Final Project Report

Strategically Directed Regulatory Structure Project

Texas Commission on Environmental Quality

State Innovations Grant Program
Draft Final Report for FY 04-06
EPA Grant AA#97670401-01

September 28, 2007

Submitted by

David James
Small Business and Environmental Assistance Division

Table of Contents

Chapter 1: Introduction and Executive Summary

This report provides an analytic review of grant related activities -- processes, obstacles and outcomes – for EPA State Innovations Grant – Strategically Directed Regulatory Structure (EPA AA#97670401-01) project. The report should give other states insight for implementing their own in innovative programs.

Drivers

The state of Texas, through the Texas Commission on Environmental Quality (TCEQ), received financial assistance from the Environmental Protection Agency (EPA) to fund innovative permitting activities. The funded work contributed to the implementation of House Bills (HBs) 2912 and 2997 from the 77th Texas Legislature in 2001. HB 2912 mandated the creation of a "Strategically Directed Regulatory Structure" (SDRS) to support innovative programs and promote performance-based regulation. HB 2997 requires TCEQ to develop regulatory incentives for implementing Environmental Management Systems (EMS).

Work Areas

Generally, work under this grant was divided into the following categories:

- Integrating EMS into permitting and encouraging improved environmental performance via incentives as allowed under the SDRS required by Texas law;
- Conducting training; and
- Measuring and evaluating results.

Results

This grant supported work related to the Clean Texas program. The key results from this work include:

- Established partnership with the TCEQ Office of Permitting, Remediation and Registration (OPRR) to explore options for integrating EMS into permits;
- Established agreement to offer expedited permit review for sites with a TCEQ approved EMS;
- Facilitated use of a flexible air permit that involves an EMS;
- Conducted expedited permit reviews for several sites with TCEQ approved EMS;
- Developed an EMS alternative to traditional site operating plans for landfills;
- Offered more flexible permit conditions to a site with a TCEQ approved EMS
- Conducted nine EMS trainings;
- Hosted the State Innovations Grant Conference in 2005;
- Integrated EMS into on-going training and outreach opportunities provided by TCEQ such as Environmental Trade Fair.

Lessons Learned

Chapters Four and Five detail the TCEQ experience in our first stages of exploring innovative permitting activities, particularly related to EMS. In summary, the presence of a TCEQ approved EMS has been accepted as a basis for offering increased flexibility on a case-by-case basis. However, up to this point, the review of each case has been resource intensive. If more sites implemented innovative programs and sought incentives, we anticipate the review process would become more routine and efficient.

Chapter 2: Process

Objectives and Tasks under the Grant

In the final work plan for this grant, dated April 7, 2004, TCEQ and EPA agreed that the Small Business and Environmental Assistance (SBEA) Division would pursue several different avenues to meet the overall goal of exploring innovative programs, including Environmental Management Systems (EMS), permitting and incentives. These efforts also involved participation of the TCEQ Office of Permitting Remediation and Registration (OPRR).

Table 1 shows the specific language for the objectives, tasks, and deliverables in the final work plan. The activities undertaken for each of these work areas will be described in this chapter.

Table 1: Grant Objectives, Tasks, and Deliverables

Objectives	Tasks	Deliverables
1: STRATEGICALLY DIRECTED REGULATORY STRUCTURE (SDRS) This objective will: 1) support the development of the SDRS in partnership with EPA; 2) support the development of permitting incentives for entities participating in Clean Texas/ National Environmental Performance Track; 3) measure and communicate results to state, regional and national partners.	1.1 Identify potential types of permits to integrate EMS activities and incentives 1.2 Work with agency staff to integrate EMS into the permitting programs via an internal workgroup 1.3 Conduct at least one pilot project under the Strategically Directed Regulatory Structure interim rules and final rules by September 1, 2005	Final Strategically Directed Regulatory Structure rule EMS permitting integration workgroup and identification of permitting opportunities At least one pilot permitting project
2: INNOVATIONS AND ENVIRONMENTAL MANAGEMENT SYSTEMS TRAINING	2.1 Conduct at least two EMS permitting training workshops 2.2 Integrate innovations and EMS into annual Conference	Two EMS Permitting training events Annual CLEAN TEXAS-CLEANER WORLD Conference
3: PERFORMANCE EVALUATION	3.1 Conduct grant evaluation to document project results, including emissions reductions and cost savings 3.2 TCEQ will utilize the performance metrics established under the National Environmental Performance Track. TCEQ will conduct the appropriate quality assurance on the data collection.	None Identified

Background on TCEQ Innovative Programs

In 1991, the Texas Legislature passed the Waste Reduction Policy Act (WRPA), which called for a statewide, multi-faceted program to prevent pollution and improve the environment in Texas. The mandate was to involve not only major industries, but also small businesses, schools, local governments and individuals. Clean Texas 2000 was created to implement the pollution prevention (P2) component of this mandate.

