CHAPTER ONE

# Agency Highlights

As the state's environmental agency, the Texas Commission on Environmental Quality is engaged with every region of the state. Agency employees in the Austin headquarters and 16 field offices are immersed every day in a wide spectrum of issues related to air and water quality, water supply, and waste management. The agency is also active in promoting pollution prevention and educating Texans about protecting the environment.

During the fiscal years of 2015 and 2016, the TCEQ found itself dealing with an ongoing drought, which was resolved by flooding; a new public-health challenge, in the Ebola outbreak; and more stringent federal air standards. However, the agency continues to experience successes in air quality, including innovative uses of state-of-the-art technology. In addition, the agency has a new commissioner and is working to implement the RESTORE Act, which will result in much-needed funding for the Texas coast following the massive Deepwater Horizon oil spill.

All of these activities are occurring against a backdrop of the state's fast-growing population and expanding economy. The TCEQ has responded with initiatives adapted to changing times and challenges, while continuing its dedication to protecting public health and the state's natural resources.

## New Commissioner

Gov. Greg Abbott appointed Jon Niermann to the TCEQ's three-member panel, with Niermann assuming his duties on Oct. 1, 2015. His six-year term expires in 2021. Niermann came to the TCEQ after nearly seven years with the Texas Attorney General's Office, where he served as chief of the Environmental Protection Division (since 2012). Before that, Niermann worked as an environmental attorney with the law firm of Baker Botts in Austin. In these various roles, Niermann worked closely with the TCEQ, among other agencies. His responsibilities included enforcement actions, permitting issues, rulemaking, and rule challenges, such as of unnecessary and unlawful regulations from the EPA.

## Restoring Texas' Coast

Through the federal RESTORE Act, more than $550 million in grants will be available to Texas for ecosystem restoration, economic recovery, and the promotion of tourism in the state's Gulf Coast region. These federal grant programs are financed by the administrative and civil penalties assessed against the parties responsible for the 2010 Deepwater Horizon oil spill in the Gulf of Mexico, including BP. Texas will also compete with the other four Gulf states for an additional $1.6 billion in grants. The RESTORE grant funds will be available to Texas through 2033. On behalf of Commissioner Toby Baker, who serves as Texas' representative on the RESTORE Council, which oversees implementation of the act, the TCEQ has been developing a program for allocating RESTORE Act funds in the state and to implement and manage the various federal grant programs in Texas that were created by the RESTORE Act.

To date, in collaboration with the Governor's Office, Commissioner Baker and TCEQ staff have moved forward in implementing the following initiatives under the RESTORE Act:

- Selected two centers of excellence (in 2015): Texas OneGulf, a consortium led by Texas A&M University-Corpus Christi; and Subsea Systems Institute, a consortium led by the University of Houston.
- Participated in the process to review projects submitted by RESTORE Council members for funding under the comprehensive component.
- Developed federal grant applications for submission to the RESTORE Council for four Texas projects selected for funding under the comprehensive component.
- Posted a request for project application submissions to be funded under the direct component.
- Submitted planning-assistance grant requests under two components of the RESTORE Act: direct and spill impact.

- Established a website, www.restorethetexascoast.org, to present information on RESTORE-related activities.
- Conducted listening sessions and grant workshops throughout the Texas coastal region (in late 2015) to receive information from the public on priorities and to offer information on submitting applications, respectively.

These activities will continue and expand as necessary to ensure that the state has a robust grant program prepared to maximize the use of RESTORE funds.

## TCEQ Responds to Historic Flooding

Major droughts are often broken by heavy floods. Texas, which suffered one of the worst droughts in its history from 2009 to 2014, was no exception. When much-needed rain started to refill reservoirs in the spring of 2015, it just kept coming and coming, and soon turned into a series of devastating floods that continued into the summer of 2016.

