of retail sales of laundering and drycleaning services, which has been in place since FY05.

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 four employees pay \$750 per year, those with five to 10 employees pay \$1,500 per year, and those with 11 or more employees pay \$2,250 per year. Currently, 131 operating drycleaning facilities in South Carolina are paying into the Fund. According to the S.C. Department of Revenue (DOR), the annual registration fee revenue for FY22 was \$172,345.51.

Solvent surcharges are \$10 per gallon for halogenated solvents, such as PCE, \$2 per gallon for

non-halogenated drycleaning fluids such as Stoddard solvent or Green Earth solvent, and \$0.25 per pound for non-liquid drycleaning agents. According to DOR, the solvent surcharge revenue for FY22 was \$40,728.92.

Deductible amounts are assigned to a facility based on the date the eligibility application was submitted to DHEC. The Act initially offered a \$1,000 deductible for facilities submitting an application by November 24, 2005, as an incentive to quickly bring existing or former facilities into the Fund. Existing or former drycleaning facilities submitting an eligibility application after November 24, 2005, have a deductible of \$25,000. New facilities starting operations on or after November 24, 2004, have a deductible of \$25,000.

A one percent surcharge on retail sales of laundering and drycleaning services is collected at the point of sale, regardless of whether the store is a “dry-drop” or has a drycleaning machine on site. This surcharge produces most of the revenue for the Fund. The one percent surcharge is in addition to the five percent sales tax collected at the point of sale which goes to the S.C. General Fund. According to DOR, the one percent surcharge revenue for FY22 was \$529,970.65.

New technology has the possibility of dramatically changing the drycleaning industry. The new

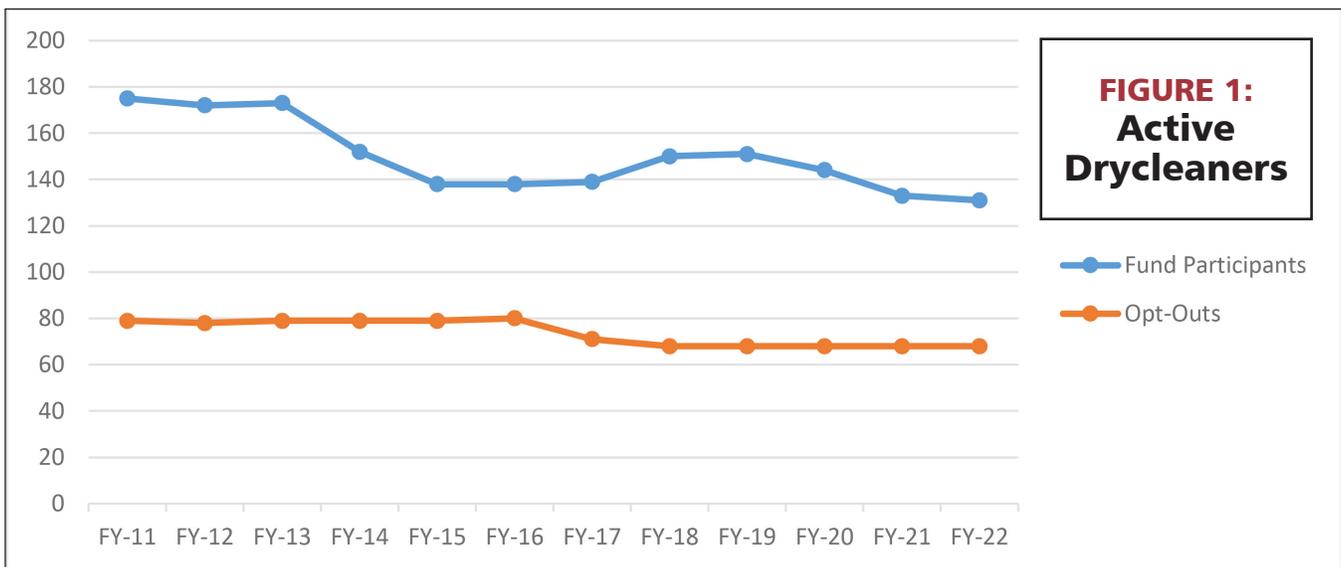


FIGURE 1:
Active Drycleaners

technology does not involve the use of traditional solvents, like perc or Stoddard, but only uses water, special soaps, and specialized machines. When the specialized machines replace the old drycleaning equipment, it is no longer a “drycleaner” because there are no solvents being used to clean clothes. However, a facility location that continues to be covered by the Fund and uses the specialized machines would still be required to collect the one percent sales fee.