Clean Texas 2000 was launched in April 1992. Clean Texas 2000 included eight separate activity areas, with Clean Industries 2000 being the one that evolved into the current Clean Texas program. Clean Industries 2000 was a voluntary membership program in which industrial facilities agreed to go beyond what state and federal laws required. A 1993 report to the Texas Legislature notes that 76 Clean Industries 2000 members had committed to:

- At least a 50 percent reduction in hazardous waste and/or toxic releases (from 1987 levels) by the year 2000;
- An internal system to make sure each facility was obeying state and federal environmental laws;
- Creation of a citizens advisory committee in the community where the facility is located; and
- Sponsoring a community environmental project.

In 2000, the program transitioned to the simplified name of Clean Texas. In a December 2000 report to the Texas Legislature, TCEQ notes that there were 193 members of the Clean Texas program, with these environmental results since the program's inception:

- TRI releases and disposal were reduced by 50 percent from 1988 to 1997, which accounted for 80% of statewide reductions;
- members had sponsored 578 community environmental projects;
- 198 citizen communication programs had been established.

In 2001, the Texas Legislature required that the TCEQ develop SDRS to implement performance-based regulations via EMS. In December 2001, TCEQ adopted rules to encourage the voluntary use of EMS. In August 2003, TCEQ adopted an interim rule to guide how SDRS would provide a framework for existing and new innovative programs.

Under the original SDRS statutory language, any organization wanting to tap into incentives was required to show that its practices are more protective of the environment and public health than current standards. The TCEQ was also required to consider a site's compliance history in making incentives available. Qualifying sites may receive technical assistance and regulatory incentives.

In 2001, TCEQ also established a stakeholder group, the Environmental Performance Partnership (EPP) to provide on-going input on the SDRS/EMS program (now incorporated into Clean Texas). Go to www.cleantexas.org and select "Environmental Performance Partnership" from the left sidebar for more information on stakeholder input into TCEQ's EMS, SDRS, and Clean Texas activities.

From 2001 until work under this grant began in mid-2004, TCEQ had numerous activities such as trainings, mock audits, and pilot projects to increase awareness of how EMS can be used to improve environmental performance. During fiscal years 2004 and 2005, the program name was briefly changed to Clean Texas – Cleaner World. The name was simplified to Clean Texas again in late 2005.

In 2005, TCEQ also submitted to the 79th Texas Legislature a required report outlining implementation of the SDRS program. See Attachment 1 for a copy of the report. No further interactions with the Legislature have occurred in relation to the SDRS or Clean Texas programs.

SDRS, EMS and Permitting

In 2004, the TCEQ began internal meetings to discuss options for encouraging the use of EMS via the process of issuing authorizations as well as possibilities for incorporating EMS into permit conditions. The TCEQ did not identify any types of permits that are inappropriate for an EMS. These meetings also lead to a joint approach to:

- Training permit staff on EMS; and
- Allowing expedited permitting for members of Clean Texas with TCEQ approved EMS, as documented in a 2005 memorandum of agreement.

Based on TCEQ's experience of being able to offer incentives as envisioned under the SDRS using a memorandum of agreements – a memorandum of agreement was also used to allow incentives related to investigations for sites with TCEQ approved EMS – TCEQ management decided that a formal rule was not needed to implement the SDRS mandate. Instead, TCEQ determined that the goals of the SDRS were being met via the Clean Texas program and other more narrowly focused regulatory flexibility programs, such as plant-wide air permits. See Attachment 2 for a copy of these two memorandums of agreement.

Engaging Potential Innovative Program Participants

While TCEQ does have several more narrowly focused innovative programs to offer flexibility to the regulated community, for purposes of this report, we will focus on the Clean Texas program, as it is the only one included in the grant work plan. Participant feedback indicates that members join Clean Texas for a variety of reasons. The TCEQ has two programs that draw the attention of potential members:

- The Site Assistance Visit program; and
- Pollution prevention (P2) planning requirements and workshops.

Under WRPA, large and small quantity generators of hazardous waste and Toxics Release Inventory (TRI) Form R reporters are required to:

- prepare a five-year P2 Plan;
- submit an Executive Summary of the P2 Plan; and
- report annually on their activities to prevent pollution.

To help sites meet the P2 planning and reporting requirements, TCEQ offers workshops that:

- explain the requirements;
- use case studies from industry experts in the private sector;
- give updates on changes and trends related to the Toxics Release Inventory; and
- lead attendees through practical hands-on exercises that are based on real-world examples.

The site assistance visit program, begun in 1990 under WRPA, provides technical assistance to operations interested in reducing pollution, saving money, and increasing compliance. Site assistance visits are not compliance inspections and are confidential.

During a site assistance visit, SBEA personnel provide site specific P2 suggestions and disseminate information on technologies and solutions for reducing environmental impacts. Since the program's inception, over 500 site assistance visits have been performed; helping Texas companies save nearly $1 billion in energy, operating and environmental compliance costs. Site assistant visits have provided assistance to industry sectors that pose high risks to the environment such as foundries, Department of Defense sites, manufacturing, paint shops, and petrochemical operations. The site assistance visit program has also grown to encompass innovative technologies in pollution prevention, waste reduction, energy and water conservation, and EMS.