During the severe floods of this past year, numerous dams in Texas saw their emergency spillways engaged at one time or another. To a dam engineer, a properly engaged spillway is an amazing engineering achievement, but to a person living nearby, water flowing over a spillway can be terrifying. To help reassure a concerned public, TCEQ Dam Safety Program engineers worked around the clock to respond to concerns about dams and to provide dam owners with technical assistance and guidance. They also informed public officials that most dams were working as designed. TCEQ engineers investigated and tracked dams affected by flooding to ensure that appropriate safety measures were in place and that dam repairs were addressed.

In response to the widespread flooding, the TCEQ also deployed staff around the state to help with flood response and recovery efforts. As a member of the State Emergency Management Council, the TCEQ was activated eight times to serve around the clock at the State Operations Center in Austin under the state's Incident Command System Infrastructure Branch, for a total of 60 days.

During this time, the TCEQ worked with public drinking water facilities to determine issues, provide technical assistance, track boil-water notices, and ensure that safe drinking water was available to all citizens affected by flooding. The TCEQ also sent members of its Disaster Response Strike Team into the flood-affected areas as the water was receding to conduct site visits at industrial facilities that handle hazardous substances, to help determine the integrity of these facilities.

One of the most challenging and critical parts of the flood-recovery process is the proper management of the enormous amount of debris left behind in the aftermath of floods. This debris contains wood, household hazardous waste, white goods, and other hazardous materials. All of the waste must be sorted for proper disposal. TCEQ staff conducted outreach to county emergency-management contacts, county judges, mayors, and other local governmental officials to offer assistance and guidance with flood-related activities, such as locating and constructing temporary debris-management sites, obtaining needed authorizations to burn vegetative debris, and appropriately recycling and disposing of waste. The TCEQ also provided the authorizations for temporary debris-management sites, which are a critical component in the Federal Emergency Management Agency reimbursement process for local governments.

## Improving Water Planning through Innovation

With Texas' population expected to reach almost 46 million by 2060, and because of the recent long-lasting drought, Texans have had to plan far in advance to sustain communities, businesses, industries, and the environment. Because of these challenges—especially the drought—public water systems have begun to turn to less conventional sources of water.

Desalination continues to gain attention as communities seek to treat brackish water. For this reason, the TCEQ initiated rulemaking to streamline the approval process for public water systems wanting to conduct desalination of brackish water. In July 2015, the rules for desalination using either reverse osmosis or nanofiltration membranes became effective. The new rules offer a streamlined approach for the approval of desalination technologies by removing the requirement to submit an exception request, which is otherwise required when approving the use of innovative and alternative treatment technologies.

In addition, some communities have sought to make seawater potable. In response, the 84th Texas Legislature passed House Bills 2031 and 4097 in 2015 to provide an expedited permitting process related to seawater desalination. In 2016, the agency proposed rules to expedite permitting and related processes for the diversion of seawater and the discharge of both treated seawater and

waste resulting from the desalination process, as well as address seawater desalination for industrial purposes.

Other public water systems are exploring the option of direct potable reuse to meet their water needs. The TCEQ has reviewed and approved three such facilities. Texas was the first state to have a direct potable reuse system up and running. TCEQ engineers and scientists provide needed expertise to guide public water systems through the process of selecting innovative treatment technologies to ensure that the treated water is safe for human consumption.

## Water Study Addresses Funding Needs

The Texas Legislature directed the TCEQ to conduct a study of the primary water account to address revenue shortfalls. The TCEQ assembled a cross-agency team to assess water programs in terms of each program's workload, the revenues generated, and benefits to fee payers. Using that information, the agency identified the programs that generate insufficient revenue to meet their costs and developed a methodology to determine the level of rates that would generate revenue in proportion to the agency's workload and fee-payer benefits. The study will be available to the legislature in 2017 as it considers funding from water fees.

## New Watermaster for the Brazos

A watermaster was appointed for the Brazos River Basin, including and below Possum Kingdom Lake, in 2015. After hosting a series of public meetings and setting up an advisory committee, the Brazos River Watermaster Program began operations on June 1, 2015. Since then, staff has communicated with 79 percent (738) of the water-rights holders, representing about 98.9 percent of the authorized diversions within the watermaster jurisdiction.