In FY22, combined revenue was \$743,045.08 as compared to \$649,540.36 in FY21. The historical revenue trend shows revenue to the Fund declined steadily from a high in 1997 until 2003 when the one percent surcharge on retail sales of drycleaning services was implemented (Figure 2). With the exceptions of FY10 and FY15, revenue has generally declined since FY07. Based on the trend, FY23 revenue is estimated to be no more than \$700,000.

The cumulative revenue from the inception of the program through the end of FY22 is \$27,984,211.17 and the cumulative expenditures are \$26,161,824.94 (Figure 3). The opening balance for FY22 was \$1,936,581.17. FY22 revenue was \$743,045.08, and expenses were \$857,240.02. The closing balance for FY22 was \$1,822,386.23. Allowing for outstanding commitments of \$735,931.17, the uncommitted Fund balance on June 30, 2022 was \$1,086,455.06 (see Table 1). The Fund is managed to retain

approximately \$750,000 for emergency corrective actions.

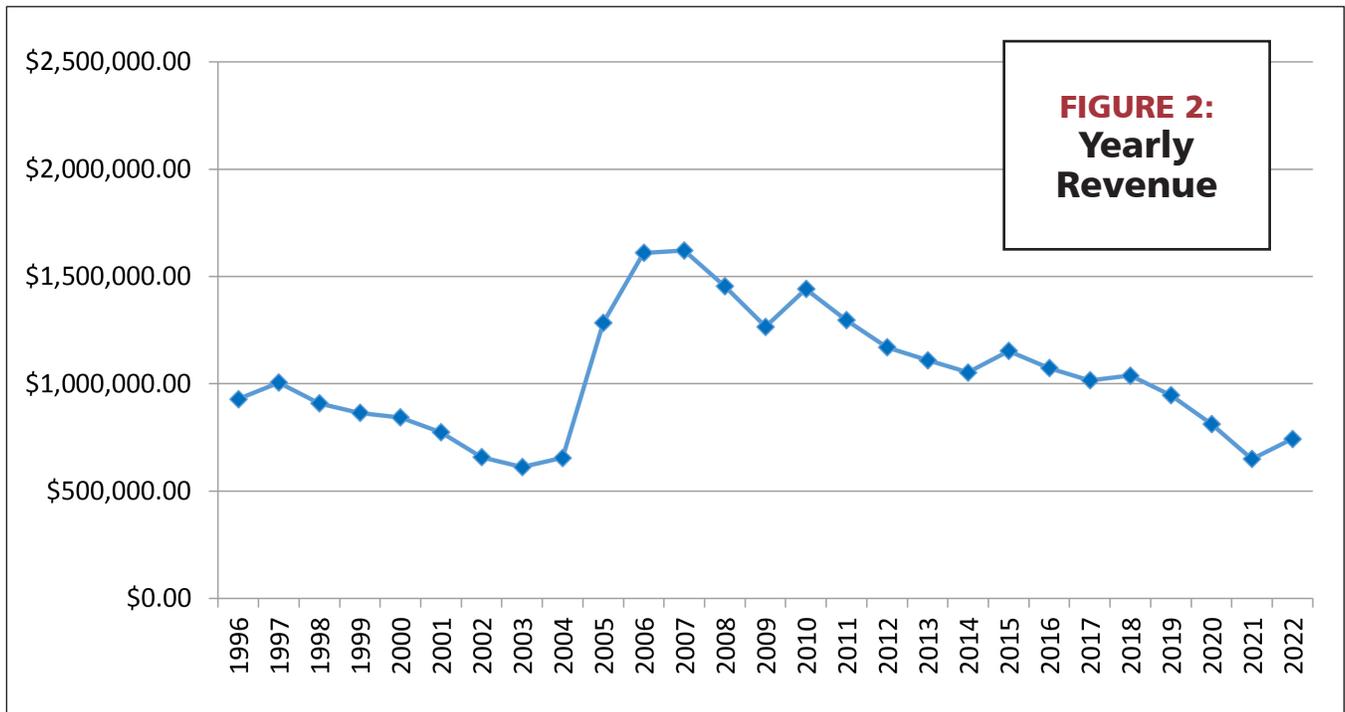
Project Inventory

There are a total of 380 eligible sites where DHEC may obligate Fund monies for assessment and remediation. Drycleaners that are registered pay the fees and taxes into the fund regardless of whether a complete eligibility application has been submitted. DHEC did not make any No Further Action (NFA) determinations in FY22. The current total of NFAs is 163 sites, leaving 217 sites where some level of additional work is anticipated.