Most members arrive at Clean Texas membership by proceeding to increasingly deeper levels of commitment to innovation – starting by attending a workshop on P2 planning to meet a compliance requirement; then participating in a site assistance visit; and finally making the commitment to beyond compliance activities as required to join Clean Texas.

Incentives Considered and Tested

When the Clean Texas program began, the incentives available to participants were recognition and a single point-of-contact to facilitate interactions with the agency. These incentives have stayed in place over the life of the program. With the introduction of the SDRS as law, TCEQ gained the opportunity to provide regulatory incentives – alternative requirements that may conflict with existing rule or TCEQ policy – for sites that meet certain criteria related to compliance history and EMS.

The EPP stakeholder group was used to identify incentives of interest to potential Clean Texas members. For the most current list of Clean Texas incentives, go to www.cleantexas.org. This site also shows incentives that have been considered and could not be implemented. While numerous different types of incentives were suggested by the EPP and evaluated by TCEQ, for purposes of this report, we will focus on incentives related to permitting, as they are the ones included in the grant work plan.

Clean Texas members utilized several permit related incentives during the grant timeframe:

- Several members received expedited review of a permit amendment or renewal – this report will focus on Huntsman Freeport and Applied Materials Austin as activities related to these sites were included under this grant;
- 3M Brownwood received a flexible air permit; and
- The Strategic Petroleum Reserve received alternative monitoring requirements for permit conditions at their request.

One other permit related incentive has been made available to landfills with a TCEQ approved EMS (the site need not be a member of Clean Texas). To-date no site has taken advantage of this opportunity.

Strategic Petroleum Reserve

In May 2005, the Strategic Petroleum Reserve became one of the first sites to reach the highest level of participation in Clean Texas. To be approved at this level, the Strategic Petroleum Reserve had undergone a rigorous on-site audit of their EMS and demonstrated environmental performance that goes beyond compliance.

In tandem with their recognition as a Clean Texas member, Strategic Petroleum Reserve was granted two regulatory incentives as authorized by Title 30 of the Texas Administrative Code, Subchapter 90.40 and the Texas Water Code 5.127(d). The two specific incentives approved relate to:

- Biennial monitoring frequency, and

- Expedited review to amend existing permits to flexible permits.

One requested incentive related to fees for water appropriations was not approved due to statutory constraints. More detail on these incentives is provided below.

Biennial Monitoring Frequency

Strategic Petroleum Reserve was allowed to reduce the monitoring frequency of its fugitive monitoring program from annual to biennial. This incentive is provided on the basis of the Strategic Petroleum Reserve's historical exemplary performance with regard to fugitive monitoring. With exceptionally few leaks and rapid repair of those identified facilities at the subject sites demonstrated fugitive emissions at lower actual rates than predicted by the EPA emission factors for equipment leak fugitive components. The Strategic Petroleum Reserve is required to continue using 28MID emission factors, conduct weekly visual inspections, and apply current tagging and repair criteria and practices. The incentive is contingent upon the Strategic Petroleum Reserve's status in Clean Texas. Any lapse in this status will revoke this incentive and re-instate the conventional monitoring frequency (i.e., quarterly) associated with the 28MID LDAR.

Expedited Review to Amend Existing Permits to Flexible Permits

The Strategic Petroleum Reserve's air permit amendments were allowed an expedited review. This incentive involved a prioritized review schedule and experienced permit review staff to ensure optimized project management.

Water Appropriations

The Strategic Petroleum Reserve requested the ability to adjust its water appropriation to a rate consistent with its standby status, and pay fees accordingly. The present fee is based on the water required to conduct several full presidential draw downs over the life of the Strategic Petroleum Reserve, none of which have occurred to date. This creates a situation where the tidal waters appropriated by the Strategic Petroleum Reserve are many times in excess of its standby annual consumption. Should a Strategic Petroleum Reserve drawdown occur, the TCEQ would be notified and the annual fee could be adjusted upward in accordance with any excess water usage. Total amount allocated should remain the same to support the mission. The tidal water used is brackish coastal zone water downstream of any other industrial or municipal users. This request was denied because adjusting fee rates would require legislative action to create statutory changes regarding how fee rates are set.

Public Involvement and Participation

Under the very prescriptive laws in Texas related to public notice for permitting, the TCEQ was not in a position to offer alternative forms of public involvement or participation on this case or any of the other permit related cases. However, in order to become a Clean Texas member at the platinum level, at which the most extensive options for regulatory incentives exist, a site must meet certain requirements related to stakeholder involvement. See Attachment 3 or go to www.cleantexas.org for more detail.

Applied Materials

As a long standing Clean Texas member, the Applied Materials site in Austin was one of the first to see the expedited permitting incentive through to completion. Previous experience at the site indicated that permit renewals usually take six to eight months. When TCEQ received their permit renewal in June

2005, it was assigned to a senior permit writer and given "top of the stack" attention to expedite the process. Even with this special attention, the renewals took almost seven months, in part due to statutorily mandated public notice requirements.

As part of this permit renewal, Applied Materials added several unique industrial gasses to its air permit allowable emissions table. This involved some specialized review by the TCEQ Air Permits Division. The renewed permit covers all the air emissions from the manufacturing and testing operations in Austin.