## Toxicologist Recognized for Research on Chromium

In 2016, the Society of Toxicology, a distinguished international association, recognized two papers by TCEQ toxicologist Joseph "Kip" Haney as among the best of peer-reviewed risk-assessment research published in 2015. The society, which is dedicated to furthering the science of toxicology and has members in more than 60 countries, picked two of Haney's research papers on hexavalent chromium. Haney's studies, which were both published in *Regulatory Toxicology and Pharmacology*, outline a new method for determining a safe level of hexavalent chromium in groundwater using data from laboratory animals. The good news for Texans and the rest of the country is that Haney's work confirms that the federal drinking water standard for chromium protects health.

## Resolution of EPA Objections to Discharge Permits

The TCEQ successfully resolved several objections from the EPA—which could have hindered growth in parts of the state—in the implementation of the Texas Pollutant Discharge Elimination System Program. In response to EPA objections regarding permit requirements for pH and whole effluent toxicity, the TCEQ developed evaluation procedures for permit applications that would obviate future objections.

The TCEQ is currently working with the EPA regarding objections over temperature limitations in permits that authorize thermal discharges. The EPA agreed to withdraw its objections as the TCEQ works with stakeholders to establish temperature screening procedures. Since January 2015, the TCEQ has successfully resolved 105 EPA objections and continues to make progress toward the remainder. Timely renewal of permits for existing facilities ensures compliance with new water quality standards and updated regulations.

## Air Quality Successes

The EPA sets National Ambient Air Quality Standards for six criteria pollutants: ozone, carbon monoxide (CO), sulfur dioxide ($SO_2$), nitrogen dioxide ($NO_2$), coarse and fine particulate matter ($PM_{10}$ and $PM_{2.5}$), and lead. After making huge strides in air quality in the past few decades, Texas meets the NAAQS levels for most criteria pollutants across the state,with the notable exception of ozone.

Ozone design values are the measurement used by the EPA to determine attainment or nonattainment for the federal ozone standard. The EPA calculates the ozone design values using a three-year rolling average. The 2015 ozone design values, based on 2013, 2014, and 2015 measurement data, are lower in many areas of the state. In fact, Dallas-Fort Worth, at 83 parts per billion, and Houston, at 80 ppb, are now both measuring attainment of the 1997 eight-hour ozone standard of 84 ppb. In addition, both areas are measuring attainment for the older, one-hour standard for peak levels of

ozone. However, both the Dallas-Fort Worth and Houston-Galveston-Brazoria areas are designated nonattainment for the 2008 eight-hour ozone NAAQS of 75 ppb.

In addition, the 2015 ozone levels show that many areas of Texas with monitors are meeting the more stringent 2015 eight-hour standard of 70 ppb. Despite a growing population, nearly all the nonattainment or near-nonattainment areas of the state have resumed their steady decrease in ozone.

From 2000 to 2015, the population in Texas increased significantly—mostly notably in the Houston area, with a 41 percent increase—while the eight-hour ozone levels improved as follows:

- Dallas-Fort Worth area: 19 percent ozone reduction
- Tyler-Longview-Marshall area: 33 percent ozone reduction
- Austin-Round Rock area: 24 percent ozone reduction
- Houston area: 29 percent ozone reduction
- Beaumont-Port Arthur area: 22 percent ozone reduction
- Corpus Christi area: 22 percent ozone reduction

Seven of the state's 13 areas that have had at least 15 years of regulatory ozone monitoring recorded their lowest or tied their lowest ozone values in 2015. The three areas that do not have at least 15 years of monitoring data—Waco, Killeen-Temple, and Amarillo—also recorded their lowest ozone values in 2015.

## Expanding Use of Pollution-Detection Technology

The TCEQ continues to seek out and use innovative approaches to find solutions that result in reduced emissions. The agency now has 10 years of experience using optical gas-imaging cameras, a cutting-edge tool for pollution detection. This technology has proven to be highly effective in the detection of volatile organic compounds (VOCs), particulate matter, and thermal differences in multi-media applications. The optical gas-imaging camera allows staff to immediately communicate incidents of potential unauthorized emissions to facility personnel, fostering quick resolution. The camera is being used extensively by TCEQ staff throughout the state to address environmental issues that affect air quality.