Complete Cleanup Costs

To completely clean up groundwater, soil, and indoor air to their corresponding Maximum Contaminant Level (MCL) or Vapor Intrusion Screening Level (VISL) levels on the remaining 214 eligible sites, an average cost of \$500,000 will be required per site. This brings the total amount needed for complete cleanup to \$107,000,000.

However, almost all drycleaning facilities are located in heavily-developed areas which have few pathways for risk of exposure to contamination. Therefore, to ensure protection for human health and the environment, while maintaining maximum stewardship of the Fund, DHEC implements remediation to risk-based cleanup goals.



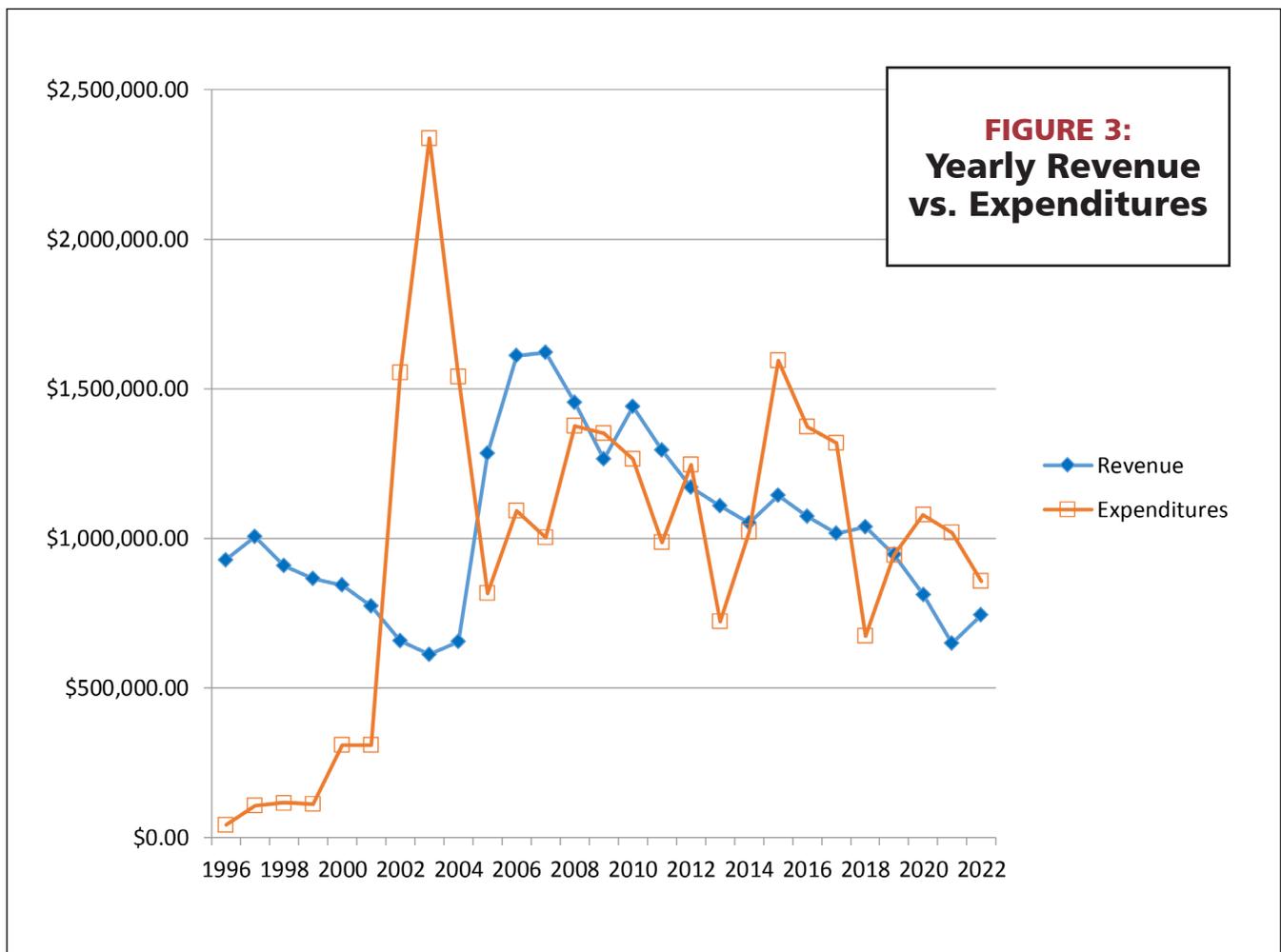
Assessment Costs

During FY22, a full delineation assessment, or Detailed Facility Investigation (DFI), was completed at three of the 217 sites. There are still 214 sites that require some level of assessment. The Program has addressed 100 percent of the sites that are known to require a DFI investigation. Even though unlikely, it is possible that additional DFI investigations will be conducted in the future. The costs for DFI have ranged from \$51,000 to \$477,000 per site with an average cost of \$174,318. The average cost of 10 DFIs completed over the last five years was \$73,255. This reduction in the average assessment cost compared to previous years is attributed to more streamlined investigation processes that have been developed and utilized based on past experiences and lessons learned. As technologic advancements continue to evolve, and management practices improve, the per-site assessment costs continue to decline. We estimate that in the coming year, the average assessment cost can be kept near \$56,000 per site

and that the remaining 214 sites could require some level of assessment. Based on these assumptions, projected funding of \$11,984,000 will be needed for assessment of the balance of eligible sites. The total amount for assessments has slightly increased since last year. This is due to more sites being investigated and additional assessments required. However, the assessment costs remain similar to previous years. This estimated future funding amount has not been adjusted for inflation.

Remediation Costs