Huntsman Freeport

One site that moved quickly through the stages of EMS development, auditing, becoming a Clean Texas member and utilizing a regulatory incentive was Huntsman Chemical of Freeport, Texas.

In 2005, the TCEQ began conversations with Huntsman about EMS and the Clean Texas program. In response to their interest, SBEA provided two EMS trainings designed especially for Huntsman in early 2006. One session was conducted for corporate staff and one for plant level staff.

In May 2006, Huntsman was one of ten new Clean Texas members recognized at the Texas Environmental Trade Fair, one of the largest environmental conferences held nationally. Huntsman joined Clean Texas at the gold level, with a TCEQ approved EMS, and was therefore eligible for regulatory incentives.

In June 2006, SBEA staff facilitated a discussion between Huntsman Freeport and OPRR staff. In accordance with the memorandum of agreement regarding qualified Clean Texas members, OPRR provided Huntsman close collaboration on an expedited review of their permit amendment. The permit amendment:

- changed a monitoring method for volatile organic compounds on one emission point in a cooling tower; and
- eliminated permit conditions that were no longer relevant to the site.

Through this process, Huntsman was able to resolve an issue that had been under discussion with TCEQ for 8 years regarding the validity of a test method for measuring cooling tower volatile organic compound emissions. As a Clean Texas member, Huntsman was eligible to have SBEA facilitate a meeting with OPRR. At this face-to-face meeting, SBEA helped the two sides reach an agreement on this long standing issue.

As with Applied Materials, the prescriptive Texas laws on public notice for permitting prevented the use of alternative forms of public involvement or participation for Huntsman.

3M Brownwood

In March 2004, 3M Brownwood submitted an application for a "flexible permit." TCEQ had allowed flexible permits in limited circumstances under existing law as an incentive separate from the Clean Texas program. The flexible air permit application requested the ability to make predefined changes without having to contact the TCEQ. Some of these changes include: adding a new line, a new press, or parts washer.

The facility joined the National Environmental Performance Track Program in 2001.

In February 2005, the OPRR engineer responsible for reviewing the 3M flexible permit application joined SBEA on an EMS audit of the Brownwood site. Since the site is complex, the EMS audit provided the permit writer an opportunity to learn firsthand about their operations, which has assisted in processing the permit. The permit writer's expertise also helped the EMS audit, specifically with air impacts and compliance assurance.

In May 2006, 3M Brownwood was recognized as a member of Clean Texas at the platinum level.

The TCEQ issued a final flexible air permit to 3M Brownwood in June 2006. The permit allows for chemical flexibility, construction flexibility, and plant wide applicability limits.

To request a copy of the 3M Brownwood flexible permit, go to www.cleantexas.org and click on "Contact Us."

Landfill Site Operating Plans

In March 2006, TCEQ adopted a rule allowing a landfill that has a TCEQ approved EMS to use the EMS as their site operating plan (Title 30, Texas Administrative Code, Chapter 330). The Municipal Solid Waste (MSW) Permitting Division used SBEA's EMS guidance document to design and support this new policy. This policy encourages MSW facilities to implement an EMS and provides more flexibility than the site operating plan requirements.

The specific rule language for this policy is:

> Subchapter B, Section 330.65. Contents of Part IV of the Application.
> (b) A facility that has an environmental management system that meets both the minimum standards described in '90.32 of this title (relating to Minimum Standards for Environmental Management Systems) and the United States Environmental Protection Agency's National Environmental Performance Track Program standards and is approved to operate under an environmental management system in accordance with '90.36 of this title (relating to Evaluation of an Environmental Management System by the Executive Director), is not subject to site operating plan requirements while the authorization to operate under the environmental management system remains in place. In the event the executive director terminates authorization to operate under an environmental management system, the facility will comply with the site operating plan requirements within 90 days.

In the process of developing this new policy, TCEQ performed two EMS audits of landfills – one at a city-owned landfill and one at a privately-owned landfill. The audits were conducted in July 2004 and August 2004.

Since this policy change was made via rule making, TCEQ followed standard notice and comment rulemaking procedures. In addition, the proposed change was presented to the EPP and another standing advisory group, the Municipal Solid Waste Advisory Committee.

To-date, no landfills have taken advantage of the EMS option instead of the site operating plan. However, we anticipate that some landfills will explore this option as they face permit renewal requirements.

Training Activities

In late 2004, SBEA provided briefings on the Clean Texas program and EMS for the TCEQ executive management team. In 2005, SBEA also provided EMS training to TCEQ staff in the permitting and enforcement program areas, as well as investigators in the TCEQ Houston and Dallas regional offices.

In 2006, TCEQ held several training events designed to help companies meet or exceed their permit and other compliance requirements and to enhance environmental performance via an EMS. Many of these workshops were targeted to companies in the Houston and Beaumont areas. The companies invited were specifically targeted based on their environmental impact.

Several EMS workshops were conducted for regulated entities in Houston and Dallas-Fort Worth. Some of the sessions in the Dallas-Fort Worth area focused on EMS possibilities for local governments, including four briefings for city management to introduce EMS concepts and how EMS can help cities meet regulations. Follow up sessions on EMS implementation were also conducted for city staff. These sessions focused specifically on helping the cities meet the Municipal Separate Storm Water Sewer System rule.