Texas also contracts with a company to conduct aerial surveys. Additional ground-based assessments and investigations are conducted on sites where emissions are detected during the aerial surveys. In fiscal 2015, the TCEQ transitioned from an infrequent, area-wide approach of conducting aerial optical gas-imaging camera surveys to a more targeted and more frequent approach, allowing TCEQ resources to go to areas where known problems exist and where potential impacts to the public are greater. In fiscal 2015 and 2016, five focused flyover events occurred throughout the Eagle Ford Shale region. As a result, more than 200 follow-up investigations were conducted at facilities where emissions were spotted.

With the recent purchase of eight additional optical gas-imaging cameras made possible by funding from the 84th Texas Legislature, the TCEQ now possesses 20 of these cameras for use during investigations and environmental assessments, and for mobile monitoring applications. This increase allows the TCEQ to distribute the equipment throughout the state. The resulting convenience of access permits staff to respond more quickly to events wherever they occur. While these cameras are primarily used with oil and natural-gas sites, the TCEQ continues to explore additional uses for the cameras at chemical plants, landfills, truck loading and unloading facilities, and other sources of VOC and particulate matter, including metal-recycling operations.

To maximize the effectiveness of the optical gas-imaging camera, the TCEQ dramatically increased staff development. In fiscal 2015, the agency implemented an intensive, specialized OGIC Certification and Recertification Program that meets and exceeds the industry standard in order to train new staff and to keep experienced staff up-to-date on the latest TCEQ protocols and technological advancements in thermography. The TCEQ OGIC Training Program certified 76 operators throughout fiscal years 2015 and 2016, saving the agency more than $100,000 in training costs. The TCEQ also continues to invest in external training for its more advanced technical experts, who share their knowledge with other TCEQ staff.

The camera is only one tool used to assist the agency in its investigations, monitoring, emergency response, and special projects. The TCEQ has also invested in other handheld monitoring equipment, such as toxic-vapor analyzers and photoionization detectors, which investigative staff use to screen for possible environmental impacts. As monitoring and testing technology continues to advance, the TCEQ has implemented and strengthened processes in which new technologies are continually examined and existing equipment is continually reassessed, in order to ensure that the agency takes advantage of technology that best suits its needs and most effectively uses its resources.

## Audit Program Enhances Enforcement Efforts

The TCEQ's traditional enforcement efforts are enhanced by voluntary environmental self-audits conducted at facilities under the Texas Environmental, Health, and Safety Audit Privilege Act. Texas is one of several states that has an audit program in addition to the EPA policy on self-disclosure. This legislation encourages businesses and governments to perform comprehensive assessments of compliance with environmental laws, regulations, and permits for their own facilities. The audit act provides two incentives for conducting systematic voluntary evaluations of compliance with environmental laws and regulations: a limited evidentiary privilege and immunity from penalties. Organizations that participate in the audit act are required to notify the TCEQ of their intent to self-audit and then fully disclose and resolve violations identified by the audit. In fiscal years 2015 and 2016, the TCEQ received 3,690 notices of audit and 2,724 disclosures of violation. The TCEQ ensures that all violations disclosed under this program are corrected.

## TCEQ Takes In Chemical Reporting Program

On Sept. 1, 2015, the Texas Tier II Chemical Reporting Program was transferred from the Texas Department of State Health Services to the TCEQ, pursuant to HB 942. On March 1, 2016, the Tier II program finished its first annual reporting period at the TCEQ with 78,302 chemical reports received from the regulated community. As of August 2016, staff had handled 4,467 phone calls and completed audits on 78,273, or 99 percent, of the 78,439 chemical inventory reports received during this reporting period. The Tier II program worked with facilities to correct report deficiencies for 10,155 facilities that either submitted partial or incorrect information or did not make the correct fee payments. By August 2016, deficiencies at more than 7,443 facilities had been resolved. Also during fiscal 2016, the TCEQ conducted a total of 39 field investigations at all the ammonium nitrate storage facilities.