Once sites are fully assessed, they will be classified as needing either an Active Remedial System, a Limited Removal Action, or NFA. NFAs are only issued to clean sites or sites with such low levels of contamination that they are not expected to impact human health or the environment. Long-term monitoring requires periodic sampling to document the contamination is not expanding and is decreasing over time. Limited Removal Actions (LRA) include removal of



highly contaminated soil, passive remedies, and institutional controls that enhance cleanup and reduce expenditures while protecting human health and the environment. Active Remedial Systems (ARS) include pilot studies and cleanup system design and installation, and may include vapor intrusion mitigation/remediation systems, groundwater recovery wells, carbon filtration units, monitoring, and operations and maintenance in order to reduce risks and reach cleanup goals.

The projection of remediation funding needs is based on historic patterns where 37 percent of sites received NFA determination following assessment, 20 percent of sites required limited removal, and 25 percent of sites required active remediation. The average cost of LRAs to date is \$66,668 per site. The average cost of ARSs to date is \$500,000 per site. Using the assumption that historic patterns will diminish in the future, the projected funding need estimates for assessment and remediation are compiled in Table 1.

Future Liabilities

Based on expenditures to date and the projections in Table 1, DHEC estimates that a total of approximately \$21 million will be required to conduct risk-based

WORK	SITES	ESTIMATED COST/SITE	SITE TOTAL COST
Full Assessment	10	\$90,000	\$900,000
Assessment/Monitoring	214	\$56,000	\$11,984,000
NFA	163	Work Complete	\$0
Limited Removal at 5% of 214	11	\$66,668	\$733,348
Indoor Air Remediation at 25% of 214	54	\$100,000	\$5,400,000
Groundwater/Soil Remediation	4	\$500,000	\$2,000,000
			\$21,017,348

assessment and remediation of all eligible sites. This is a reduction of \$1,500,000 from the FY21 estimate realized by innovations in remediation methods and a decrease in the percentage of sites requiring active remediation. This estimated future funding amount has not been adjusted for inflation.

Five-Year Funding Projection

The revenue projection for FY23 is \$700,000, based upon DOR receipts through June 2022 (Table 2). The projected revenue to the Fund for the next five years is expected to remain at approximately \$800,000 per year.