One additional session was targeted to Toyota (who was building a new plant) and their suppliers in San Antonio. This session focused on pollution prevention, waste minimization, and compliance enhancement.

All these training sessions were open to the public and publicized via the EPP and the TCEQ web page.

Most of these training events were conducted by a contractor, ERM/CVS. Under the contract, ERM/CVS held the intellectual property rights for the training materials. As such, the materials used in the actual training events are not available for inclusion in this report. However, TCEQ has produced three guidance documents that describe the components of a performance based EMS and the steps to putting an effective EMS in place. States interested in teaching sites how to implement an EMS should review the following TCEQ publications:

- A Model Environmental Management System for Local Governments;
- A Guide to Developing an Environmental Management System for a Small Business; and
- A Model Environmental Management System for a Small Business: Metal Finisher.

These publications can be ordered from TCEQ at http://www.tceq.state.tx.us/comm_exec/forms_pubs/.

Chapter 3: Outcomes

The activities conducted under this grant were varied and complex. As such, there are many different aspects to be considered in evaluating these activities.

For the permitting tasks (1.1 and 1.2), TCEQ has granted expedited permit reviews to several sites with TCEQ approved EMS. The TCEQ is not able to quantify the amount of time or money saved by the participants as a result of these expedited reviews because the cases are not typical and therefore a site operating permit review timeframe is not available. The on-going partnerships forged between TCEQ programs continue to create options for innovations in permitting and improved environmental performance for regulated entities.

For the SDRS pilot task (1.3), the flexible air permits issued to 3M Brownwood is the primary outcome. This pilot resulted in providing experience to TCEQ staff that will aid in continuing efforts to provide flexibility in permit conditions and reporting based on EMS. In particular, TCEQ used a joint visit to the site (EMS auditor and permit writer) to create joint understanding of the site, and to forge a partnership for both EMS and permit review. This joint action was more efficient and sustainable than separate or parallel EMS/Permit action.

For the training and conference related tasks (2.1 and 2.2), the outcomes include increased understanding of EMS and improved performance at participating sites. Through these trainings and conference tracks, TCEQ reached hundreds of environmental professionals throughout Texas. Approximately 500 people attended these training events during the grant. The TCEQ showcased EMS, training, and support leaving a legacy of interest even to the present time.

All the tasks under this grant supported aspects of the Clean Texas program. Results from Clean Texas members are partially attributed to grant funded actions, especially training and conference tracks. In Tables to follow (Tables 2, 3 and 4) environmental results of Clean Texas members from the grant period are listed. These tables show cumulative results of some quantifiable measures which can be directly or indirectly attributed to the changes mindset and management practices of many Texas facilities impacted by be TCEQ outreach and training under this grant.

Table 2 FY 2004 Clean Texas Member Environmental Results

Environmental Improvement	Unit	Quantity Reduced	Savings
Brownfield Use Increased	acres	0.90	
Discharges of Toxics to Water Reduced	tons	7.65	
Emissions of Carbon Monoxide (CO) Reduced	tons	14.77	
Emissions of NOx Reduced	tons	235.80	
Emissions of Ozone-Depleting Gases Reduced	tons	10.05	
Emissions of Particulate Matter (PM) Reduced	tons	8.60	
Emissions of Sulfur Dioxide (SO2) Reduced	tons	101.46	
Emissions of Volatile Organic Compounds Reduced	tons	215.48	$43,900
Energy Conserved	KWh	36,819,461.64	$2,015,571
Habitat Restoration Increased	acres	40.30	$157,500
Hazardous Waste Reduced	tons	3,542.73	$777,829
Materials Composted	tons	8,041.37	$11,165
Materials Conserved	tons	15,469.19	$190,735
Nonhazardous Materials Recycled/Reused	tons	13,303.54	$864,954
Nonhazardous Waste Reduced	tons	2,745.42	$17,930
Recycled/Reused Materials Used	tons	4,019.80	$1,933,750
Water Conserved	gallons	663,912,404.69	$855,033
Total Dollars Saved			**$6,868,368**
Total Emissions and Waste Reduced	**tons**	**47,715.85**	