## Helping Communities Plan

As a part of legislative implementation, the TCEQ also created a grant program to help local emergency planning committees fulfill their responsibilities under the Emergency Planning and Community Right-to-Know Act. The program began accepting applications from Texas LEPCs on July 22, 2016. The program will award up to $4.42 million to Texas LEPCs during its first year in fiscal 2017 and up to $210,000 annually after that.

## Increasing Transparency

In 2015, the Texas Legislature passed Senate Bill 20, requiring reforms in state agency contracting. The TCEQ has met the legislative intent to increase accountability and transparency, and ensure a fair and competitive process through a number of improvements, such as establishing a portal that allows the public to access contract documents and conducting extensive staff training on new requirements. The TCEQ also deployed an application to accelerate the number of agency records that are available to the public online. Imaging of agency records, a multi-year project, is focused on more frequently requested records. In addition, the TCEQ has begun converting microfilm associated with public-information requests into electronic records to facilitate online public access.

## Reaching Out to Underserved Businesses

The TCEQ implemented aggressive Disadvantaged Business Enterprise and Historically Underutilized Business outreach and contract compliance programs. The agency received an EPA Administrator's Award for its DBE program in fiscal 2014. In fiscal 2015, the State Auditor's Office assessed the TCEQ's HUB program as "97 percent fully compliant." During the past five years, the TCEQ's HUB utilization averaged about 34 percent. Among agencies with more than $5 million in total expenditures, the TCEQ routinely ranks among the top 25 in HUB utilization. The TCEQ ranked 10th in fiscal 2015, and fifth during the semiannual fiscal 2016 reporting period. The TCEQ participated in 33 and 29 outreach events in fiscal 2015 and 2016, respectively, providing current and potential HUBs with training and information on accessing opportunities in procurement and contracting in the State of Texas.

## Take Care of Texas Broadens Reach

The TCEQ's public-awareness program, Take Care of Texas, encourages all Texans to help keep the state's air and water clean, conserve water and energy, and reduce waste. In 2015, Take Care of Texas debuted its first

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Spanish-language public-service announcement, featuring the Grammy award winner Rick Treviño. Like longtime spokesperson Kevin Fowler, Treviño donated his talents and wrote and produced a jingle, which was recorded in both English and Spanish. Fowler himself also recorded a new PSA. All three announcements encourage Texans to conserve water and help keep the air clean. In the first year, the radio spots aired 13,484 times, and the TV spots were shown 9,815 times, both earning an impressive amount of free media. In 2016, Fowler's TV PSA and Treviño's Spanish TV PSA have aired more than 6,100 times.

Also new in 2015, Take Care of Texas hosted its first How Do You Take Care of Texas? Elementary School Art Contest, along with partner Samsung Austin Semiconductor. The 16 K-5 students who created the most inspirational artwork depicting positive ways they help protect the state's natural resources were awarded Samsung tablets or a laptop. The contest generated 2,636 entries in 2015, and increased to 3,991 entries when the contest was repeated in 2016. Samsung agreed to continue the partnership in 2017.

In September 2015, Take Care of Texas launched a new partnership with the Boy Scouts of America Capitol Area Council. Scouts can earn a Take Care of Texas patch by completing several environmental merit badges and volunteering toward a conservation project. In addition, scouts can earn a Take Care of Texas pin by also completing a conservation project and presenting the project results. The patch and pin are now also available in the Sam Houston Area Council, Bay Area Council, and South Texas Council.

In January 2016, Take Care of Texas partnered with the Girl Scouts of Central Texas to create the first Take Care of Texas Girl Scout patch. The award reflects a commitment to both learning and educating others on how they can take care of the environment. The patch is now available also to Girl Scouts of Northeast Texas and Girl Scouts of Greater South Texas.