FISCAL YEAR	REVENUE	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	\$1,109,546.43	\$721,003.50
2014	\$1,052,666.79	\$1,021,339.51
2015	\$1,153,199.80	\$1,594,982.97
2016	\$1,073,528.33	\$1,371,967.90
2017	\$1,015,634.34	\$1,319,952.90
2018	\$1,038,221.51	\$673,964.35
2019	\$946,282.11	\$942,976.09
2020	\$812,595.27	\$1,079,719.73
2021	\$649,540.36	\$1,019,922.01
2022	\$743,045.08	\$857,240.02
2023	\$700,000.00	\$700,000.00

Recent Activities

Investigation Activities

DFIs were completed on three sites in FY22. Vapor Intrusion Pathway (VIP) investigations were completed on 13 sites. The Drycleaning Program had completed sub-slab soil/gas and indoor air sampling on all qualified sites by the end of FY22. Expanded Initial Assessments (EIA) were conducted on two sites in FY22.

Remediation Activities

During FY22, DHEC conducted remedial work at 68 sites. A total of 1,338.66 pounds of PCE were removed in FY22. Chloroform gas has been removed at 10 sites using Ultraviolet Air Purifier (UVAP) systems. The program continues remedial activities on these and other sites.

Monitoring

Full DFI assessments were completed at three sites in FY22, but site conditions do not meet NFA criteria. However, based on risk evaluation criteria, conditions at these sites do not warrant substantial fund expenditures. Therefore, the sites will be sampled on a periodic basis, generally every two to three years, to continue monitoring site conditions for risk evaluation. During FY22, groundwater and/or surface water quality monitoring was completed at eight sites and work was in progress on 25 sites.

No-Further-Action Sites

DHEC has made NFA determinations at a total of 163 sites where investigation has determined that drycleaning contaminants are not present at levels that require additional assessment or remediation. Provided that these facilities continue to meet the requirements of the Act, they remain eligible if evidence of contamination is discovered in the future.

Alternative Water Supplies

The Fund will provide safe drinking water to any residence or business impacted by a participating drycleaning site. No sites required an alternative water supply in FY22.

Containment Certification

To qualify for the Fund, containment measures are required in all areas where drycleaning solvents are used or stored for operating drycleaning facilities. Containment measures may include impermeable pans of sufficient capacity under drycleaning machinery, sealing concrete floors with epoxy paint, etc.

This topic is addressed in greater detail in "Drycleaning Containment Guidelines," which may be found on the drycleaning program website. See Section 6 for the weblink.

Operating drycleaning facilities self-certify containment measures every five years [44-56-480(A)] to ensure that containment remains effective. Failure to comply with the containment requirements constitutes gross negligence which may impact site eligibility for the Fund [44-56-480(D)].

DHEC does not routinely conduct containment inspections but may inspect facilities on a case-by-case basis. The containment certification mail-out occurred in FY18, and 97 percent of certifications were received by FY19. The next mail out is due in FY23.

Form Revisions

The Drycleaner Eligibility Application form was last revised in May 2005. Revisions to the Act in 2013 eliminated portions of that application form.

The Eligibility Application form (DHEC 3469) was updated in July 2014 to match the revised Act and includes fillable form fields.

Revisions of the Regulations

The revisions to the Act in 2013 removed certain requirements of drycleaning facilities and property owners to participate in the Fund. Based on the revisions to the Act, DHEC – working with the Drycleaning Advisory Council – revised Regulation R.61-33 and it became effective on May 26, 2017. Regulation R.61-63 has not been revised since 2017.

Prioritization

SECTION 6

DHEC prioritizes sites for future funding based on available assessment information. The Funding Priority system categorizes sites into one of five groups and is designed to identify sites which require immediate action to eliminate the risk of actual human exposure or to prevent imminent exposure to environmental contamination.

While the Funding Priority Group System categorizes sites broadly, it does not prioritize individual sites within each Group. Currently, all eligible sites have been evaluated using this system. The Group list is posted on DHEC's website at scdhec.gov/environment/lw/drycleaners.

Public Participation

SECTION 7

One of DHEC's goals for the Fund 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 voice any concerns 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. Sharing such important information can aid DHEC's understanding of the site and influence remedial decisions.

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.

Residents are encouraged to call the program's toll-free number – 1-866-343-2379 – if they have further questions.

When DHEC 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. DHEC 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, DHEC will ensure that those impacted have access to an alternate source of drinking water until an effective remedy to exposure is in place.

DHEC distributes information about sites and upcoming remediation activities to the public via legal notices in local newspapers, the DHEC website public notice page, and letters to area residents, local government officials, and locally elected members of the S.C. General Assembly. DHEC schedules a public meeting at a location near the drycleaning site and advertises the time and place in a legal notice.

DHEC also sends individual letters to those in the vicinity of the site. At the meeting, a DHEC