Table 3 FY 2005 Clean Texas Member Environmental Results

Environmental Improvement	Unit	Quantity Reduced	Savings
Discharges of Total Suspended Solids to Water Reduced	tons	43,020.00	$0
Discharges of Toxics to Water Reduced	tons	5,365.05	$15,000
Emissions of Carbon Monoxide (CO) Reduced	tons	70.00	$2,000
Emissions of NOx Reduced	tons	209.21	$1,000
Emissions of Ozone-Depleting Gases Reduced	tons	5.13	$2,000
Emissions of Sulfur Dioxide (SO2) Reduced	tons	149.00	$0
Emissions of Toxics to Air Reduced	tons	58.50	$10,000
Emissions of Volatile Organic Compounds Reduced	tons	219.42	$17,200
Energy Conserved	KWh	261,070,324.77	$4,771,910
Habitat Restoration Increased	acres	71.51	$225,000
Hazardous Materials Conserved	tons	184.34	$1,200
Hazardous Waste Reduced	tons	36,945.48	$4,556,389
Materials Composted	tons	22,448.35	$274,431
Materials Conserved	tons	62.50	$15,625
Nonhazardous Materials Recycled/Reused	tons	19,679.34	$641,275
Nonhazardous Waste Reduced	tons	3,679.36	$356,725
Number of Emission Events Decreased	release	1.00	$0
Number of Emission Events Decreased	releases	25.00	$1,000
Odor Decreased	ppm	90.00	$0
Recycled/Reused Materials Used	tons	192.17	$100,248
Sediment from Runoff Reduced	tons	1,094.00	$0.00
Water Conserved	gallons	3,622,075,063.00	$775,351
Total Dollars Saved			**$11,766,356**
Total Emissions and Waste Reduced	**tons**	**134,524.39**	

Table 4 FY 2006 Clean Texas Member Environmental Results

Environmental Improvement	Unit	Quantity Reduced	Savings
Total Emission and Event Spill Amounts Reduced	Number of releases	33.00	
Total Energy	Kwhr	81,967,834.72	$55,510
Total Habitat Restoration Increase	Acres	35.00	
Total Water Conserved	Gallons	260,421,081.89	$1,537,556
Total Discharges to Water Reduced	Tons	23.97	$9,714
Total Emissions of Greenhouse Gases Reduced	Tons	5,800.00	
Total Emissions of NOx Reduced	Tons	1,266.33	$27,200
Total Emission of Ozone-Depleting Gases Reduced	Tons	0.01	
Total Emissions of Sulfur Dioxide (SO2) Reduced	Tons	2,590.00	
Total Emissions of Toxics to Air Reduced	tons	33.12	$48,000
Total Emissions of Volatile Organic Compounds Reduced	Tons	838.06	$6,944,000
Total Hazardous Materials Conserved	tons	285.73	
Total Hazardous Waste Reduced	Tons	3,789.14	$5,902,799
Total Materials Conserved	Tons	644.30	$89,370
Total Nonhazardous Materials Recycled/Reused	Tons	69,641.35	$6,831,901
Total Nonhazardous Waste Reduced	Tons	11,239.48	$1,445,086
Total Recycled/Reused Materials Used	Tons	1,459.03	$219,673
Total Emissions Reduced		**97,610.52**	
Total Dollars Saved			**$23,616,162**

Chapter 4: Obstacles and Observations

The activities performed under this grant were part of an on-going program, Clean Texas. The program underwent significant changes during the grant period, but the core value of the Clean Texas program remained constant – a commitment to environmental performance that is beyond the level required by existing rules. Membership in Clean Texas is seen as a sign that an organization is an environmental leader.

During the grant period, EMS became a cornerstone for the levels of Clean Texas that are granted regulatory incentives (silver, gold, and platinum). Analysis shows that most limitations and observations related to this grant focused on how to provide regulatory incentives to eligible Clean Texas members.

High Transaction Costs

Participants in the case studies described in this report were surprised at the difficulty of actually reaching completion on use of a regulatory incentive. In all cases, it took longer than expected to get agreement from all the relevant parties for any particular regulatory flexibility. The slow rate of progress was attributable to many factors, including:

- the companies involved did not understand what was needed of them (i.e., supplying incomplete permit applications), requiring an iterative process;
- the staff had multiple projects; and
- the difficulty of getting all necessary approval for the use of non-standard and previously unused innovative actions or procedures.

Of course, some difficulty is always to be expected when attempting to do something that has not been done before. We expect regulatory incentives to be timelier as more Clean Texas members take advantage of the incentives available.

Compliance screening, while essential to the integrity of the program, is the source of several challenges. Initially, SBEA used a compliance screen that was based purely on enforcement data and had clear cut offs related to the number and type of violations. As more cases were evaluated, certain circumstances came up that lead TCEQ to introduce a more subjective element to the screening process. This came after interactions with TCEQ field office management who served as compliance reviewers. This change had several implications, including:

- evaluating and revising the procedure for review while processing cases contributed to delay in reaching conclusions; and
- the possibility of any subjectivity has resulted in significantly elevating the bar over which potential members must pass – reviewers are often uncomfortable extending any regulatory incentives to a site that has had any type of compliance problem in the past; and
- reviewers may express qualitative concerns about extending membership to a particular site, leaving SBEA in the position of making a decision without full consensus of TCEQ offices.

Because Clean Texas is viewed as a leadership program, the careful examination of an applicant's compliance history prior to extending it membership is essential. The thoroughness of the review is driven by three factors:

- TCEQ has limited experience with regulatory flexibility and, as such, the exchange of improved performance for a revised requirement got extra emphasis.

- There was a much higher level of scrutiny before recognizing a company in Clean Texas due to the expected media attention. While it is impossible to totally predict or avoid concern, a high level of scrutiny for Clean Texas applicants added time to the process for approval.

Insufficient Incentives

While many potential incentives were identified by the EPP, after careful examination and interaction with the relevant program offices in TCEQ, very few could actually be offered across the board for Clean Texas members; even those with a TCEQ approved EMS. In many cases, the potential incentives were eliminated from consideration due to federal and state regulatory constraints, in others there were programmatic concerns that prevented the TCEQ from approving them. An analysis of what types of flexibility are available at different decision points (the permit writer, TCEQ executive management, rule change needed, statutory change needed) would help in analyzing the range of flexibility that is truly available to program participants.

Anecdotal experience indicates that some companies find case-by-case incentives not to be attractive due to their uncertain nature. With case-by-case incentives, the company has to complete all the membership requirements before learning if the incentive will be made available, which contributes to the high transaction cost of program membership. They prefer the certainty of benefits that are offered across the board to members at a certain level.

After showing initial interest in program membership, many companies conclude that membership benefits are not sufficient to offset the increased TCEQ presence on their site for an audit or the need for another reporting requirement.

Overall, many of the incentives of most interest to potential members relate to federal rules. When faced with the fact that a federal rule would have to be changed to allow that incentive, companies conclude that the effort, delay, and uncertainty out weigh the potential benefit to them.

What Worked Best?

Though not all attendees from EMS trainings have attained Clean Texas membership, training provided under this grant is a key success. With the predominance of chemical and refinery plants in Texas, many of which are pursuing ISO 14001 certification, the training focused on spreading the word about the importance of having a "performance based" EMS. Course evaluations were overwhelmingly positive and anecdotal evidence indicates that attendees have gone back to their plants and made changes that resulted in environmental improvement and cost savings.

Coordinating on-site EMS evaluations and permit reviews was also successful. Both the different reviewers and the site management gained from having the different perspectives on-site at the same time, and it resulted in shorter time needed for drafting follow-on documentation.

Chapter 5: Conclusion

The final work plan for this grant describes the intention of a program performance evaluation. To provide a framework for that evaluation, TCEQ is looking to the questions included in the EPA's EMS Strategy. Answers to these questions based on TCEQ's experience with SDRS, EMS trainings and audits, and the Clean Texas program are provided below as well as advice to other states considering use of a voluntary membership program to encourage the use of EMS.

EPA's EMS Strategy Questions

Question 1. Can EMS, in tandem with performance standards, achieve better and more efficient regulatory/permitting environmental results than prescriptive operational controls?

In the prescriptive regulatory environment established by existing federal and state laws, EMSs cannot realistically provide full permitting coverage. EMSs are a good complement to what is already being done for compliance; EMSs help sites ensure and improve compliance, and, especially, EMSs help sites direct their "beyond compliance" efforts at the most environmentally significant aspect of their operations.

To date, Texas has had two cases in which use of an EMS and performance standard was the basis for flexibility from the permitting requirements that would otherwise have been required; 3M Brownwood and Strategic Petroleum Reserve. In several other cases, permit reviews have been expedited for sites with TCEQ approved EMSs; however, in those cases the actual permit conditions were not revised due to the presence of an EMS.

In general, TCEQ's experience is that sites that are already up and running are familiar with the required operational controls and already have systems in place to help ensure the controls are met. Because they have invested in getting into compliance with existing rules, and have comfort with their ability to maintain and demonstrate compliance with those rules, they are less interested in seeking alternatives than companies planning new or significantly modified operations or with processes that change frequently.

Under Texas rules, this sets up a bit of a "chicken or egg" situation. In Texas, facilities are required to have operating permits prior to construction or operation; yet an EMS cannot be audited and approved until it has been successfully implemented at an operational facility. Thus, to be in compliance, someone planning a new site has to seek a traditional permit before beginning operations. Once they have invested in gaining a traditional permit and set up internal systems to comply with that permit, the potential gains of switching to an EMS orientation are significantly reduced.

Also, Texas law requires that sites who fail to perform at a satisfactory level under SDRS have to convert back to the requirements that would otherwise apply. This leads the companies to conclude that it is best to maintain the practices used to comply with standard permit conditions as a precaution.

Question 2. Can the multimedia analysis that is the hallmark of an EMS support cross-media tradeoffs to achieve higher overall environmental performance and pollution prevention?

In Texas, the flexibility to allow multimedia pollutant tradeoffs based on comprehensive analyses and the need to achieve higher environmental performance is through SDRS and it is restricted to items that are "more protective" than otherwise applicable rules.

Cross media tradeoffs for compliance purposes have not been allowed under the Clean Texas program due to statutory restrictions. See Attachment 4 (30 TAC Chapter 90 Subchapter C).

The use of an EMS can give a site operator an idea of tradeoffs between single media requirements that could achieve a higher level of overall environmental performance. In SBEA's experience, the inclination is to then have this alternative scenario documented in permit conditions (i.e., the 3M flexible permit) so there is only one enforceable standard that applies.

As noted under question one, EMSs are a great way for sites to prioritize potential "beyond compliance" activities. The significant impacts analysis may lead sites to make cross-media shifts in resources allocated to discretionary activities (i.e., sites in a non-attainment area might consider investing in hybrid vehicles for a fleet instead of sponsoring a local "trash bash.")

3. Under what conditions could regulators rely on EMSs in permits and rules to redirect regulatory oversight from lower to higher priority areas?

The TCEQ allows certain Clean Texas members the following incentives:

- reduced investigation frequency; and
- increased notice for regularly scheduled compliance investigations.

The shift in regulatory oversight is based on each eligible site having a performance based EMS approved by TCEQ, rather than on the use of EMS in permits or rules.

Based on the discussion, research and evaluation of potential incentives the following conditions would have to be in place for more widespread redirection in oversight based on EMS use:

- a high degree of public confidence in the regulatory body and its ability to investigate the appropriate sites;
- consensus on the sites considered "high priority" for oversight;
- widespread agreement that the relevant EMS assures high environmental performance; and
- competence and reliability of a third party auditor by certification as a Lead Auditor through a rigorous certification body.

Under the Clean Texas program, when an EMS audit is conducted, the effort is focused on how people are managed to achieve compliance impacts and reduction of risk; as opposed to a compliance investigation that assesses how well a site is meeting the requirements of certain rules. For Clean Texas, a strong audit ensures that the company is improving compliance performance while also reducing environmental impact and risk. The agency will still require information to show that the performance exists. The auditor spends the majority of time looking at production areas and speaking with workers and looking at records.

4. Can EMS elements improve performance and efficiency by substituting for overlapping administrative and information-gathering requirements in rules and permits?

As discussed in Chapter Two, TCEQ has adopted a rule that will allow an EMS to substitute for administrative requirements in the form of the landfill Standard Operating Procedure. Also, in the case of 3M Brownwood, a flexible permit with more focused reporting requirements was issued to a site with a TCEQ approved EMS.

Based on our experience to date, TCEQ does not envision pursuing EMS elements as a substitute for permit conditions unless there is a change and consensus with federal regulatory programs which require this information.

5. Does incorporating an EMS into a permit yield better public involvement procedures and environmental results than traditional permit models?

To date, no EMS elements have actually been incorporated into a permit by TCEQ. Also, as discussed in Chapter Two, Texas has very prescriptive laws for the notice and comment process to be used in issuing permits. Without statutory change, these procedures would not be modified based on inclusion of an EMS into a permit.

Public involvement is a component of the applicability for membership in Clean Texas.

6. Can regulated facilities use their EMSs to enhance the environmental performance of third parties, such as suppliers, customers, or environmental quality trading partners?

The TCEQ is familiar with two cases in which Clean Texas members, through their EMS, encouraged enhanced environmental performance of a third party. Applied Materials' EMS included audits of suppliers to ensure environmental performance was adequate. As part of their EMS, Bell Helicopter conducts audits of outsourced coating operations to ensure compliance. These contract coating operations are small businesses and minor sources, and thus would be unlikely to receive a TCEQ investigation unless there was a compliant. As such, Bell Helicopter is providing more oversight than would otherwise be expected.

<u>Advice to Other States</u>

TCEQ's goals in setting out on this grant project were to:

- Encourage innovative permitting activities to address significant air and water quality issues; and
- Support innovative programs, including EMS, permitting activities and incentives.

The focus of TCEQ's experience was with encouraging permit innovations for Clean Texas members; particularly sites with TCEQ approved EMS. Based on this experience, we offer the following advice:

- Begin by understanding exactly what flexibility exists under present laws, rules policies and budgets to the greatest extend possible prior to interacting with the regulated community. Many of the types of flexibility requested by companies interested in joining Clean Texas turned out to be unavailable under current constraints.
- Secure the full commitment of your agency's management, then program (permitting, investigation, enforcement) staff. Interested members of the regulated community may be of assistance in gaining this commitment. For example, they may wish to formally request that your agency provide the services related to EMS and permitting.
- The expectations of the regulated community must parallel your agency management and program personnel commitment both on outcomes and timeframes.
- Tailor training events to the perspective of the other agency employees you will have as partners (permit writers, investigators). It is often not readily apparent how use of an EMS or other environmental performance improvement tools are related to the issues they must address on a daily basis and they do not view themselves as having discretion to value performance improvements over compliance.

- Work closely with the groups that will be involved in compliance screening and establish clear policies on acceptance/rejection before any cases are sent for review. Work to ensure that the reviewers understand what special treatment would be given (recognition vs. award) and develop "rules of thumb" for any subjective measures included in the screen for consistency across cases.
- Establish a clear distinction from competitive awards programs that highlight past achievement (see Chapter Four).
- Be clear about how your program relates to ISO 14000. Be prepared to address the distinctions between conformance, compliance, and actual environmental performance.
- As with anything new or changed, if "grass-roots" and "top-down" meet in the middle and are in line with each other, success is eminent.

TCEQ Plans for EMS

TCEQ continues to encourage the use of EMS by regulated entities in Texas to improve environmental performance. Specific plans include:

- Continued training on EMS development and implementation with a focus on local governments and small businesses; and
- Enhanced recruiting to increase the number of Clean Texas members.

TCEQ will continue to partner with EPA programs, such as the National Partnership for Environmental Priorities and National Environmental Performance Track, which encourage improved environmental performance and thus may serve as an "on-ramp" for Clean Texas.